United States General Accounting Office

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Report to the Subcommittee on Interior and Related Agencies, Committee on Appropriations, House of Representatives

February 2000

LAND MANAGEMENT SYSTEMS

Status of BLM's Actions to Improve Information Technology Management

GAO
Accountability ★ Integrity ★ Reliability

Contents

Abbreviations

ALMRS	Automated Land and Mineral Record System
BLM	Bureau of Land Management
CIO	chief information officer
CMM	Capability Maturity Model
IOC	Initial Operating Capability
IRM	information resources management
NILS	National Integrated Land System
OMB	Office of Management and Budget
SEI	Software Engineering Institute

United States General Accounting Office
Washington, D.C. 20548

Accounting and Information
Management Division

B-284472

February 24, 2000

The Honorable Ralph Regula
Chairman
The Honorable Norman D. Dicks
Ranking Minority Member
Subcommittee on Interior
   and Related Agencies
Committee on Appropriations
House of Representatives

On March 4, 1999, we testified before you on the Bureau of Land Management's (BLM) efforts to develop and deploy the Automated Land and Mineral Record System (ALMRS)/Modernization.[1] The ALMRS/Modernization project was intended to improve BLM's ability to record, maintain, and retrieve land description, ownership, and use information. In our testimony statement we reported that the major software component of the ALMRS/Modernization–known as the ALMRS Initial Operating Capability (IOC)–failed to meet BLM's business needs and was not deployable. We cited numerous problems and risks that had threatened the successful development and deployment of the ALMRS/Modernization and recommended actions to help BLM strengthen its information technology management practices and reduce the risks that future information technology efforts would fail.

At your request, we reviewed BLM's actions to implement those recommendations. Our objectives were to determine whether BLM has (1) adequately assessed the usability of the ALMRS IOC and alternatives to meet its business needs, (2) adequately assessed and strengthened its investment management processes and practices, (3) obtained an independent assessment of its systems acquisition capabilities and strengthened its systems acquisition processes, and (4) made or is making sizable investments prior to strengthening its investment management and systems acquisition processes. Our objectives, scope, and methodology are presented in appendix I. We performed our work from July 1999 through January 2000 in accordance with generally accepted government auditing

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[1]*Land Management Systems: Major Software Development Does Not Meet BLM's Business Needs* (GAO/T-AIMD-99-102, March 4, 1999).

standards. The Department of the Interior provided written comments which are discussed in the "Agency Comments" section of this report and are reprinted in appendix II.

Results in Brief

The bureau has begun to address our recommendations to analyze the usefulness of ALMRS IOC and to assess and strengthen its investment management and systems acquisition capabilities. BLM prepared a preliminary report of its technical and functional analysis of ALMRS IOC and concluded that the system was not operationally ready for deployment because it did not meet the bureau's business needs. According to BLM, ALMRS IOC usability problems could not be repaired without a major technical effort and significant costs. BLM plans to complete the analysis of ALMRS IOC and other alternatives once it has established a bureauwide architecture and documented its business needs. At that time, BLM plans to determine whether any of the ALMRS IOC software could be cost beneficially used or modified to meet those needs. However, BLM has not yet developed a plan, schedule, or milestones for completing the analysis of ALMRS IOC and other alternatives.

BLM has now assessed its current information resources management (IRM) methodologies, policies and strategies, and organizational structures. The assessment contractor identified numerous problems and deficiencies and made over 90 recommendations to improve BLM's investment management and IRM functions. The bureau is beginning to address the recommendations and strengthen its investment management practices. For example, it is working to finalize and implement a capital asset plan, update its strategic IRM plan, and has revised its Information Technology Investment Board charter to improve the selection, control, and evaluation of information technology investments. BLM has also begun to assess and restructure its IRM staffing and organization and is developing a bureauwide architecture that is to identify and document BLM's business processes and associated information needs. The bureau expects a significant portion of the architecture to be completed by March 31, 2000.

BLM has also obtained an independent assessment of its systems acquisition capabilities. The assessment contractor found that BLM's acquisition processes are immature, the characteristics of which include the lack of a stable software development and maintenance environment and abandonment of planned procedures when executing projects. BLM has drafted revised systems acquisition procedures and plans to implement

a formal systems acquisition policy after it completes a bureauwide architecture.

