

Report to the Royalty Policy Committee

Mineral Revenue Collection from Federal and Indian Lands and the Outer Continental Shelf



Submitted by:
The Subcommittee on Royalty Management

with staff support from
U.S. Department of the Interior

Office of Policy Analysis (Office of the Secretary)
and the Bureau of Land Management

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Executive Summary

1. Introduction

The Minerals Management Service (MMS) administers and enforces the financial terms for all Federal mineral leases: onshore, offshore, and on Indian lands. In Fiscal Year 2007, over 2,000 companies reported and paid royalties totaling approximately \$10.3 billion from approximately 30,000 producing Federal and Indian leases. Additionally, MMS and the Bureau of Land Management (BLM) have leasing, permitting, inspection and enforcement responsibilities, including conducting production accountability reviews. MMS's and BLM's responsibilities apply to offshore leases, onshore Federal leases, and leases on Indian Lands.

On March 22, 2007, the Subcommittee on Royalty Management ("the Subcommittee") was appointed by the Secretary of the Interior ("the Secretary") to conduct an independent prospective examination of the MMS's Minerals Revenue Management program. The Subcommittee was appointed following the publication of a report by the Department of the Interior (DOI) Office of the Inspector General (IG) that raised concerns about the audit and compliance program, as well as other issues separately raised by the IG related to employee misconduct.¹ These reports led to increased public concern and heightened scrutiny by members of Congress. As a result of these concerns, the Secretary determined that a fully independent examination of the program was warranted, and necessary to restore credibility to this important revenue-generating program, and to the staff who support.

The Subcommittee reports to the Royalty Policy Committee, which is chartered under the Federal Advisory Committee Act (FACA) to provide advice to the Secretary and other Departmental officials responsible for managing mineral leasing activities. The Royalty Policy Committee further serves as a forum for individual States, American Indian Tribes, individual Indian mineral lease holders, industry, government agencies, other stakeholders, and the general public who wish to voice their viewpoints on pertinent royalty policy issues. The Subcommittee on Royalty Management consists of seven members, chosen for their broad expertise and knowledge of public policy concerns, or for their experience managing mineral leasing and revenue management programs.

¹ Minerals Management Service's Compliance Review Process. Report No. C-IN-MMS-006-2006. Department of the Interior Office of Inspector General. December 2006. Also see Minerals Management Service, False Claims Allegations, Redacted Report of Investigation. U.S. Department of the Interior, Office of Inspector General, September 7, 2007.

2. Charge of the Subcommittee on Royalty Management

The Subcommittee on Royalty Management was initially charged with reviewing:

- The extent to which existing procedures and processes for reporting and accounting for Federal and Indian mineral revenues are sufficient to ensure that the Minerals Management Service receives the correct amount;
- The audit, compliance, and enforcement procedures and processes of the Minerals Management Service to determine if they are adequate to ensure that mineral companies are complying with existing statutes, lease terms, and regulations as they pertain to payment of royalties; and
- The operations of the Royalty in Kind program to ensure that adequate policies, procedures, and controls are in place so that decisions to take Federal oil and gas royalties in kind result in net benefits to the American people.

Subsequently, in September 2007, Assistant Secretary C. Stephen Allred asked the Subcommittee to review procedures promulgated by the Department in response to the lack of price thresholds in Gulf of Mexico leases from 1998 and 1999 sales.

3. Subcommittee on Royalty Management—Activities and Data Gathering

The Subcommittee secured staff assistance from DOI's Office of Policy Analysis (a staff office within the Office of the Secretary) and from the Bureau of Land Management. Minerals Management Service staff provided briefings, data and information as requested by the Subcommittee and its staff. MMS staff did not participate in the deliberations of the Subcommittee nor did it prepare or review any portions of this report.

The Subcommittee held two face-to-face meetings and numerous teleconferences to develop and discuss issues and recommendations. In addition to briefings and information received from MMS, Subcommittee members and/or staff consulted with several entities, including:

- Various U.S. States and the Province of Alberta (on Royalty in Kind issues);
- Consultants with expertise in specific areas;
- The Department of Energy; and
- The Internal Revenue Service.

Staff and Members conducted field visits to offshore and onshore operations, and initiated an effort to gather information from the BLM offices that manage onshore minerals leases. Furthermore, the Subcommittee and staff found several recent reports issued by the Department's Office of Inspector General to be especially valuable, including those addressing MMS's audit and compliance program and events pertaining to Gulf of Mexico leases issued between 1998 and 1999.

4. Coordination of Royalty Management Activities

Three DOI bureaus have important roles in royalty management – the Minerals Management Service (MMS), the Bureau of Land Management (BLM), and the Bureau of Indian Affairs (BIA). The table below identifies the major roles and

responsibilities of the DOI bureaus, and the significant information sharing and coordination required at each step in the royalty management process.

Table ES-1. Management of Federal and Indian Mineral Resources: Roles and Responsibilities

Function	Location of Mineral Resource			Information necessary for effective coordination
	Offshore	Onshore		
		Federal	Indian	
Develop and implement Management Plans*	MMS	BLM	BIA	Land status, areas available for leasing, stipulations
Lease parcels	MMS	BLM	BIA	Lease terms and conditions, royalty rate, distribution of revenue
Permit/inspect operations/enforcement	MMS	BLM	BLM	Well/lease operating and production status, information on operations
Production verification	MMS	BLM	BLM	Production information generated by agency field measurements and inspections
Production reports	MMS	MMS	MMS	Operator reported production
Production accountability (compare measurements to reports)	MMS	BLM	BLM	Production information reported by operators; production information from agency information systems
Royalty payment compliance	MMS	MMS	MMS	Compliance status
Royalty collections/enforcement	MMS	MMS	MMS	Compliance status
Revenue distribution	MMS	MMS	MMS	Revenue distribution information

*BLM is responsible for Resource Management Plans on BLM-managed lands. Other Federal agencies are responsible for surface management on lands they manage (e.g., Forest Service, Department of Defense., Fish and Wildlife Service).

Source: Subcommittee.

While communication among MMS, BLM, and BIA is critical to effective royalty management, internal communication within each bureau is also necessary to ensure that leasing and royalty management program managers and compliance staffs are able to work effectively together.

5. Findings and Recommendations

In general, the Subcommittee concludes that the Minerals Management Service is an effective steward of the Minerals Revenue Management program, and that MMS employees are genuinely concerned with fostering continued program improvements. The Subcommittee members unanimously agree that that MMS is the Federal agency best suited to fulfill the stewardship responsibilities for Federal and Indian leases. This includes the RIK program, which has grown under MMS's

management from a small pilot to a major component of the royalty management program. However, a number of aspects of royalty management activities administered by MMS and the Bureau of Land Management require prompt, and in some cases, significant management attention to ensure public confidence. The Subcommittee's recommendations are intended to help achieve this end, and address a variety of policy, management and technical concerns.

In this report, the Subcommittee makes over 100 recommendations related to the charges in the Subcommittee charter. These recommendations concern the activities of all three of DOI bureaus involved in royalty management. Most of the recommendations in the report can be implemented through administrative action by the Department and the relevant Bureaus. Many of them can be accomplished in a relatively short period of time.

The Subcommittee's recommendations include several major issues that will require further study and, in some cases, legislative action. These include:

- MMS should explore the feasibility of establishing a "trust fund" within Treasury, the interest from which could be used to fund DOI activities, particularly those related to royalty management. (see Chapter 6)
- MMS should evaluate the benefits and costs of alternative governance arrangements for the RIK program. (see Chapter 6)
- The Department of the Interior should support amending the Royalty Simplification and Fairness Act (RSFA) to permit MMS to collect debts by pursuing the royalty payor rather than the operating rights owner. (see Chapter 3)
- MMS should consider establishing a "whistleblower" program to strengthen production accountability and compliance efforts. (see Chapter 4)

Some recommendations will require long-term and continuing effort to achieve successful implementation. These include:

- MMS should implement a risk-based strategy for identifying companies and properties for audits and compliance reviews. This effort will require developing, testing and refining various strategies over the next several years, as well as providing the information systems support needed to achieve a fully functional risk-based approach. The Subcommittee expects this to be an evolving process but it also expects MMS to take aggressive action to make significant progress over the short- and mid-term. The Internal Revenue Service (IRS) has spent many years perfecting its audit strategy, and continues to make improvements. MMS should work with the IRS to benefit from the lessons IRS has learned over the years. (see Chapter 4)
- MMS should strengthen the oversight of the Royalty in Kind (RIK) program. In the short-term, this can be addressed by establishing a subcommittee to the existing Royalty Policy Committee. (see Chapter 6)

- MMS should implement improvements to the information systems that are critical to royalty management, with the goal of eliminating redundant systems, improving the ability of all systems to share data easily, and moving to an all-electronic format for data submissions. (see Chapter 3 and Chapter 4)

Many of the Subcommittee's recommendations can be easily implemented. Some examples include:

