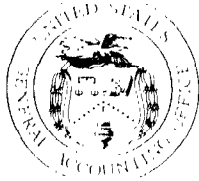


July 1990

MINERALS
MANAGEMENT
SERVICE

Improvements Planned
for Automated Royalty
Management System



141891

**Information Management and
Technology Division**

B-239656

July 27, 1990

The Honorable Manuel Lujan, Jr.
Secretary of the Interior

Dear Mr. Lujan:

For several years, information-related problems have existed in the Royalty Management Program administered by the Department of the Interior's Minerals Management Service (MMS). Until these information problems are fully resolved, the federal government risks losing revenues from mineral leases on public lands and inaccurately distributing royalties. Because automation difficulties have contributed to MMS' royalty management problems, we collected information on MMS' progress in resolving these difficulties. Appendix I provides details of our objectives, scope, and methodology.

Results in Brief

MMS has identified problems with its automated royalty management system, developed a plan to address them, and is implementing the plan through a series of systems enhancement projects. This plan is a positive step towards addressing the problems with the system. However, at the time of our review, the enhancement projects were in early stages which precluded their evaluation.

New initiatives designed to improve royalty management services to Indian tribes and allottees (individuals for whom the government holds land in trust) are being added to planned system enhancements. MMS estimates that revised system requirements resulting from these changes will cause a 6-month delay in the completion of the system enhancement projects. At the time of our review, MMS was beginning to incorporate the changes into its implementation plan; therefore, we did not assess the validity of their delay estimate.

Although the MMS system improvement plan addresses identified automation problems, a key issue remains unresolved. MMS uses self-reported, onshore oil and gas production data from producers to verify royalty collections and disbursements. We have recently reported that Interior's Bureau of Land Management (BLM), which is responsible for onshore inspection and enforcement, does not adequately verify the

accuracy of these oil and gas production data.¹ With this limitation, MMS cannot ensure that its royalty collections and disbursements made in conjunction with onshore federal mineral leases are accurate. BLM is taking or planning steps to improve the accuracy of the information. However, we have not evaluated what the effects will be on the Royalty Management Program if the steps are implemented.

Background

The royalty management program is one of the most visible and important in Interior's broad range of responsibilities. Interior agencies lease federal and Indian lands to private parties and collect, account for, and disburse revenues from leases on these lands. The royalty management program uses automated information systems to help ensure that all revenues and royalties are properly collected and that appropriate royalty payments—totalling millions of dollars annually—are distributed to the U.S. Treasury, states, and Indian tribes and allottees.

Interior's royalty management responsibilities are divided among three of its agencies: MMS, BLM, and the Bureau of Indian Affairs (BIA). MMS administers offshore leases and collects, accounts for, and disburses revenues from both onshore and offshore federal and Indian land leases. BLM generally administers federal onshore leases, even on lands over which other agencies, such as the Forest Service and the Army Corps of Engineers, have primary jurisdiction. BLM is also responsible for inspecting federal and Indian onshore oil and gas lease sites and enforcing provisions of federal laws and regulations.² BIA, acting as the federal government's trustee for property held by federally recognized tribes and for Indian allottees, identifies and disburses royalties to individual Indian recipients. As a result of a Senate Select Committee study of Indian issues, MMS has sought to improve services related to royalty payments to Indian tribes and allottees.³

In 1988 the government collected over \$2.5 billion in royalties from the production and sale of oil and gas extracted from Indian lands and onshore and offshore federal lands. Royalties are amounts paid by lessees for oil and gas produced and are usually calculated as a percentage

¹Mineral Revenues: Shortcomings in Onshore Federal Oil and Gas Production Verification (GAO/RCED-90-99, June 26, 1990).

²The Federal Oil and Gas Royalty Management Act of 1982 calls for inspection and enforcement of onshore oil and gas leases.

³Final Report and Legislative Recommendations, Special Committee on Investigations of the Select Committee on Indian Affairs, United States Senate, November 1989.

of the oil and gas value. Royalties from federal and Indian onshore oil and gas leases accounted for \$471 million of the \$2.5 billion in royalties collected in 1988.

According to MMS officials, the federal process for collecting royalties from payors is similar to federal income tax collection. That is, the payor (1) tells the government what is owed based on federal regulations and laws, (2) makes the payment, and (3) is subject to MMS internal analysis and audit to determine if the proper amount was paid.

Information Problems Affecting MMS' Royalty Management System

Throughout the 1980s, numerous studies and audits reported problems with MMS's automated royalty management systems. (See bibliography and the list of related GAO products at the end of the report.) For example, a 1984 House Committee On Interior and Insular Affairs report⁴ cited several major problems with the Royalty Management Program's automated system, including (1) inadequate definition of functional requirements, (2) inefficient automated data processing programs, (3) poor systems documentation, (4) inadequate planning for equipment requirements (underestimated capacity needs), and (5) overly ambitious systems development (unrealistic project schedules and system capabilities).