BLM's chief information officer (CIO) stated that the bureau is not planning any major systems acquisition or development efforts until after its architecture is completed and its business needs have been documented. At the same time, BLM is continuing its planning efforts for a major geographic information system for managing land record data.

BLM is in the early stages of addressing our recommendations to strengthen its investment management and systems acquisition capabilities. As a result, it is too early to tell whether BLM's efforts will be fully responsive to our recommendations or help reduce its future information technology risks. In addition, BLM's improvement actions are currently being carried out as separate projects and have not yet been integrated to form a comprehensive investment management program. Also, BLM has not yet finalized an overall project plan, schedule, and milestones for completing its actions to address our recommendations. However, during discussions at the conclusion of our review, BLM's CIO told us that, based on our work, the bureau has begun to address these issues. Accordingly, we are recommending that the Secretary of the Interior direct BLM to (1) complete the integration of the projects to strengthen its investment management and systems acquisition processes and practices and (2) complete an overall project plan, schedule, and milestones for its investment management and systems acquisition improvement projects. In its comments on a draft of this report, the Department of the Interior agreed with our recommendations and stated that BLM has begun corrective actions.

Background

BLM's mission is to sustain the health, diversity, and productivity of public lands for the use and enjoyment of present and future generations. The bureau manages approximately 264 million acres of public land in 28 states and public resources including rangelands, timber, minerals, watersheds, wildlife habitats, wilderness and recreation areas, and archeological and historical resources. It also manages the subsurface mineral resources underlying another 300 million acres of land administered by other government agencies or owned by private interests. The bureau has 189 offices that manage over 1 billion paper documents, including land surveys and surveyor notes, records of land ownership, mining claims, and oil and gas leases. According to BLM, most of the paper documents are deteriorating and are becoming increasingly difficult to read.

In the mid-1980s BLM began planning to acquire a land and mineral case processing system to keep up with its increasing workload, and automate its manual records and case processing activities. By 1993 BLM decided on the scope and functionality of the project, called the ALMRS/Modernization. The project consisted of three major components–the ALMRS IOC, a geographic information system,[2] and the modernization of BLM's computer and telecommunications infrastructure and rehost of selected management and administrative systems. The ALMRS IOC–the flagship of the ALMRS/Modernization–was to provide the capability to more efficiently record, maintain, and retrieve land description, ownership, and use information to support BLM, other federal programs, and interested parties.

Since 1995 we have conducted reviews and issued several reports on problems and risks that threatened the successful development and deployment of the ALMRS/Modernization.[3] In October 1998 an operational assessment test and evaluation showed that the ALMRS IOC was not ready to be deployed because it did not meet BLM's business needs. The bureau subsequently stopped the ALMRS project. At the time the project was terminated, BLM estimated that from 1983 through 1998 it had obligated about $411 million for the ALMRS/Modernization project, of which more than $67 million was spent to develop ALMRS IOC software.

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[2]A geographic information system is computer technology designed to assemble, store, manipulate, and display geographically referenced data, such as the location of a lake or oil well.

[3]*Land Management Systems: Progress and Risks in Developing BLM's Land and Mineral Record System* (GAO/AIMD-95-180, August 31, 1995), *Land Management Systems: BLM Faces Risks in Completing the Automated Land and Mineral Record System* (GAO/AIMD-97-42, March 19, 1997), *Land Management Systems: Information on BLM's Automated Land and Mineral Record System Release 2 Project* (GAO/AIMD-97-109R, June 6, 1997), *Land Management Systems: Actions Needed in Completing the Automated Land and Mineral Record System Development* (GAO/AIMD-98-107, May 15, 1998), and *Land Management Systems: Major Software Development Does Not Meet BLM's Business Needs* (GAO/AIMD-99-135, April 30, 1999).