- MMS should amend Form MMS-2014 to record natural gas BTU values, which form the basis for required royalty payments. This will require adding a second column to the form: the new column will report BTU value, and the original column will still report volume times BTU value (total mmBTU). (see Chapter 3)
- MMS's Offshore Minerals Management division (OMM) should phase in a requirement for offshore lease operators to submit all oil and gas volume and quality statements electronically, in an automated file format. Once electronic reporting of quality information is established, MMS should modify the Gas and Liquid Verification Systems (GVS and LVS) to compare information submitted via GVS/LVS to information submitted via Oil and Gas Operations Reports (OGORs). (see Chapter 3)
- MMS and BLM should convene an annual workshop for BLM Petroleum Engineering Technicians and Petroleum Accountability Technicians and equivalent MMS Offshore Minerals Management (OMM) personnel to share applicable best practices and identify and propose resolutions to common production accountability concerns. (see Chapter 3)
- MMS should automate the data entry process for all compliance management information systems and establish a schedule for completing this effort, with a completion date of not later than June 2009. This will keep data current, improve data quality and consistency, and improve the reliability of the information used in decision-making and performance tracking and evaluation. (see Chapter 4)
- MMS should establish an RIK Subcommittee to the Royalty Policy Committee (RPC). Issues that should be addressed include performance benchmarks, volume verification and market positioning. (see Chapter 6)

Several important recommendations cut across all of the Subcommittee's charges. These include:

- Recommendations to update, consolidate and make more transparent policies and guidance in a number of areas, including production

accountability, compliance reviews, and the Royalty in Kind program. Examples include:

- The Department of the Interior should finalize the “technical changes” Indian oil valuation rule in order to address a long standing concern of Indian Tribes. (see Chapter 4)
 - MMS should compile and publish a guidebook of RIK procedures and policies, which should be made available to the public. (see Chapter 6)
 - BLM should update all policy and guidance on production accountability, including any expired and current instruction memoranda, the “Redbook,” and any relevant pre-1983 USGS guidance. (see Chapter 3)
- The Department of the Interior must improve communication among the bureaus involved in royalty management, and must improve internal communication within each bureau. One of the problems found by the Subcommittee was that even when well defined roles, procedures, and data standards existed, a common set of information was not available to all of the relevant entities involved. Improved communication across bureaus will strengthen royalty management in general; improved communication within bureaus will improve data handling and allow compliance and royalty management staffs to better coordinate their efforts. A particular emphasis should be placed on facilitating communication across the production accountability staffs in BLM and MMS. (see Chapter 5)
 - MMS should increase the resources devoted to production accountability; MMS and BLM should strengthen the training provided to their production accountability staffs. (see Chapter 3)
 - The Department of the Interior should target and strengthen the ethics training required for all staff involved in royalty management. This is particularly important for staff whose responsibilities involve frequent interactions with private-sector entities, such as the staff of the Royalty in Kind program. This training should include guidance on public-private-sector interactions, use of official and/or proprietary data, and prohibitions on the use of public office for private gain. (see Chapter 6 and Chapter 7)

With respect to price threshold concerns related to certain Gulf of Mexico leases issued during 1998-1999, the Subcommittee has determined that the Secretary’s February 2007 memorandum appears to provide adequate policy guidance. However, to be effective, the Subcommittee recommends that this guidance be supported by documented, detailed and rigorous procedures and guidelines, as well as periodic and comprehensive reviews to ensure that the guidelines are being implemented.

Another factor affecting royalty revenues and the royalty management program is the use of RIK oil to fill the Strategic Petroleum Reserve (SPR). The Department of the Interior has entered into an agreement with the Department of Energy that provides for using RIK oil to fill the SPR. The current agreement is for MMS to provide sufficient volumes to add 27 million barrels to the SPR. This effort began in July 2007 with deliveries of 50,000 bbl/day and is expected to be completed in 2008, with MMS delivering 70,000 bbl/day.

While the current targeted SPR capacity of 727 million barrels is expected to be reached by 2009, there are also plans for expanding SPR capacity to 1 billion barrels. An issue that will require attention is the timing of SPR capacity expansion, and the impact of that expansion on the Royalty in Kind program, in particular, the extent to which RIK oil will intermittently be needed to fill the SPR in the future.

The Subcommittee's major recommendations are summarized below. The full report provides greater details on these and other recommendations, as well as related findings. Included at the front of each chapter is a list of major recommendations for that chapter. In addition, the full set of the Subcommittee's recommendations is provided in Appendix 1.

Summary of Major Recommendations

I. Collections and Production Accountability

Legislative Changes

- The Department of the Interior should support amending the Royalty Simplification and Fairness Act (RSFA). The Energy Policy Reform and Revitalization Act of 2007 (HR 2337) introduced in the 110th Congress contains language in Section 215 (“Liability for Royalty Payments”) simplifying the RSFA collection requirements by restoring MMS’s ability to pursue the “payor” for debts, as was done prior to the enactment of RSFA. The Subcommittee recommends separating Section 215 from HR 2337, if necessary, for passage as a stand-alone piece of legislation. This RSFA amendment would allow for more timely and less costly collection of MMS’s unsettled royalty debts. (see Recommendation 3-8 on page 23)

Verification of BTU Values

- MMS should amend Form MMS-2014 to record natural gas BTU values, which form the basis for required royalty payments. This will require adding a second column to the form: the new column will report BTU value, and the original column will still report volume times BTU value (total mmBTU). (see Recommendation 3-6 on page 22)
- MMS should modify the Gas and Liquid Verification Systems (GVS and LVS), or develop an equivalent, automated system to compare BTU values and oil quality data in submitted product quality statements to information in Oil and Gas Operations Reports (OGORs) (see *also* recommendations under Electronic Data Submittals, Data Exchange, and Accounting Tools, beginning on page 27). (see Recommendation 3-7 on page 23)

Training and Human Resource Improvements

- BLM should develop estimates of the number of hours required to complete simple and complex reviews. These estimates should be used to help determine appropriate staffing levels, closely corresponding to oil or gas activity in a given field office. In the interim, BLM should reallocate its FY 2008 funding for oil and gas activities to place greater emphasis on the timely hiring of additional Production Accountability Technicians (PATs) sufficient to meet current and expected workloads. (see Recommendation 3-25 on page 36)
- BLM should assess the training needs for Petroleum Engineering Technicians and Production Accountability Technicians (see Recommendation 3-32 on page 40)
- MMS and BLM should establish standardized position descriptions for Production Accountability Technicians in order to consistently define the roles and responsibilities of these individuals (see Recommendation 3-30 on page 40)

Technological Improvements

- BLM should establish and maintain a gas measurement team of specialists to assess new gas measurement technologies. This team should provide recommendations to BLM by June 2008. Following the development of an initial set of recommendations, the team should meet on an annual basis to evaluate the extent to which new technologies should be considered in BLM's guidance. (see Recommendation 3-23 on page 33)
- BLM should work with MMS's Minerals Revenue Management (MRM) division to develop and implement a system that electronically transmits information on lease establishment and any follow-up leasing actions affecting lease status. (see Recommendation 3-9 on page 27)
- MMS's Minerals Revenue Management division (MRM) should phase in a requirement that all payors submit their payments electronically, with a goal of full implementation in five years. (see Recommendation 3-13 on page 27)
- MMS's Offshore Minerals Management division (OMM) should phase in a requirement for offshore lease operators to submit all oil and gas volume and quality statements electronically, in an automated file format. Once electronic reporting of quality information is established, MMS should modify the Gas and Liquid Verification Systems (GVS and LVS) to compare information submitted via GVS/LVS to information submitted via Oil and Gas Operations Reports (OGORs). (see Recommendation 3-11 on page 27)

Budget and Performance

- BLM should add an action code in its LR2000 records tracking system to allow each production accountability review to be tracked for management and performance monitoring purpose. (see Recommendation 3-24 on page 36)

II. Audit, Compliance, and Enforcement

Regulatory Changes

- MMS should finalize the "technical changes" Indian oil valuation rule immediately, and forward it to the Office of Management and Budget. The rulemaking process to change to Indian oil valuation methodology to provide greater certainty for all parties and address a long standing concern of Indian Tribes should commence as soon as possible once the proposed rule has been forwarded to OMB. (see Recommendation 4-24 on page 72)

Compliance Strategy

- MMS should complete its risk-based compliance pilot project and develop a plan for implementing a risk-based compliance strategy on an MMS-wide basis, using an incremental approach to ensure that essential data and related management information systems are validated and ready for wider application. The first phase of this effort should be completed by the end of FY 2008 and should address the offshore program. (see Recommendation 4-9 on page 65)
- MMS should develop a new set of Government Performance and Results Act goals and measures based on the recently completed analysis of the benefits and costs of different compliance tools and the risk-based compliance process

pilot (a risk-based pilot is scheduled for completion in February 2008). MMS should establish final goals and measures by the end of February 2008. (see Recommendation 4-13 on page 67)

Process Improvements

- MMS should place a high priority on improving the processes and procedures associated with calculating interest on royalty payments. (see Recommendation 4-16 on page 69)
- MMS should eliminate duplicate data by consolidating several databases, including databases for the Compliance Information Management system (CIM), the Performance Tracking Tool (PTT), and the Government Performance and Results Act (GPRA). (see Recommendation 4-17 on page 69)
- MMS should require electronic submission of all offshore run tickets for input to Liquid Verification System and Gas Verification System. (see Recommendation 4-21 on page 70)
- By the end of FY 2008, MMS should publish proposed revisions to the gas valuation regulations and guidelines to address the cost-bundling issue, and to facilitate the calculation of gas transportation and gas processing deductions. MMS should consider incorporating into the proposed revisions the use of market indices for gas valuation in the context of non-arm's length transactions in lieu of the benchmarks that have been employed since 1988. (see Recommendation 4-26 on page 73)
- By the end of FY 2008 MMS should review, and (as appropriate) revise and implement the regulations and guidance for calculating prices used in checking royalty compliance for solid minerals, with particular attention to non-arms-length transactions. (see Recommendation 4-27 on page 73)