In addition, past studies identified a continuing data reliability problem affecting Interior's royalty management program. A key component of this program is verification of self-reported mineral production data. Weaknesses in Interior's production verification inspections raised concerns about underreporting. We recently concluded that BLM's verification of onshore oil and gas production is inadequate to satisfy requirements that Interior accurately determine royalty payments.⁵

MMS Royalty Management System Improvement Plan

In November 1986, because of the many reported deficiencies, MMS used an International Business Machines methodology, called Business Systems Planning, to identify systems problems. This involved the creation of an MMS Systems Improvement Team and coordination with key systems users including MMS, state, industry, and Indian representatives. In addition to confirming earlier concerns, the team identified a more comprehensive set of systems problems that included issues relating to

⁴Federal Minerals Royalty Management, Committee on Interior and Insular Affairs, U.S. House of Representatives, December 1984.

⁵GAO/RCED-90-99, June 26, 1990.

system architecture, data integrity, application software, and internal controls.

After identifying systems problems, the MMS Systems Improvement Team with the assistance of a contractor, American Management Systems Operations Corporation, developed a Business System Improvement Plan. The plan identified projects to be performed over a 3-year period, beginning in September 1988, to resolve these problems. MMS assessed the feasibility of these potential improvement projects, constructed actual project proposals, and developed an implementation plan for those projects it considered feasible.

MMS's system improvement plan is a positive step towards addressing problems with its automated royalty management system. The plan covers several factors generally considered critical to success in system redesign.⁶ For example, it employs a structured methodology for systems planning and for systems development, and describes segmented projects that are to specifically address the problems identified with MMS's automated royalty management system. Moreover, systems enhancement is being implemented through a series of upgrades where each upgrade provides a new and/or improved function and builds upon the capabilities provided in earlier releases. In addition, the plan addresses several other key factors, including:

- better defined functional requirements that are reviewed and approved by MMS and the systems contractor;
- thorough systems documentation, including software design documents, users manuals, and operations manuals;
- a modular, flexible system design that can accommodate technological change and future growth;
- target dates for completing each enhancement project and an overall project completion date; and
- detailed capacity analysis and equipment planning to ensure that the systems improvements will meet needs through 1996 and provide a platform for growth beyond 1996.

⁶Critical Factors in Developing Automated Accounting and Financial Management Systems, United States General Accounting Office, January 1987.

In response to issues raised in November 1989 by the Senate Select Committee on Indian Affairs,⁷ and based on consultation with the Indian community,⁸ MMS has recently modified its implementation plans by including steps to improve automated royalty management information services pertaining to Indian tribes and allottees. For example, software enhancements are now planned to better identify and track instances involving nonpayments or underpayments made by oil and gas producers on Indian leases. MMS is developing necessary software and system changes as part of its overall system improvement process and has incorporated them into its system improvement plan. As a result of these changes, MMS projects March 1992 as a completion date for all projects, 6 months later than originally planned.

Although the plan is a positive step, we did not evaluate any projects because they were in early implementation stages. Similarly, we did not evaluate the rationale used by MMS to estimate the 6-month schedule delay because this occurred during the final stages of our review. Nevertheless, even if the objectives of all the projects are met, data integrity concerns remain about royalty management information external to MMS which can affect the success of the overall enhancement project.

External Information Issue Affecting MMS Royalty Management

Data reliability problems associated with onshore oil and gas production data used by MMS to determine royalty collections and disbursements have not been satisfactorily resolved. As we reported in June 1990, BLM's verification of this production data is inadequate to satisfy the requirement that Interior accurately determine royalties.⁸ Specifically, we found that most data on oil and gas production are not verified, inspection and enforcement program oversight is inadequate, and insufficient guidance and monitoring of inspection information collection produces unreliable data. Without adequate verification of this data used by MMS in carrying out its royalty management responsibilities, MMS has little assurance that all the royalty revenue due the federal government from onshore production is being collected now or will be collected once the systems improvement projects have been completed. BLM cited this data reliability problem as a material internal control weakness in the 1989 Interior Financial Integrity Act report.

⁷Collectively known as Initiatives for Indian Tribes and Allottees, these issues span all Royalty Management Program activities including organizational structure, enforcement, communications, and automated systems.

⁸GAO/RCED-90-99, June 26, 1990.

As a result of our report on oil and gas production verification problems, BLM is taking or planning steps to improve the accuracy of the information. These include revisions in inspection processes, improvements in field office staffing and resources, use of internal control reviews, and improvements to inspection data collection and entry. However, we have not verified these actions or evaluated their effects on the Royalty Management Program.