Preliminary ALMRS IOC Analysis Completed, Final Analysis Expected After March 2000

Because of the enormous investment made in the ALMRS IOC and the failure of the software to meet BLM's needs, we recommended that the Secretary of the Interior ensure that BLM thoroughly analyze the ALMRS IOC software to determine whether it could be cost beneficially modified to meet the bureau's needs. We pointed out that this analysis should be part of an overall effort to identify and assess all alternatives, including (1) modifying ALMRS IOC software, (2) modifying existing land and recordation systems, (3) acquiring commercial, off-the-shelf software, or (4) developing new systems. We also stated that the alternatives analysis should clearly identify the risks, costs, and benefits of each alternative and should be performed after BLM is assured that it has verified its current business requirements.

BLM prepared a preliminary report in June 1999 on its technical and functional analysis of ALMRS IOC. BLM concluded that ALMRS IOC was not operationally ready for deployment because it did not meet the bureau's business needs. This conclusion was based on the determination that ALMRS IOC (1) was difficult to use and labor-intensive, (2) was poorly integrated into BLM's business processes, (3) was too slow, and (4) would be difficult and costly to maintain and operate. The bureau stated that although some of these problems could be solved, ALMRS IOC could not be repaired without a major technical effort and significant costs.

BLM's CIO told us that the bureau plans to complete its analysis of ALMRS IOC and other alternatives after it establishes a bureauwide architecture. As noted by the CIO, establishing an architecture is a necessary precursor to completing the analysis of ALMRS IOC and other alternatives because the architecture will document the bureau's business processes and information needs. BLM plans to have its business needs documented by the end of March 2000.

The CIO said that once BLM's business needs have been documented, the bureau plans to complete its analysis of ALMRS IOC to determine whether any of the software can be cost beneficially used or modified to meet those needs. As part of its final analysis, BLM plans to determine whether parts of ALMRS IOC could be useful for future information technology efforts. For example, an earlier independent technical contractor's analysis showed that some parts of ALMRS IOC could be useful.

BLM has not developed a plan, schedule, or milestones for completing the analysis of ALMRS IOC and other alternatives. Developing such tools is

essential for BLM to effectively plan and manage this project and help ensure that its efforts will result in a timely and sound analysis of alternatives that will meet BLM's business needs.

Investment Management Processes and Practices Assessed, Corrective Action Recently Begun

The absence of adequate investment management processes and practices at BLM was a significant factor contributing to the failure of ALMRS IOC. To reduce the risk that future information technology efforts will fail and to help establish disciplined investment management as required by the Clinger-Cohen Act of 1996,[4] we recommended that the Secretary of the Interior ensure that BLM assess and strengthen its investment management practices to help avoid future problems, assess staff skills to meet agency IRM requirements, and develop an information technology architecture.[5]

BLM retained a contractor to assess its current IRM program– methodologies, policies, strategies, and organizational structure–including the management of information technology investments. The assessment contractor reported in October 1999 on problems and deficiencies in 27 areas including BLM's investment planning, project selection, and review processes and organizational effectiveness. The contractor made over 90 recommendations to BLM to improve investment management and IRM functions, including finalizing and implementing its capital asset plan, updating its strategic IRM plan, and implementing procedures to establish consistent processes to select and manage information technology investment projects.

BLM has begun to strengthen its investment management processes and practices by addressing the assessment contractor's recommendations and provisions of the Clinger-Cohen Act of 1996. For example, BLM's CIO and chief financial officer have approved the bureau's October 25, 1999,

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[4]The Clinger-Cohen Act of 1996 seeks to maximize the return on investments in information systems by requiring agencies to institute sound capital investment decision-making. Under the act, agencies must design and implement a process for maximizing the value and assessing and managing the risks of information technology acquisitions.

[5]An information technology architecture provides a comprehensive blueprint that systematically details the breadth and depth of an organization's mission-based mode of operation. An architecture provides details first in logical terms, such as defining business functions, providing high-level descriptions of information systems and their interrelationships, and specifying information flows; and second in technical terms such as specifying hardware, software, data, communications, security, and performance characteristics.

information technology capital asset plan which outlines capital planning procedures for major information technology acquisitions. The plan specifies the relationship between BLM's information technology assets and the program performance goals identified in its strategic business plan. According to BLM, the capital asset plan is expected to help ensure that BLM's information technology assets are adequately managed and associated risks are identified and controlled.