III. *Coordination among MMS, BLM, and BIA*

- By June 2008, the Department should establish a Coordinating Committee with representatives from the senior management level in MMS, BLM, and BIA. Bureau representatives should have the authority to ensure decisions and recommendations are implemented in their respective bureaus. (see Recommendation 5-9 on page 85)
- To support the Departmental Coordinating Committee described in Recommendation 5-9, each Bureau should establish procedures for strengthening intra-Bureau coordination. (see Recommendation 5-10 on page 86)
- MMS and BLM should secure appropriate access to the Indian lease system. This is necessary to prevent delays in approving lease activity, and to ensure MMS has the correct information for managing revenue from Indian leases. (see Recommendation 5-2 on page 84)
- DOI should work to reconnect the systems containing Indian data after appropriate security measures are in place. The Indian Automated Fluid Mineral Support System (IAFMSS) and the Indian Well Information System (IWIS) should be restarted; appropriate access to IAFMSS for MMS and Indian contract inspectors should be provided. In addition, once appropriate security measures

are in place, MMS should provide BLM users with the ability to query these systems by any parameter (e.g., lease number). (see Recommendation 5-3 on page 84)

- DOI should establish standards for geospatial data regarding Indian leases that facilitate management of Indian resources while still meeting DOI's Trust responsibilities. (see Recommendation 5-7 on page 84)
- DOI should seek a review of the decision classifying boundary information for Indian allotments, leases, and agreements as Trust information. Any solution should satisfy Trust responsibilities and allow the DOI bureaus to carry out their management responsibilities efficiently. (see Recommendation 5-8 on page 85)

IV. Royalty in Kind

Governance (Short-Term)

- MMS should establish an RIK Subcommittee to the Royalty Policy Committee (RPC). Issues that should be addressed include performance benchmarks, volume verification and market positioning. (see Recommendation 6-1 on page 108)
- MMS should issue new or revised regulations and/or guidelines that would offer MMS, the public, and potential RIK purchasers or providers of transportation/processing services additional certainty concerning program administration. Additional certainty for these parties may assist in providing greater transparency for MMS business practices. (see Recommendation 6-3 on page 108)
- By the end of FY 2008, MMS should clarify the extent to which Federal Acquisition Regulations (FAR) apply. If the FAR is found to apply, MMS should place a high priority on identifying contracting arrangements least likely to impair the program. (see Recommendation 6-7 on page 114)
- MMS should amend the Memorandum of Understanding with the Department of Energy to include reimbursement for administrative and contract costs incurred in transferring RIK oil to the Strategic Petroleum Reserve. Additional reimbursement should not result in a reduction in MMS's base budget. (see Recommendation 6-14 on page 122)

Governance (Medium-Term)

- MMS should explore the feasibility of establishing a "trust fund" within Treasury, the interest from which could be used to fund DOI activities, particularly those related to royalty management. Priority for funding should be given to activities required for addressing the Subcommittee's recommendations related to production accountability, audit, collections and enforcement (as noted above, RIK administrative costs are already funded by a share of RIK revenues). Legislation would be required to establish this fund. If this option is pursued, it is essential that these funds should be available without subsequent appropriation. It is important to "hold harmless" the base budgets for fund-supported activities to ensure net increases in support for them; otherwise there will be no net increase in program support. (see Recommendation 6-6 on page 108)

- MMS should conduct a cost-benefit analysis of various governance arrangements for the RIK program to determine the organizational structure that will best and most cost effectively align incentives with programmatic goals and provide the institutional flexibility necessary to function in a commercial environment. Alternatives should include but not be limited to: the status quo; contracting out marketing functions; an FFRDC model or some variation thereof; and the status quo with some legislative exemptions from the FAR and personnel regulations. Any such arrangement should maintain institutional oversight by the Department of the Interior and MMS, and also provide the additional oversight mechanism suggested in Recommendation 6-10 (see Recommendation 6-9 on page 114)
- If an alternative governance structure is established for the RIK program, an independent oversight board should be established. This board should include experts in marketing and management, and representatives of the public interest. The board should periodically evaluate the RIK program, to assess balance sheets and other “business-like” performance measures. The board should have the ability to recommend program expansion or contraction (onshore or offshore and by commodity) based on market trends and other concerns, and to address specific concerns such as the small refiner program. Furthermore, the Secretary could respond to the Board’s recommendations with on-the-record findings. (see Recommendation 6-10 on page 115)
- MMS should explicitly recognize (e.g., in a charter or mission statement) that the RIK program is a commercial activity, and should treat the program accordingly. Consistent with this, MMS should seek to operate the program as close to how a private business would operate as possible, including establishing a sole objective to maximize net revenue within risk parameters established by program executives. A business model should apply to all aspects of the RIK program, including identifying potential properties where royalties might be taken in kind, pre-sale bidder qualification procedures, the sales themselves, and performance measurement. (see Recommendation 6-8 on page 114)
- MMS should undertake a concerted effort to provide outreach to States, Industry, and the public to assist in communicating RIK’s inner workings (e.g., seminar courses, workshops). This will clarify MMS’s role in administering royalties, and facilitate understanding and confidence for clients and partners of MMS. (see Recommendation 6-5 on page 108)
- MMS should discontinue its onshore RIK crude oil program until it can be determined to be in the best financial interest of the government. While MMS has realized sizable revenue gains relative to RIK on crude oil sales in the past, there has been no systematic evaluation of onshore crude oil costs. Any decision to restart the onshore program should consider administrative cost implications. This will ensure that the government is collecting onshore royalties in the most beneficial manner. (see Recommendation 6-11 on page 121)
- The Subcommittee finds no strong justification for the small refiners’ set-aside, and recommends discontinuing the program as soon as possible. The program should not be resumed until the Secretary makes a new determination of need. (see Recommendation 6-13 on page 122)

Human Resource Issues

- MMS should immediately take steps to ensure that the RIK program has sufficient personnel depth to maintain an expanding trading operation and to ensure that RIK personnel have a solid understanding of existing ethics guidelines. MMS should develop and implement a Personnel Plan by June 2008 to strengthen those areas requiring additional personnel with industry expertise. (see Recommendation 6-16 on page 125)
- MMS should streamline the process for announcing and filling vacancies. Priority should be given to filling the asset manager vacancies for oil and gas. (see Recommendation 6-18 on page 125)
- MMS should secure dedicated legal support for the RIK program, ideally stationed within the program in Denver, Colorado, or otherwise in the Regional or Washington, DC Office of the Solicitor. Securing dedicated legal support should improve the ability of RIK personnel to interact with their industry counterparts and with industry lawyers. (see Recommendation 6-19 on page 125)

Performance Measurement

- MMS should recognize, and annually report on, the opportunity costs associated with transfers of oil to the SPR using the performance measures established for the RIK program. (see Recommendation 6-15 on page 122)
- MMS should carry the range-of-values methodology associated with benchmarks through to the reporting of performance measures based on those benchmarks. (see Recommendation 6-23 on page 128)
- MMS should develop a presentation of the benchmarking process that makes it easier for outsiders to quickly understand the basics of how the benchmarks are assembled and applied. (see Recommendation 6-22 on page 128)
- MMS should evaluate whether performance measures could be enhanced following standard business practices (e.g., balance sheet, cash flow statement, financial ratios). (see Recommendation 6-27 on page 128)
- MMS should publish a program cost comparison, comparing the RIK program to other public- and private-sector efforts toward marketing in-kind royalties (e.g., the Province of Alberta, Texas General Land Office, industry). (see Recommendation 6-28 on page 128)
- MMS should implement a systematic and detailed procedure for handling bid documents (including both bids and notices of acceptance) to ensure security and integrity. In particular, the procedures should address “refreshing.” In that regard, the procedures and associated documents used to announce sales and associated procedures should explicitly lay out the procedures for determining when and if additional bidding rounds will be held. (see Recommendation 6-30 on page 131)

V. *Lack of Price Thresholds in Offshore Oil and Gas Leases – 1998 and 1999 Lease Sales in the Gulf of Mexico*

- The Department of the Interior should continue its efforts to pursue voluntary royalty payment agreements with holders of the 1998 and 1999 leases without price thresholds. (see Recommendation 7-1 on page 138)
- Congress and the Secretary of the Interior should continue to explore legislative options, which could address the loss of royalties without violating legitimately signed contracts. (see Recommendation 7-2 on page 138)
- MMS and the Office of the Solicitor should coordinate to develop new procedures and guidelines, or revise any existing procedures and guidelines to ensure that the Secretary's February 15, 2007 memorandum is effectively implemented. The revised procedures and guidelines should clearly delineate what constitutes a thorough review; how MMS will coordinate its clearance procedures internally, how the Office of the Solicitor will coordinate with MMS. The new procedures and guidelines should be reviewed by the Inspector General, and they should be put in place within 60 days of the submittal of the Subcommittee's report to the Department. (see Recommendation 7-3 on page 138)
- MMS and the Department should establish periodic, comprehensive and formally structured reviews of the procedures and guidelines to ensure they are being implemented correctly and successfully. Any necessary remedial actions should be defined and implemented promptly. (see Recommendation 7-4 on page 138)
- Effective implementation of the procedures and guidelines should be incorporated in the performance standards for key staff, supervisors, and managers in MMS and the Office of the Solicitor. (see Recommendation 7-5 on page 138)
- In addition to the standard training provided to all Departmental employees, the Department and MMS should require additional annual ethics training for staff involved in royalty management (this includes staff in the Office of the Solicitor). This training should include guidance on public-private-sector interactions, use of official and/or proprietary data, and prohibitions on the use of public office for private gain. (see Recommendation 7-6 on page 138)

Chapter 1

Introduction and Charge to the Subcommittee

Chapter 1 Introduction and Charge to the Subcommittee

I. Introduction

The Minerals Management Service (MMS) administers and enforces the financial terms for all Federal mineral leases, both onshore and offshore, and on Indian lands. In Fiscal Year 2007, over 2,000 companies reported and paid royalties totaling \$10.3 billion from approximately 30,000 producing Federal and Indian leases.