An interagency steering committee, formed in 1988, exists to help resolve difficulties in accurate and timely information exchanges. As part of its response to our June 1990 report, Interior has stated that it will ask this committee to re-evaluate whether an existing Memorandum of Understanding among MMS, BLM, and BIA adequately addresses interagency information sharing issues.⁹ According to one member of the committee, it has no authority to mandate budgetary or operational changes that cut across agency boundaries.

Interior's Office of Information Resources Management is not represented on the interagency steering committee even though it is responsible for overseeing and guiding departmentwide information resources and technologies. Its primary role has been to set policy, develop information resources management guidance, and facilitate discussions among Interior bureaus and offices.

Conclusions

MMS's plan for enhancing its automated royalty management system is a positive step toward addressing many previously identified problems. The systems improvement plan is following a formal, structured methodology that addresses many key factors important to the success of the system enhancement effort. However, because the implementation projects were in early stages, we did not evaluate them and cannot reach final conclusions about the enhanced system. Additional requirements have also been added because of initiatives requiring improvements in royalty management services to Indians. Because MMS was formulating its strategy for addressing these initiatives at the time of our review, we also did not evaluate how MMS estimated the 6-month delay in the delivery of the enhanced system.

⁹The Memorandum of Understanding defines responsibilities for managing mineral leases and identifies required information exchanges concerning MMS audits and BLM inspection and enforcement actions.

Our June 1990 report concludes that data verification concerns continue to pose potential risks to the accuracy of onshore production information contained in MMS' automated royalty management system. Thus, even if the objectives of the projects implementing the system enhancement plan are met, there is no assurance that the automated system will produce accurate royalty determinations. BLM is taking and planning steps to remedy existing shortcomings; however, it is too early for us to evaluate whether these actions resolve the onshore production verification issue and better ensure the accuracy of MMS's royalty determinations.

Three Interior agencies share responsibilities in administering the Royalty Management Program and are dependent upon each other for important program information and services. In response to our June 1990 report, the Secretary's office has asked the interagency steering committee to re-examine interagency information issues and to ensure the effectiveness of actions taken by the individual agencies. Interior's Office of Information Resources Management is not represented on the steering committee, even though it has departmentwide information management responsibilities covering all Interior agencies. As Interior reviews BLM's onshore production verification weaknesses and associated cross-agency royalty management information issues, it might consider the benefits that could be obtained from the departmentwide perspective provided by a more actively involved Office of Information Resources Management.

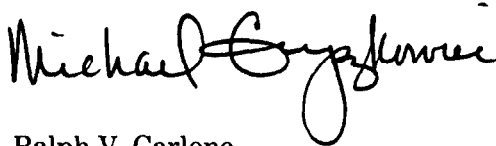
We conducted our work in accordance with generally accepted government auditing standards. The views of MMS officials were sought during the course of our work and their informal comments were obtained on this report. We have incorporated these comments where appropriate. MMS officials agreed with our conclusions.

We are sending copies of this report to the Senate Committee on Energy and Natural Resources; House Committee on Interior and Insular Affairs; House Subcommittee on Energy and the Environment; Director, Office of Management and Budget; and other interested parties. We will also make copies available to others on request.

This work was performed under the direction of JayEtta Hecker, Director of Resources, Community, and Economic Development

Information Systems Issues, who can be reached at (202) 275-9675.
Other major contributors to this report are listed in appendix II.

Sincerely yours,


for
Ralph V. Carlone
Assistant Comptroller General

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Abbreviations

BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
GAO	General Accounting Office
IMTEC	Information Management and Technology Division
MMS	Minerals Management Service

Objective, Scope, and Methodology

Because of the many automation problems that have contributed to MMS' royalty management difficulties, we collected information on MMS' progress in resolving these problems. The objective of our review was to determine whether MMS' automated system improvement plan was addressing automated systems problems affecting its royalty management mission.

To accomplish our objective, we reviewed operations at MMS' Royalty Management Program office in Lakewood, Colorado. We interviewed MMS contractor officials responsible for systems operation, maintenance, engineering, software development, and testing and integration. We interviewed program officials who use the MMS systems, and we reviewed the agency's plans for improving its systems. We obtained documents from and interviewed members of the MMS/BLM Joint Steering Committee, officials from MMS' Office of Information Resources Management, and directors and chiefs at MMS, BLM, and Interior's Office of Information Resources Management. At the time of our review, the enhancement projects being done under the system improvement plan were in early stages which precluded their evaluation.

We conducted our work between August 1989 and April 1990 in accordance with generally accepted government auditing standards. The views of agency officials were sought during the course of our work and their comments have been incorporated where appropriate.

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Related GAO Products

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