BLM is also revising its strategic IRM plan and expects to complete these revisions by March 30, 2000. According to BLM's IRM Policy Group Manager, the bureau is planning to add a section on organizational effectiveness to its IRM plan to closely link it to BLM's strategic business plan.

GAO and Office of Management and Budget (OMB) guidance offer agencies an integrated approach to managing information technology investments that provides for the continuous identification, selection, control, management, and evaluation of information technology investments, as mandated by the Congress.[6] BLM is beginning to establish processes, policies, and procedures to more effectively select, control, and evaluate its information systems and technology projects. For example, on January 20, 2000, the bureau formalized the charter for its Information Technology Investment Board to expand the board's roles and responsibilities and help improve the selection, control, and evaluation of information technology investments. The new charter specifies that the board is responsible for decisions regarding the initiation, development, implementation, and evaluation of major information technology investments. The charter also outlines the functions of the board, including (1) developing an information technology architecture, (2) selecting information technology investments, (3) controlling and managing information technology activities, and (4) evaluating information technology investments.

BLM is also assessing its current information technology staffing and future skills needs. The assessment covers BLM's entire IRM organization and uses human resources teams to interview staff, perform skills and process assessments, and document position descriptions. BLM's CIO told us that

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[6] *Assessing Risks and Returns: A Guide for Evaluating Federal Agencies' IT Investment Decision-making* (GAO/AIMD-10.1.13, February 1997), and *Evaluating Information Technology Investments: A Practical Guide*, Office of Information and Regulatory Affairs, Information Policy and Technology Branch, Office of Management and Budget (November 1, 1995).

the assessment teams plan to make recommendations in January 2000 to enhance and restructure the national information technology office. Recommendations to enhance or restructure the field information technology offices are expected after the assessments of those offices are completed.

Finally, BLM, with the assistance of an independent contractor, is developing the planned bureauwide architecture. In November 1999 BLM decided to merge and manage its existing architecture projects into one bureauwide architecture effort. On December 17, 1999, BLM approved a single architecture team charter which outlines the purpose, methodology, organization, and project plan for the bureauwide architecture effort. According to BLM, the bureauwide architecture will be comprised of two sub-architectures—the business architecture and the information technology architecture. Development of the bureauwide architecture is being driven by the bureau's business goals and processes and is a joint project with both program and technical staff that is expected to address every type of work BLM performs. BLM also expects that the architecture will support business process reengineering prior to automation efforts. By March 31, 2000, BLM expects to complete (1) documentation of the business architecture and BLM's business processes, (2) a framework for its future architecture, and (3) a set of architectural criteria for evaluating new information technology project and investment proposals.

BLM's investment management improvement actions are being carried out as separate projects and are not yet integrated to help ensure that they will result in an effective, data-driven investment management process to support BLM's needs. Also, BLM has not yet finalized a plan, schedule, and milestones for completing its work to improve its investment management processes and practices. Such tools are essential to help ensure that these projects are adequately planned and managed and result in an effective investment management program at BLM. However, based on discussions at the conclusion of our review, BLM's CIO told us that the bureau is now planning to hire a contractor to assist in integrating its investment management projects. BLM has not yet determined when the contractor will begin work. Also, based on our discussions, BLM is now beginning to develop an overall plan, schedule, and milestones for completing its investment management improvement work.

Systems Acquisition Capabilities Assessed, Corrective Action Recently Begun

As stated in our March 4, 1999, testimony, BLM did not develop several key management controls for the ALMRS IOC project, including a credible project schedule and adequate transition plans. In addition, the lack of a configuration management program, security plan and architecture, and operations and maintenance plans further increased BLM's risks. To reduce the risk that future information technology efforts would fail, we recommended that the Secretary of the Interior ensure that BLM obtain an independent assessment of its systems acquisition capabilities, and ensure that it uses sound systems acquisition processes.