Concerning the accuracy and effectiveness of MMS's royalty management program, Department of the Interior Secretary Dirk Kempthorne and Assistant Secretary C. Stephen Allred determined that an independent panel should be convened to review the procedures and processes surrounding the management of mineral revenues and to provide advice to the Department on certain aspects of such management.

Accordingly, on March 22, 2007, the Subcommittee on Royalty Management was appointed to conduct a prospective examination of MMS's mineral leasing program (see Exhibit A). The Subcommittee was commissioned to report to the Royalty Policy Committee, which is chartered under the Federal Advisory Committee Act (FACA) to provide advice to the Secretary of the Interior and other Departmental officials responsible for managing mineral leasing activities, and also to serve as a forum for individual States, American Indian Tribes, individual Indian mineral lease holders, the industry, government agencies, and the public to voice their viewpoints on pertinent issues.

Representing a diverse spectrum of interests, abilities, and experience, the Subcommittee on Royalty Management consists of seven members, who were chosen because of their broad expertise and knowledge of public policy concerns or the specific activities associated with managing mineral leasing and revenue management programs.

The Subcommittee on Royalty Management was charged with reviewing the current leasing program and providing advice to the Department of the Interior on royalty-management issues and other mineral-related policies. Specifically, the Subcommittee was asked to review:

- The extent to which existing procedures and processes for reporting and accounting for Federal and Indian mineral revenues are sufficient to ensure that the Minerals Management Service receives the correct amount.
- The audit, compliance, and enforcement procedures and processes of the Minerals Management Service to determine if they are adequate to ensure that mineral companies are complying with existing statutes, lease terms, and regulations as they pertain to payment of royalties.
- The operations of the Royalty in Kind program to ensure that adequate policies, procedures, and controls are in place to ensure that decisions to take

Federal oil and gas royalties in kind result in net benefits to the American people.

Subsequently, on September 28, 2007, the Subcommittee was asked by the Assistant Secretary for Land and Minerals Management to review procedures promulgated by the Department in response to the lack of price thresholds in Gulf of Mexico leases from 1998 and 1999 sales.

This report provides the Subcommittee on Royalty Management's findings and recommendations to the Royalty Policy Committee. In general, the Subcommittee concludes that MMS is an effective steward of the minerals revenue management program. However, the minerals revenue management program has some flaws that require prompt management attention, and distinct improvements must occur to ensure public confidence. The Subcommittee's recommendations, which are intended to help achieve this end, address a variety of policy, program management and technical concerns that impact all three of the Department of the Interior bureaus that are involved in royalty management.

II. Subcommittee Data-Gathering Process

The Subcommittee held two face-to-face meetings and numerous teleconferences to discuss the issues and recommendations.

The Subcommittee and staff reviewed information provided by MMS; met with MMS management and staff in Lakewood, Colorado in January and July 2007; attended a Royalty in Kind (RIK) crude oil sale in August, 2007; consulted with various RIK practitioners including staff of the Alberta Petroleum Marketing Commission (Province of Alberta Department of Energy), the New Mexico State Land Office, the Alaska Department of Natural Resources, the Texas General Land Office, the University of Texas Lands Office, and several major domestic oil and gas producers; and held discussions with Lukens Energy (consultants to MMS on various aspects of royalty management), the Internal Revenue Service, and the Department of Energy. In addition, the Subcommittee and staff found several recent reports issued by the Department's Office of Inspector General to be especially valuable, including those addressing MMS's audit and compliance program and events pertaining to Gulf of Mexico leases during 1998-99.

In June 2007, Subcommittee staff visited an offshore operation in the Gulf of Mexico, accompanied by an inspector from the Office of Minerals Management (OMM). The staff also had discussions with accounting employees at OMM, in Metairie, Louisiana regarding MMS procedures for verifying production and reported heat content values. To better understand gas processing and measurement, Subcommittee staff visited two gas plants near Metairie handling gas from offshore production. Subcommittee staff also visited conventional and coal bed gas operations in the Atlantic Rim area south of Rawlins, Wyoming, and an oil operation in Bairoil, north of Rawlins, Wyoming. They were accompanied by Petroleum Engineering Technicians (PETs) from two Bureau of Land Management (BLM) field

offices: Rawlins and Cheyenne. While in Rawlins, the staff interviewed the PETs as well as a Production Accountability Technician (PAT) on production verification and accountability. Similar visits were made to BLM field offices in Carlsbad, New Mexico and Pinedale, Wyoming, to examine on-the-ground oil and gas metering facilities. In addition, Subcommittee staff also held telephone conversations with PAT staff and Petroleum Engineers in several BLM field offices: Tulsa, Oklahoma; Farmington, New Mexico; Carlsbad, New Mexico; Hobbs, New Mexico; and Ukiah, California.

The Subcommittee staff also initiated a data-collection effort to gather additional information from the 31 BLM offices that manage onshore minerals leases for oil, gas, and solids. This information led to a number of findings and assisted in formulating recommendations.

Chapter 2

A Brief History of Royalty Management

Chapter 2 A Brief History of Royalty Management

The Federal government owns, or is a trustee for, the rights to significant oil, gas, and other mineral resources located on Federal lands and in offshore locations. In exchange for leases enabling the exploration, development, and production of those resources, the government receives specified amounts of compensation in the form of bonuses, rentals, and royalties. Additionally, the Federal government provides revenue management services for mineral leases on Indian lands as part of its trust responsibility.

Royalty payments derived from mineral leases on public and Indian lands have constituted a major source of revenue for the Federal government, States, and Indian Tribes and allottees. Table 1 and Table 2 below present information on mineral revenue collections and disbursement. As shown in Table 1, revenues from mineral leases totaled \$11.4 billion in FY 2007. Table 2 shows mineral lease revenue disbursements. In FY 2007, disbursements totaled about \$11.7 billion.² The Minerals Management Service (MMS) has distributed a cumulative total of approximately \$164.9 billion to Federal, State, and Indian accounts and special funds since 1982.³ Minerals royalties represent one of the largest sources of non-tax revenue to the Federal Government.

² Disbursements can include funds from prior fiscal years

³ Statement of C. Stephen Allred, Assistant Secretary, Land and Minerals Management, U.S. Department of the Interior, before the Committee on Energy and Natural Resources, U.S. Senate, Jan. 18, 2006. p. 3 (*available at* http://energy.senate.gov/public/_files/AllredOilandGasRoyaltyManagmentattheDOI11706TestimonyFinal2.doc).

Table 1 Mineral Lease Revenue Collections, FY 2007

Offshore Federal Revenues	
Royalties	\$6,441,214,179
Rents	\$200,993,255
Bonuses	\$373,930,998
Other revenues	\$3,166,689
Subtotal	\$7,019,305,121
Onshore Federal Revenues	
Royalties	\$3,345,115,685
Rents	\$65,238,025
Bonuses	\$528,705,220
Other revenues	\$-4,286,262
Subtotal	\$3,934,772,668
American Indian, Tribal and Allottee Land Revenues	
Royalties	\$465,513,833
Rents	\$954,721
Bonuses	\$0
Other revenues	\$8,093,708
Subtotal	\$474,562,262
Total Royalties	\$10,251,843,696
Rents, Bonuses, and Other Revenues	\$1,176,796,354
Total	\$11,428,640,051

SOURCE: U.S. Department of the Interior, Minerals Management Service, MRM Statistics Home, *available at* <http://www.mrm.mms.gov/MRMWebStats/Home.aspx>.

Table 2 Mineral Lease Revenue Disbursements, FY 2007

American Indian Tribes and Allottees	\$464,998,979
Historic Preservation Fund	\$150,000,000
Land & Water Conservation Fund	\$899,000,000
Reclamation Fund	\$1,469,924,290
State shares	
Offshore 8(g)	\$68,874,086
Onshore	\$1,903,448,859
U.S. Treasury	\$6,715,095,418
Total	\$11,671,341,632

SOURCE: U.S. Department of the Interior, Minerals Management Service, MRM Statistics Home, *available at* <http://www.mrm.mms.gov/MRMWebStats/Home.aspx>.