BLM subsequently obtained a high-level independent assessment of its systems acquisition capabilities that was based on the Software Engineering Institute's (SEI) Software and Software Acquisition Capability Maturity Models (CMM)[SM].[7] BLM's software acquisition processes were found to be immature–level 1. According to SEI, characteristics of a level 1 organization include the (1) lack of a stable environment for developing and maintaining software, (2) over-commitment of staff and resources, and (3) abandonment of planned procedures when executing projects. Research by SEI has shown that defined and repeatable processes for managing software acquisitions are critical to an organization's ability to consistently deliver high-quality information systems on time and within budget. The critical management process areas, designated by SEI as necessary to reach CMM level 2[8] include (1) software acquisition planning, (2) requirements development and management, (3) project management, (4) contract tracking and oversight, (5) evaluation, and (6) transition to support.

According to BLM's CIO, the bureau is now beginning to strengthen its systems acquisition processes and practices and is planning to make the improvements needed to move from a level 1 to a level 2 organization within the next 12 to 18 months. BLM has also drafted an interim acquisition policy to guide the acquisition of information technology. It plans to complete and implement formal acquisition policies and processes once the bureauwide architecture is established.

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[7]Capability Maturity Model[SM] is the service trademark of Carnegie Mellon University, and CMM® is registered with the U.S. Patent and Trademark Office.

[8]Level 2 organizations are defined as having basic project management processes to track cost, schedule, and functionality, with the necessary process discipline in place to repeat earlier successes on projects with similar applications.

BLM's systems acquisition improvement efforts have not yet been integrated with its investment management efforts to ensure that they are brought together as part of a comprehensive IRM program that supports the business and information technology needs of the bureau. Also, BLM has not yet developed an overall plan, schedule, or milestones for completing the actions to improve its systems acquisition capabilities. Such tools are essential for BLM to adequately plan and manage these efforts in a timely manner to help ensure that any future systems acquisition efforts will result in systems that meet BLM's needs. Based on discussions at the conclusion of our review, BLM's Deputy CIO told us that the bureau is planning to integrate these efforts, but had not yet established a time frame for completing the integration. BLM's CIO added that, based on our work, the bureau has begun to develop an overall plan, schedule, and milestones to address this and our other recommendations.

BLM Has Temporarily Suspended Sizable Information Technology Investments

Because of the information technology investment management and systems acquisition problems identified during the ALMRS/Modernization, we recommended that BLM not undertake any sizable systems acquisition or development efforts until the assessments we recommended were completed and corrective actions taken.

BLM has temporarily suspended all major systems acquisition and development projects, according to the bureau's CIO. Based on our review of acquisition and contract documentation provided by BLM, the bureau is continuing work on several ongoing systems maintenance projects, as well as planning for a major system called the National Integrated Land System (NILS). NILS is being planned as a joint project with the United States Forest Service to develop a common data model and tools in a geographic information system environment for managing cadastral and land record data. BLM's CIO said that although planning continues, the bureau does not plan to begin development of NILS until after the bureauwide architecture is complete and its business needs have been documented.

Conclusions

BLM is acting to address our recommendation to thoroughly analyze ALMRS IOC and identify and assess all alternatives. Because its work is still underway, we cannot yet determine whether these actions will be fully responsive to our recommendations or result in an adequate assessment of ALMRS IOC and other alternatives to meet BLM's business needs. We believe it is prudent for BLM to reach final conclusions about the

usefulness of ALMRS IOC after its architecture is substantially completed and its business needs are known.

BLM is also addressing our recommendations to assess and strengthen its investment management processes and practices and to use sound systems acquisition practices. These corrective actions, still in the early stages, are important to help BLM avoid future problems and failures similar to ALMRS IOC. Consequently, we cannot yet determine whether these actions will be fully responsive to our recommendations or result in an effective investment management program or sound systems acquisition capabilities at BLM.

Also, BLM's investment management and systems acquisition efforts have thus far not been integrated. As a result of our work, the CIO stated that the bureau is now planning to integrate these efforts. Until the integration is completed, BLM cannot assure that its efforts will form a comprehensive IRM program that can help support the continuous identification, selection, control, life-cycle management, and evaluation of information technology investments.

BLM has also not completed a project plan, schedule, and milestones for completing its actions to address our recommendations. BLM's CIO told us that, as a result of our work, the bureau has begun to develop an overall plan, schedule, and milestones for completing these actions. Until that plan is completed, BLM cannot document the expected results of its overall effort or provide accurate estimates for when its actions will be completed. Finally, the CIO's efforts to establish integrated investment management and systems acquisition processes and practices are important and challenging and will require the full support of BLM's senior management team.