The Mining Law of 1872 includes metallic, gemstones, and some specialty industrial minerals that can be developed without a royalty to the U.S. The Minerals Leasing Act of 1920 (MLA) provided the legislative foundation for the Federal royalty program for oil, gas, coal, and other minerals.⁴ Under the MLA, oil and gas royalties for production on Federal lands may be collected either “in value” or “in kind.” In-value royalties are taken in cash, as a share of the market value of the mineral production, while in-kind royalties are a share of the production volume.⁵ In 1947, the Acquired Lands Act extended the leasing authority of the MLA to include properties acquired from States and individuals, and the Outer Continental Shelf Lands Act of 1953 (OCSLA) further extended this authority to offshore resources.⁶ In conjunction with their implementing regulations, these laws required a royalty payment (in kind or in value) of at least 12.5% in exchange for the right to develop Federal and Indian resources.⁷ Developers of common variety minerals, such as sand, gravel, and clay also pay a fee to BLM for the extraction of those minerals.

The collection, management, and disbursement of the royalties owed under these laws has proven a major responsibility and, given the substantial sums involved, one which has attracted a considerable degree of scrutiny through the years. The task of administering the royalty program was initially delegated to the Department of the Interior’s U.S. Geological Survey (USGS). In 1942, USGS promulgated royalty valuation rules for onshore leases that remained in effect until 1988, and later promulgated similar rules that governed valuation of production from offshore leases.⁸

However, USGS management of the royalty program was subject to increasing criticism. Between 1969 and 1977, the Department of the Interior’s Inspector General issued five reports critical of the program, and in October 1981, a GAO report entitled *Oil and Gas Royalty Collections—Longstanding Problems Costing Millions* was issued.⁹ Citing mismanagement, an obsolete accounting system, and under-collection of royalties, it was the sixth GAO report criticizing the program in 22 years.¹⁰ In July 1981, the media openly accused the USGS of mismanagement resulting in the theft of “billions of dollars’ worth of the public’s oil” from Federal and Indian lands.¹¹

⁴ Congressional Budget Office, Reforming the Federal Royalty Program for Oil and Gas, Chapter 1: Introduction, Nov. 2000 (*available at* <http://www.cbo.gov/showdoc.cfm?index=2695&sequence=2#t1>).

⁵ *Ibid.*

⁶ *Id.*

⁷ Peter J. Schaumberg & Geoffrey Heath, Royalty Valuation and Management 101: A Primer (Part A), p. 2A-1-A-2.

⁸ *Id.* at p. 2A-4

⁹ Energy and Materials Program, Office of Technology Assessment, U.S. Congress, The Royalty Management Program’s Auditing and Financial System: Technical Issues (Background Paper), Jul. 1990, p. 11 (*available at* http://govinfo.library.unt.edu/ota/Ota_2/DATA/1990/9040.PDF); Government Accountability Office, Oil and Gas Royalty Collections—Longstanding Problems Costing Millions, AFMD-82-6, Oct. 1981 (*available at* <http://archive.gao.gov/f0902b/116872.pdf>).

¹⁰ *Id.*

¹¹ Jack Anderson, Laxity Allows Cheating on Oil Royalties, Washington Post, Jul. 2, 1981, p. B17.

In response, on July 8, 1981, Secretary of the Interior James Watt established the Commission on Fiscal Accountability of the Nation's Energy Resources, better known as the Linowes Commission, to investigate allegations of irregularities in royalty payments, as well as charges of oil theft from Federal and Indian lands. After studying the long history of royalty management and previous recommendations for improvements, the Commission submitted its report entitled *Report of the Commission, Fiscal Accountability of the Nation's Energy Resources* (Linowes Commission Report) on January 21, 1982.

The results of the investigation undertaken by the Linowes Commission raised a number of serious concerns. In its report, the Commission stated that:

“Management of royalties for the nation's energy resources has been a failure for more than 20 years. Because the Federal government has not adequately managed this multibillion dollar enterprise, the oil and gas industry is not paying all the royalties it rightly owes. The government's royalty recordkeeping is in disarray. . . . The results of individual audits, which have often uncovered large underpayments, suggest that hundreds of millions of dollars owed to the U.S. Treasury, the States, and Indian Tribes are going uncollected every year.

In addition, oil thefts are occurring on Federal and Indian leases. The extent of theft and the amount of royalty losses from theft are unknown, but it is well-documented that security at many Federal and Indian lease sites is lax and is an open invitation to theft.”¹²

The report cited an array of specific problems, including:

- The failure to verify data reported by companies;
- Unreliable lease account records;
- Late payments and/or underpayments; and
- An ineffective audit system.¹³

It concluded that, “[i]n short, the industry is essentially on an honor system.”¹⁴

Accordingly, the Linowes Commission determined that the government's system of royalty management was in need of “a thorough overhaul” in order to ensure that “royalties for the Nation's energy resources were fully and fairly collected on behalf of the people of the United States,” and detailed 60 specific recommendations for

¹² U.S. Department of the Interior, Report of the Commission, Fiscal Accountability of the Nation's Energy Resources, David F. Linowes, Chairman, Jan. 1982, p. xv.

¹³ *Id.* at p. 15.

¹⁴ *Ibid.*

revising and rebuilding the system.¹⁵ The Commission's findings and recommendations in many ways signaled the transition to modern royalty valuation in the U.S., becoming major guideposts as the royalty management program evolved.

Congress responded to one of the Commission's recommendations by passing the Federal Oil and Gas Royalty Management Act of 1982 (FOGRMA¹⁶), which sought to ensure the prompt and accurate collection of oil and gas royalties. Consistent with the Linowes Commission's report, FOGRMA directed the Secretary to establish a "comprehensive inspection, collection, and fiscal and production accounting and auditing system to provide the capability to accurately determine oil and gas royalties, interest, fines, penalties, fees, deposits, and other payments owed, and to collect and account for such amounts in a timely manner."¹⁷ In FOGRMA sections 202 and 205, Congress provided for States and Tribes to assume compliance activities on leases within their respective jurisdictions. This was to be accomplished through cooperative audit agreements.

Among the other influential recommendations set forth by the Commission was the suggestion that an independent royalty and minerals management agency be created in order to ensure effective accounting, production verification, royalty collection, and enforcement from that point forward. Secretarial Order 3071 issued by Secretary Watt on January 17, 1982 created a new bureau, the Minerals Management Service (MMS), which assumed responsibility for the nation's royalty management program. By creating MMS, the Secretary of the Interior effectively elevated royalty management from a program within a division of USGS to a bureau-level mission, with a sharper focus, a new dedication of purpose, and the means for streamlining and improving its operations.¹⁸ In December 1982, the production accountability responsibilities of the United States Geological Survey Conservation Division were transferred to the Bureau of Land Management.

The newly created MMS was to manage and account for all revenues generated by onshore mineral leases on Federal and Indian lands, as well as by Federal offshore leases. Later, in May 1982, MMS was also charged with running the Federal government's program for managing mineral resources on the Outer Continental Shelf (OCS).¹⁹ Since that time, new legislation, court decisions, agency regulations, and agency policies and guidance have further altered the landscape of royalty management.

¹⁵ *Id.* at p. xv.

¹⁶ P.L. 97-451, Jan. 12, 1983.

¹⁷ *Id.* at § 101(a), 96 Stat. 2449.

¹⁸ U.S. Department of the Interior Minerals Management Service, Gulf of Mexico Region, About MMS: Who is the Minerals Management Service?

<http://www.gomr.mms.gov/homepg/whoismms/mmsfact.html> (Mar. 21, 2001).

¹⁹ *Id.*

Notably, in 1996, the Federal Oil and Gas Royalty Simplification and Fairness Act (RSFA²⁰) attempted to improve and streamline the Federal royalty program by expanding the authority of States to share in the responsibility for royalty collection and accounting, prescribing statutes of limitations for royalty collection and refunds, and imposing credit interest on overpayments and underpayments of royalties. In 1996 Congress also enacted the Outer Continental Shelf Deep Water Royalty Relief Act, Public Law 104-58, offering royalty relief for certain deepwater oil and gas leases in order to promote deep water exploration and development.

More recently, the Energy Policy Act of 2005²¹ featured new incentives for marginal properties, gas hydrates, CO₂ injection production, and deep gas shallow water and deep water production, as well as several other programs and provisions to increase the Nation's energy supplies.²²

MMS's regulations since passage of FOGRMA in 1982 appear principally at Title 30, Code of Federal Regulations, Subchapter A. Examples of MMS's activities since then include the following:

- MMS promulgated regulations addressing site security²³ and expanding the role of States and Indian Tribes in the audit of royalty payments.²⁴
- MMS convened a Royalty Management Advisory Committee in 1986, which offered detailed recommendations for the oil and gas valuation regulations issued in 1988, and later addressed the relative roles of MMS, State and Indians.²⁵
- MMS established the Royalty Policy Committee in 1995.
- MMS promulgated regulations or policy guidance addressing several matters prescribed by RSFA:
 - Period for agency action and appeals (30 C.F.R. Part 290);
 - Delegation of royalty collection authority to States (30 C.F.R. Part 227);
 - Marginal properties (30 C.F.R. Part 204, Subparts A and C).

²⁰ P.L. Law 104-185

²¹ Public Law 109-58

²² Judith M. Matlock & Deborah Gibbs Tschudy, A Practical Application of the Federal and Indian Oil and Gas Valuation Regulations, p. 5-6 (Feb. 2007).

²³ Civil penalty provisions are provided in 30 C.F.R. § 241.60(a)(2), for failure or refusal "to permit lawful entry, inspection, or audit"; and in Section 241.60(b)(2) for persons who "Knowingly or willfully take or remove, transport, use or divert any oil or gas from any lease site without having valid legal authority to do so"; and in Section 241.60(b)(2), for persons who "Purchase, accept, sell, transport, or convey to another person, any oil or gas knowing or having reason to know that such oil or gas was stolen or unlawfully removed or diverted."

²⁴ 30 C.F.R. Part 227 ("Delegation to States" for Federal leases) expanded States' delegation activities; Parts 228 and 229 delegated Indian lease audit activities to States, for Indian leases located in those States.

²⁵ 53 FR 1184 (Jan. 15, 1988) (oil valuation); 53 FR 1230 (Jan. 15, 1988).

- After issuance of a 1996 Interagency Report critical of oil valuation standards,²⁶ MMS undertook two major oil valuation rulemakings leading to promulgation of regulations, in 2000 and again in 2004 that significantly changed oil valuation and withstood legal challenge.²⁷
- In 1997, MMS revised and tightened gas valuation standards for Federal leases.²⁸ That regulation also withstood a legal challenge from industry.²⁹
- In 2005, MMS promulgated regulations clarifying procedures for transportation deductions in gas valuation.³⁰

Today, MMS oversees two major programs, the Minerals Revenue Management (MRM) program and the Offshore Minerals Management (OMM) program. MMS shoulders significant responsibilities in managing the natural and economic resources of the U.S., managing more than a billion acres of offshore public land, and collecting billions of dollars in mineral revenues annually.³¹ Both of these functions are important to the nation's economic health, and key to meeting the nation's energy needs.³² With this background in mind, the Subcommittee focused primarily on reviewing procedures and processes surrounding the management of mineral revenues derived from royalties on Federal and Indian oil and gas leases at the Department of the Interior.

The management of Federal and Indian resources continues to be a complex process. Coordination among Federal, State, and Tribal agencies is required to ensure that resources are available for development and production, the environment is protected, and royalty revenues are collected and properly distributed.

²⁶ "Final Interagency Report on Valuation of Oil Produced from Federal Leases in California," U.S. Department of the Interior, U.S. Department of Energy and U.S. Department of Commerce, May 1996.

²⁷ The 2000 Oil Rule, 65 FR 14022 (March 15, 2000), abandoned the use of posted prices and other benchmarks in favor of spot price indexing; the 2004 Oil Rule, 69 FR 24959 (May 5, 2004) shifted from spot price indexing to NYMEX futures indexing. Although the 2000 Oil Rule was the subject of a judicial challenge, that challenge was dismissed after settlement negotiations led to the 2004 Oil Rule.

²⁸ 1997 Gas Rule, 62 FR 65753 (Dec. 16, 1997).

²⁹ *IPAA v. DeWitt*, 279 F.3d 1036 (D.C. Cir. 2002).

³⁰ The 2005 Gas Rule, 70 FR 11869 (March 10, 2005) clarified and amended the 1997 Gas Rule.

³¹ *Ibid.*

³² Allred, *supra* note 2, at p. 2.

Chapter 3

Collections and Production Accountability

Chapter 3 Collections and Production Accountability

Summary of Major Recommendations in Chapter 3

(A complete list of all recommendations is provided in Appendix 1)

Legislative Changes

- The Department of the Interior should support amending the Royalty Simplification and Fairness Act (RSFA). The Energy Policy Reform and Revitalization Act of 2007 (HR 2337) introduced in the 110th Congress contains language in Section 215 (“Liability for Royalty Payments”) simplifying the RSFA collection requirements by restoring MMS’s ability to pursue the “payor” for debts, as was done prior to the enactment of RSFA. The Subcommittee recommends separating Section 215 from HR 2337, if necessary, for passage as a stand-alone piece of legislation. This RSFA amendment would allow for more timely and less costly collection of MMS’s unsettled royalty debts. (see Recommendation 3-8 on page 23)

Verification of BTU Values

- MMS should amend Form MMS-2014 to record natural gas BTU values, which form the basis for required royalty payments. This will require adding a second column to the form: the new column will report BTU value, and the original column will still report volume times BTU value (total mmBTU). (see Recommendation 3-6 on page 22)
- MMS should modify the Gas and Liquid Verification Systems (GVS and LVS), or develop an equivalent, automated system to compare BTU values and oil quality data in submitted product quality statements to information in Oil and Gas Operations Reports (OGORs) (see *also* recommendations under Electronic Data Submittals, Data Exchange, and Accounting Tools, beginning on page 27). (see Recommendation 3-7 on page 23)

Training and Human Resource Improvements

- BLM should develop estimates of the number of hours required to complete simple and complex reviews. These estimates should be used to help determine appropriate staffing levels, closely corresponding to oil or gas activity in a given field office. In the interim, BLM should reallocate its FY 2008 funding for oil and gas activities to place greater emphasis on the timely hiring of additional Production Accountability Technicians (PATs) sufficient to meet current and expected workloads. (see Recommendation 3-25 on page 36)
- BLM should assess the training needs for Petroleum Engineering Technicians and Production Accountability Technicians (see Recommendation 3-32 on page 40)
- MMS and BLM should establish standardized position descriptions for Production Accountability Technicians in order to consistently define the roles and responsibilities of these individuals (see Recommendation 3-30 on page 40)

Technological Improvements

- BLM should establish and maintain a gas measurement team of specialists to assess new gas measurement technologies. This team should provide recommendations to BLM by June 2008. Following the development of an initial set of recommendations, the team should meet on an annual basis to evaluate the extent to which new technologies should be considered in BLM's guidance. (see Recommendation 3-23 on page 33)
- BLM should work with MMS's Minerals Revenue Management (MRM) division to develop and implement a system that electronically transmits information on lease establishment and any follow-up leasing actions affecting lease status. (see Recommendation 3-9 on page 27)
- MMS's Minerals Revenue Management division (MRM) should phase in a requirement that all payors submit their payments electronically, with a goal of full implementation in five years. (see Recommendation 3-13 on page 27)
- MMS's Offshore Minerals Management division (OMM) should phase in a requirement for offshore lease operators to submit all oil and gas volume and quality statements electronically, in an automated file format. Once electronic reporting of quality information is established, MMS should modify the Gas and Liquid Verification Systems (GVS and LVS) to compare information submitted via GVS/LVS to information submitted via Oil and Gas Operations Reports (OGORs). (see Recommendation 3-11 on page 27)

Budget and Performance

BLM should add an action code in its LR2000 records tracking system to allow each production accountability review to be tracked for management and performance monitoring purpose. (see Recommendation 3-24 on page 36)

Chapter 3 Collections and Production Accountability

I. Subcommittee Charge

In the charter creating the Subcommittee on Royalty Management, the Secretary charged the Subcommittee with reviewing

“the extent to which existing procedures and processes for reporting and accounting for Federal and Indian mineral revenues are sufficient to ensure that MMS receives the correct amount.”

II. Introduction

Given that Federal and Indian oil, gas and coal make up about 98% of the total royalties paid in FY 2006, it appeared prudent for the Subcommittee to focus primarily on these commodities.³³ In the course of investigating issues relating to collections and production accountability, the Subcommittee gathered data from MMS in Denver, Colorado and Metairie, Louisiana, as well as a number of BLM State and field offices.

Production accountability is a function performed by both MMS and BLM, to ensure that an operator or lessee accurately reports barrels of oil, cubic feet of gas, British Thermal Units (BTUs) of gas, tons of coal, tons of rock, etc. produced from Federal and Indian properties. MMS and BLM currently perform yearly reviews of production and royalty accountability, and set annual targets for accomplishing production accountability reviews.

MMS is responsible for collecting all revenue from production, and BLM is responsible for verifying the onshore portion of this production, including BTU values for natural gas. MMS's division of Offshore Minerals Management (OMM) is responsible for verifying production from offshore leases. If BLM and OMM find that the verified production differs what is reported on the Oil and Gas Operations Report (OGOR) or the Production and Royalty Report for solid minerals, they will notify MMS's Minerals Revenue Management division (MRM). MRM is responsible for taking action to account for the correct production.

Collections activities are a function of the MMS Financial System, and are designed to account for all the different statutes governing collection and disbursement of revenues from oil, gas, and solid minerals. When BLM issues onshore leases, each lease is assigned a specific Treasury fund code relating to the lands where the lease is located. MRM reviews this data for consistency and inputs the data into the system with a distribution code instructing the system on how to distribute each collection. For offshore leases, the MMS Gulf of Mexico region office collects information on leased acreage and revenue-sharing requirements with the States

³³ The Subcommittee also gathered information on other commodities, including Indian sand and gravel.

under relevant statutes (Outer Continental Shelf Act of 1978; Gulf of Mexico Energy Security Act of 2006). Offshore block and boundary data is also collected and automatically transferred to MRM.