Recommendations

We recommend that the Secretary of the Interior direct BLM to take the following actions to help it strengthen its investment management and systems acquisition processes:

• Develop a comprehensive and integrated information technology investment management program as defined by the Clinger-Cohen Act by completing the integration of BLM's projects to strengthen its investment management and systems acquisition processes and practices.

- Complete the development of an overall project plan, schedule, and milestones for actions to strengthen its investment management processes and practices and systems acquisition capabilities.

Agency Comments

The Acting Assistant Secretary for Land and Minerals Management stated that the Department of the Interior concurs with our recommendations and has been taking action to implement them. These actions include the bureau's efforts to (1) strengthen its software acquisition capabilities, (2) review, focus, and restructure the IRM organization, (3) restructure the Information Technology Investment Board and strengthen the investment management process, (4) establish a program management office to provide disciplined information technology project screening and support project development, and (5) deploy a system to improve service delivery and strengthen the management of the information technology infrastructure. Most of these actions are discussed earlier in this report and represent important efforts to help BLM strengthen its information technology program.

We are sending copies of this report to Senator Slade Gorton, Chairman, and Senator Robert C. Byrd, Ranking Minority Member, Subcommittee on Interior, Senate Committee on Appropriations. We are also sending copies of this report to The Honorable Jacob J. Lew, Director, Office of Management and Budget; The Honorable Bruce Babbitt, Secretary of the Interior; and Mr. Tom Fry, Acting Director, Bureau of Land Management. Copies will also be made available to others upon request.

Should you or your staff have any questions concerning this report, please contact me at (202) 512-6253. I can also be reached by e-mail at

willemssenj.aimd@gao.gov. Major contributors to this report are listed in appendix III.

Joel C. Willemssen
Director, Civil Agencies Information Systems

Objectives, Scope, and Methodology

As requested by the Subcommittee on Interior and Related Agencies, Committee on Appropriations, House of Representatives, our objectives were to determine whether BLM has (1) adequately assessed the usability of the ALMRS IOC and alternatives to meet business needs, (2) adequately assessed and strengthened its investment management processes and practices, (3) obtained an independent assessment of its systems acquisition capabilities and strengthened its systems acquisition processes, and (4) made or is making sizable investments prior to strengthening its investment management and systems acquisition processes.

To meet our first objective, we analyzed BLM's technical and functional analysis of ALMRS IOC as well as the supporting documentation and reports. We also interviewed bureau officials to determine BLM's plans to conduct further analyses.

To meet our second objective, we reviewed the independent analysis of BLM's IRM practices and interviewed assessment contractor officials. We also interviewed contractor officials responsible for developing BLM's bureauwide architecture and reviewed documentation of ongoing work. We reviewed documentation and analyses of BLM's information technology management processes, practices, and improvement efforts and compared this information with OMB and our investment management guidance and with requirements in the Clinger-Cohen Act of 1996. We interviewed BLM officials to identify the bureau's planned and ongoing actions to strengthen its investment management processes and practices.

To meet our third objective, we reviewed the independent assessment of BLM's systems acquisition capabilities and practices and compared it to criteria developed by SEI. We interviewed the assessment contractor to identify and discuss the assessment methodology used and interviewed bureau officials to determine what actions BLM plans to take to strengthen its systems acquisition processes.

To address our final objective, we interviewed bureau officials and reviewed documentation of BLM's information technology contracts provided by BLM to determine whether BLM has made sizable systems investments prior to strengthening its information technology investment management and acquisition processes and practices.

We performed our work at BLM and Department of the Interior headquarters in Washington, D.C., and BLM's National Information Resources Management Center headquarters in Denver, Colorado. We

requested and received comments on a draft of our report from the Department of the Interior and incorporated those comments as appropriate. We performed our work from July 1999 through January 2000 in accordance with generally accepted government auditing standards.