The Subcommittee's work highlights the importance of production accountability for efficient royalty management. When problems occur in this area, they can have a dramatic impact on "downstream" functions such as audit and compliance. Production accountability problems may not be apparent to staff involved in the audit and compliance processes; these problems can make it difficult or impossible for the audit and compliance processes to ensure that proper payment occurs.³⁴

III. Background

The leasing program accounted for FY 2007 revenues of over \$10 billion on a range of minerals taken from nearly 30,000 onshore and offshore leases. Table 3 reports mineral leases of record for 2007, as well as the revenue generated from these leases.³⁵ The onshore and offshore programs differ in terms of scope and scale, affecting the impact that these programs have on royalty management. The onshore program also deals with issues relating to jurisdiction (e.g., Federal, State, Tribal, local governments) and land ownership (e.g., Federal, State, Indian, private lands). Furthermore, there is a large number of low-producing onshore leases scattered across the landscape.

The onshore program covers many more jurisdictions than the offshore program. Of the nearly 30,000 total leases, about 27,300 are associated with onshore minerals. In FY 2007, these onshore leases accounted for approximately \$3.8 billion, or 37% of total royalty revenue. The 2,335 offshore leases accounted for approximately \$6.4 billion, or 63% of total royalty revenue.

³⁴ The Subcommittee acknowledges the diligence, and dedication of BLM and MMS staff members, who are charged with managing thousands of leases.

³⁵ Note that Table 3 includes only royalty revenues; Table 1 and Table 2 in **Error! Reference source not found.** include royalties, rents, bonuses, and other revenues.

Table 3 Total Royalty Revenues Associated with Producing Leases for FY 2007 (Accounting Year)

Jurisdiction	Mineral^a	Producing Leases	Royalty Revenues^b
Federal			
Offshore	Oil & Gas	2,330	\$6,444,367,887
	Sulfur	5	\$12,980
Subtotal		2,335	\$6,444,380,867
Federal			
Onshore	Asphalt	4	-
	Clay	2	\$4,510
	Coal	250	\$554,874,658
	Copper	1	\$26,110
	Garnet	1	-
	Geothermal	134	\$12,128,433
	Gilsonite	15	\$632,049
	Hardrock	41	\$15,036,237
	Oil & Gas	22,608	\$2,717,175,246
	Phosphate	81	\$2,318,456
	Potassium	131	\$12,234,503
	Sand & Gravel	2	-
	Sodium	81	\$14,200,724
Subtotal		23,351	\$3,328,630,927
Federal/Indian (Cook Inlet Leases)			
Onshore	Oil & Gas	66	\$14,419,059
	Subtotal	66	\$14,419,059
Indian			
Onshore	Cinders	1	\$6,549
	Coal	7	\$87,899,929
	Copper	2	\$5,271,328
	Gypsum	2	\$516,710
	Hard Rock	1	-
	Mining-Unspecified	2	-
	Oil & Gas	3,811	\$367,821,610
	Phosphate	23	\$1,200
	Sand & Gravel	35	\$9,869,652
	Uranium	1	-
Subtotal		3,885	\$471,386,979
Grand Total		29,637	\$10,258,817,831

^a Minerals developed under the 1872 Mining Law are not included in this table as no royalties are paid for them.

^b Royalty revenue does not include bonuses or rents paid.

Source: MMS data.

IV. Findings and Recommendations

A. Federal and Indian Oil and Gas

1. Accurate Reporting of British Thermal Unit (BTU) Values

Issue

The Department of the Interior is responsible for ensuring accurate measurement and reporting of both the volume and heat value of produced gas. Heat value is commonly measured in British Thermal Units (BTUs). Incorrect BTU reporting can adversely affect royalty payments owed to the United States, States and Indian Tribes and Indian allottees.

Background

Natural gas is typically sold by the mmBTU (million British Thermal Units). This tally depends on the volume and BTU value of the gas. Any discrepancy in the reported BTU value of gas has a direct impact on the sale value and resultant royalty owed.

For example, a volume of 500 million cubic feet (mmcf) of natural gas with a heat content of 1,000 BTU per standard cubic foot has a total heat value of 500,000 mmBTU. At a market value of \$6 per mmBTU, this gas would be worth \$3,000,000.

If the same 500 mmcf of gas was reported to have a heat content of 1,100 BTU per standard cubic foot, the total market value at \$6 per mmBTU would be \$3,300,000. The total reported value, and thus the total royalty owed would be 10% higher.

The BTU value of natural gas production varies from reservoir to reservoir, and can vary over time within a single reservoir. Natural gas in “wet gas reservoirs” (gas reservoirs containing natural gas liquids, or NGLs), tends to have a higher BTU value (because of those NGLs). Many natural gas reservoirs that initially produce dry gas flows (with little or no presence of NGLs) become wet natural gas flows as they age.³⁶ Approximately 85% of offshore natural gas production from the Gulf of Mexico is considered wet gas.³⁷ Approximately 57% of onshore natural gas production from the Western United States is wet gas.³⁸

Factors that may cause variation in the BTU value of a gas reservoir include

- New wells entering the production stream;
- Old wells stopping production;

³⁶ *Wet Gas Flow Metering With Gas Meter Technologies*, Richard Steven, Colorado Engineering Experiment Station, Inc, Nunn, Colorado, http://www.ceesi.com/pubs/1006_GasMeterTechnologies.pdf, September 1, 2006.

³⁷ *E-mail communication*, Petroleum Engineer, MMS, OMM division, based on 2006 Gulf Region production data, September 13, 2007.

³⁸ Geologist, Wyoming State Office, BLM, *E-mail communication*, based on IHS Energy Inc production data for July 2007, October 2, 2007.

- Changes in the relative contributions from multiple gas formations in a well;
- Variation in the amount of natural gas liquids (NGL) in wet gas; and
- The effectiveness of gas separators in removing production liquids after gas leaves the wellhead.

MMS regulations require offshore producers to sample natural gas to determine its BTU value on at least a semi-annual basis. MMS previously required the vast majority of operators to submit monthly gas analysis reports (GARs) containing the gas components and BTU value for each gas royalty measurement point. The GAR submission requirement was discontinued in 1996.³⁹ BLM requires onshore operators to report BTU values for onshore Federal leases on at least an annual basis.⁴⁰ Although both MMS and BLM regulations address gas sampling frequency, neither agency has specific requirements for the method of taking samples.

MMS uses the automated Gas Verification System (GVS) to compare gas volume statements from producing Federal offshore oil and gas leases to Oil and Gas Operations Reports (OGORs) provided by producers from those leases. The GVS automatically generates reports when reported gas volumes from gas statements do not match volumes reported on OGORs.

Findings

MMS and BLM do not consistently request gas analysis reports to verify BTU values reported by oil and gas operators. For example, none of the BLM offices administering the top fourteen gas-producing onshore Federal leases requested gas analysis reports for those leases during FY 2005 or FY 2006. Similarly, MMS has not recently requested gas analysis reports from operators in the Gulf of Mexico.⁴¹

While the Subcommittee has not collected a comprehensive set of information, anecdotal information suggests that in some instances, BLM offices and the Navajo Nation have expressed concerns regarding the accuracy of operator-reported BTU values.⁴² The Subcommittee views this as an issue that should be addressed on a more systematic basis, given the potential royalty collection implications.

Federal regulations for offshore oil and gas (30 CFR 250.1203(b)(5)), and BLM Onshore Order Number 5 for onshore oil and gas, address a producer's BTU sampling frequency requirements. The regulations generally require that certain

³⁹ When MRM redesigned its systems in approximately 1988, it developed a mathematical model to estimate the volume of gas, to target obvious under-reporting and request plant statements to corroborate the volumes reported on Form MMS-2014. This replaced the GAR requirement. *E-mail communication*, Supervisory Minerals Revenue Specialist, October 3, 2007.

⁴⁰ In some instances this may be required on a more frequent basis. See *Onshore Oil and Gas Order No. 5, III C. 23*, Federal Register Vol. 54, No. 36, February 24, 1989.

⁴¹ *Personal communication*, Section Chief, Surface Commingling and Production Measurement Section, MMS, September 26, 2007.

⁴² For example, BTU values typically vary over time as a reservoir is drained. Reporting the same monthly BTU value for several consecutive months, may be an indication of inaccurate reporting. *E-mail communication*, Assistant Director, Minerals Department, Navajo Nation, September 26, 2007.

types of samples be taken (i.e., proportional-to-flow or spot samples), or require the use of methodologies such as recording calorimeters or compositional analysis. However, neither the Regulation nor the BLM Order addresses specific standards to be used to obtain such samples. For example, these regulations do not set requirements for sampling locations (upstream or downstream from sales meters), or indicate how to take samples to avoid biasing the results.

The Gas Verification System (GVS) does not compare BTU values of offshore natural gas production reported from gas statements with OGORs at this time, focusing solely on gas volume. Similarly, the Liquid Verification System (LVS) does not compare oil quality from run tickets with OGORs.

Form MMS-2014 does not require reporting of BTU values for natural gas upon which royalty payments could be made. MMS staff performing compliance reviews or audits would benefit from clear reporting of BTU values, rather than having to manually derive those values from sales volume and total mmBTUs sold.

30 CFR 250.1203(b)(5) and BLM Onshore Order Number 5 require operators to take natural gas samples, but these regulations do not require submittal of gas analysis reports based on these samples to MMS or BLM.

As used in this report, a Production Accountability Review does not include oil or gas taken or lost before it reaches metering points within individual leases, units or communization agreement areas.⁴³ BLM regulations allow for certain unmetered uses of gas on-site at a lease,⁴⁴ and oil or gas may be lost as a result of leaks in infrastructure or outdated equipment. However, losses are considered more likely to result from inadequate site security, allowing resources to be taken illegally before reaching a metering point, such as a Lease Automated Custody Transfer (LACT) unit, or orifice plate/Electronic Flow Computer. Quantifying these losses is extremely difficult.