Comments From the Department of the Interior

United States Department of the Interior

OFFICE OF THE SECRETARY
Washington, D.C. 20240

FEB 4 2000

Mr. Jeffrey C. Steinhoff
Acting Assistant Comptroller General
U. S. General Accounting Office
441 G. Street, N.W.
Washington, D.C. 20548

Dear Mr. Steinhoff:

Thank you for the opportunity to review and comment on the draft report entitled LAND MANAGEMENT SYSTEMS - Status of BLM's Actions to Improve Information Technology Management (GAO/AIMD-00-67).

Over the past several years, the General Accounting Office (GAO) has provided many important and timely recommendations to the Bureau of Land Management (BLM). The most recent report is no exception. We appreciate your continued support and concur with your recommendations that BLM must strengthen its investment management and acquisition processes and practices, including the integration of its projects. We are fully committed to meet the requirements of the Clinger-Cohen Act, and to maximize the return of the Bureau's IT and related resource investments.

Enclosed are our comments on the audit findings and responses to the recommendations. If you have any questions, please contact Hord Tipton or Mike Nedd at 202-208-7701, or Kamilah Rasheed, BLM Audit Liaison Officer, at 202-452-5161.

Sincerely,

Sylvia V. Baca
Acting Assistant Secretary - Land
and Minerals Management

Enclosure

**RESPONSE BY
THE BUREAU OF LAND MANAGEMENT**

**DRAFT AUDIT REPORT
LAND MANAGEMENT SYSTEMS - STATUS OF BLM'S ACTIONS TO IMPROVE
INFORMATION TECHNOLOGY MANAGEMENT**

Audit Agency: General Accounting Office (GAO)

Audit Number: GAO/AIMD-00-67

<u>**Recommendation 1**</u> - Develop a comprehensive and integrated information technology
investment management program as defined by the Clinger-Cohen Act by completing the
integration of BLM's projects to strengthen its investment management and systems acquisition
processes and practices.

<u>**Response:**</u> Agree - Over the next twelve to eighteen months, we will be implementing
improvement processes to achieve the goal of attaining a Capability Maturity Model Level 2, as
defined by the Software Engineering Institute. To that end, we have taken the following steps:

- We conducted a National IRM Organizational review which resulted in a complete
  restructuring of the Bureau's Information Technology infrastructure with a clearly
  defined mission and vision.

- As part of the National IRM Organizational review, the Bureau is currently in the process
  of completing the Headquarters Office IRM organization review, thereafter, the focus will
  shift to the overall IRM organization of the field offices.

- The BLM has restructured its IT Investment Board (ITIB) with a newly signed Charter.
  This includes clearly defined roles and responsibilities with an enhanced process and
  criteria for the selection, control and evaluation for IT investments.

- We are in the process of establishing a Program Management Office (PMO) which will
  incorporate a disciplined project screening process and provide Bureauwide IT project
  development support. This involves ensuring conformity with the Bureau Architecture.

- We will complete the deployment of the Tivoli Enterprise Management Systems to
  mitigate risks to IT service delivery and gain better control of our IT assets.

<u>**Responsible Official:**</u> Hord Tipton, Chief Information Officer

Recommendation 2 - Complete the development of an overall project plan, schedule, and milestones for actions to strengthen its investment management processes and practices and systems acquisition capabilities.

Response: Agree - The Bureau is nearing completion of its development of an overall Project Plan that will outline the strategy for integrating all on-going efforts into a single coordinated effort, and for improving BLM's management of Information Technology and related resource investments. The Plan will identify the activities relative to resources, inputs, outputs, dependencies, schedules and milestones toward achieving the CMM Level 2. The Plan will focus on four categories:

1) Architecture
   - Business Processes
   - Application Development and Acquisitions
   - Data Management
   - IT Infrastructure Management
2) **Policy Development and Planning**
3) **Information Technology Investment Management**
4) **Reorganization**

Targeted Completion Date: March 15, 2000

Responsible Official: Hord Tipton, Chief Information Officer

GAO Contact and Staff Acknowledgements

GAO Contact

David G. Gill (202) 512-6250

Acknowledgements

In addition to the individual named above, Mirko J. Dolak, Phoebe Furey, Elizabeth A. Roach, and E. Randolph Tekeley made key contributions to this report.

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Washington, D.C. 20548-0001**

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