The Subcommittee received anecdotal reports of producing leases (Federal and Indian) where MMS has not received required reports (i.e., the 2014 royalty report and the OGOR) from the responsible party (operator, lessee or payor). Although the issue is beyond the scope of this review, the Subcommittee wishes to bring it to the Secretary's attention.

⁴³ See 43 CFR 3105.2-2: "When a lease or a portion thereof cannot be independently developed and operated in conformity with an established well-spacing or well-development program, the authorized officer may approve communization or drilling agreements for such lands with other lands, whether or not owned by the United States, upon a determination that it is in the public interest. Operations or production under such an agreement shall be deemed to be operations or production as to each lease committed thereto."

⁴⁴ BLM performs some production accountability to verify that the amount of unmetered gas used can be considered reasonable.

Accurate determination and reporting of BTU values for natural gas produced from all oil and gas leases will help to ensure accurate royalty payments to the United States, States and Tribes.⁴⁵

Recommendations

By June 2008, MMS and BLM should implement the following recommendations:

Recommendation 3-1 MMS and BLM should develop a procedure to determine the potential BTU variability of produced natural gas on a by-reservoir or by-lease basis, and estimate the implications for royalty payments.

Recommendation 3-2 MMS and BLM should adjust BTU frequency requirements for sampling and reporting on a case-by-case basis, or consider other regulatory requirements.

Recommendation 3-3 MMS and BLM should establish consistent guidelines for requesting BTU information from gas producers, and should systematically examine the validity of that information.

Recommendation 3-4 MMS and BLM should establish procedures to systematically compare the BTU values reported on the Oil and Gas Operations Reports (OGORs) with gas analysis reports (GARs) to determine whether BTU reporting is accurate.

By December 2008, MMS and BLM should implement the following recommendations:

Recommendation 3-5 MMS should revise 30 CFR 250.1203(b)(5) (“Oil and Gas and Sulfur Operations in the Outer Continental Shelf—Gas Measurement.”) Similarly, BLM should revise BLM Onshore Order Number 5. Both revisions should reflect BTU sampling requirements deemed necessary by the agency to ensure accurate BTU sampling frequency, methodology, and reporting. Revisions on methodology should include requirements for sampling location (e.g., immediately upstream or downstream of natural gas sales meters). MMS’s Offshore Minerals Management (OMM) office and BLM should consider adopting the gas sampling standard of the American Petroleum Institute, Chapter 14, Section 1, Collecting and Handling of Natural Gas Samples for Custody Transfer, February 2006, or a similar standard. Both agencies should consider requiring certified (ISO) lab testing of natural gas samples.

Recommendation 3-6 MMS should amend Form MMS-2014 to record natural gas BTU values, which form the basis for required royalty payments. This will require adding a second column to the form: the new column will report BTU

⁴⁵ The “whistleblower” program discussed in Chapter 4 is also relevant with respect to efforts to improve production accountability.

value, and the original column will still report volume times BTU value (total mmBTU).

Recommendation 3-7 MMS should modify the Gas and Liquid Verification Systems (GVS and LVS), or develop an equivalent, automated system to compare BTU values and oil quality data in submitted product quality statements to information in Oil and Gas Operations Reports (OGORs) (see *also* recommendations under Electronic Data Submittals, Data Exchange, and Accounting Tools, beginning on page 27).

2. Collections Complexities under the Royalty Simplification and Fairness Act of 1996

Issue

The Royalty Simplification and Fairness Act of 1996 (RSFA) prevents MMS from pursuing the “payor” for payments of royalties owed. Amending RSFA would reduce time, effort, and cost associated with collecting unpaid royalties from oil and gas operators.

Background

MMS’s division of Minerals Revenue Management (MRM) uses a financial system based on reporting and paying by “payors” (entities that report and pay royalties). RSFA requires that MRM pursue the operating rights owner (primarily), or the lessee (secondarily), for any unsettled debts, rather than simply pursuing the entity reporting and paying MRM (the “payor”).

Findings

MRM does not have a system in place to track the identity of operating rights owners. If MMS were to enforce the obligation against a lessee, the result could be an extremely costly and lengthy process involving collection actions against hundreds of entities. In addition, under the Debt Collection Improvement Act MMS has only 180 days to collect payments. Because debt collection under RSFA is such a slow process, a 2006 Inspector General audit⁴⁶ concluded that MMS was not in compliance with the Debt Collection Improvement Act of 1996, by failing to identify delinquent receivables to the U.S. Department of the Treasury in a timely manner.

Recommendation

Recommendation 3-8 The Department of the Interior should support amending the Royalty Simplification and Fairness Act (RSFA). The Energy Policy Reform and Revitalization Act of 2007 (HR 2337) introduced in the 110th Congress contains language in Section 215 (“Liability for Royalty Payments”) simplifying the RSFA collection requirements by restoring MMS’s ability to pursue the “payor” for debts, as was done prior to the enactment of RSFA.

⁴⁶ Draft Independent Auditors’ Report on the Minerals Management Service Financial Statements for Fiscal years 2006 and 2005 (Assignment No. X-IN-MMS-0019-2006).

The Subcommittee recommends separating Section 215 from HR 2337, if necessary, for passage as a stand-alone piece of legislation. This RSFA amendment would allow for more timely and less costly collection of MMS's unsettled royalty debts.

3. *Electronic Data Submittals, Data Exchange, and Accounting Tools*

Issue

Royalty collection operations offer opportunities for substantial efficiency improvements, especially in areas of coordination between MMS and BLM:

- Automated lease information data exchange;
- Electronic payments;
- Automated accounting tools; and
- Electronic volume or quality reporting by oil and gas producers.

Non-electronic (i.e., manual or paper) lease status and production information, non-electronic rental payments, non-electronic royalty payments, and inefficient accounting tools can result in:

- Errors in determining whether Federal leases meet all statutory and regulatory requirements;
- Inefficiencies in production accountability; and
- Delays or erroneous royalty distributions from MRM to States.

Background

In FY 2007, over 2,000 companies reported and paid royalties totaling \$10.25 billion from approximately 29,600 producing Federal and Indian leases. Table 4 shows that in FY 2007, MMS collected about a further \$1.17 billion in non-royalty revenues, including bonus, rents, and other revenues. Total collections for FY 2007 (royalties plus revenues) were \$11.4 billion.

There are currently about 1,100 offshore Federal oil and gas sales locations on platforms in the Gulf of Mexico. When an offshore lease is established MMS's division of Offshore Minerals Management (OMM) sends data electronically to Minerals Revenue Management (MRM). This is timed to coincide with MRM receiving the first year's rental payment and any lease bonus. All post-lease-establishment actions, such as notification that leases have started producing Federal oil and gas, are also sent electronically by OMM to MRM.

BLM's management challenges differ from those of MMS in several respects. First, the onshore program has considerably more leases and more wells than the offshore Federal oil and gas program: there are currently about 27,000 onshore Federal and Indian oil and gas leases with approximately 70,700 producing wells. Second, leases administered by decentralized BLM offices are spread throughout the western States and Alaska. MRM receives manual transmissions from BLM offices regarding notification of onshore Federal oil and gas lease establishment, as well as follow-up lease actions, such as notices of first production.

Table 4 Reported Royalties and Revenues, FY 2001 – FY 2007 (\$ millions)

	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
Royalties (by Mineral)							
Gas	\$5,358	\$2,749	\$4,235	\$4,770	\$5,151	\$5,766	\$4,644
Oil	\$2,363	\$1,872	\$1,553	\$1,539	\$2,594	\$3,977	\$4,401
Coal	\$399	\$503	\$463	\$521	\$542	\$597	\$634
NGL	\$206	\$156	\$183	\$240	\$286	\$285	\$368
Other	\$641	\$59	\$118	\$66	\$133	\$106	\$204
Royalty Total	\$8,967	\$5,339	\$6,551	\$7,136	\$8,706	\$10,732	\$10,252
Revenue Source							
Bonus	\$799	\$331	\$1,399	\$709	\$1,298	\$1,586	\$903
Rents	\$232	\$189	\$309	\$264	\$284	\$285	\$267
Other	\$5	\$15	\$8	\$19	\$5	\$14	\$7
Revenue Total	\$1,036	\$535	\$1,716	\$992	\$1,587	\$1,885	\$1,177
Grand Total	\$10,003	\$5,874	\$8,267	\$8,128	\$10,293	\$12,616	\$11,429

Source: MMS data.

Post-lease-establishment actions affect lease status, including whether a lease is meeting all statutory and regulatory requirements. For example, until a lease enters producing status, the operator must submit rental payments. Once a lease enters producing status, royalty payments required instead. MRM must have up-to-date information to avoid erroneous follow-up actions, such as sending improper rental-bill notices to a payor entitled to stop making rental payments.

MMS computer systems are unable to automatically import volume statements from Federal onshore and offshore (Gulf of Mexico) gas producers. This is a major impediment to efficient royalty collection operations. In the early 1990s, BLM and MRM were developing an electronic system for sharing lease data. However, that system was never completed.⁴⁷

While MRM receives over 90% of royalty payments electronically, approximately 40% of rental payments are received non-electronically. In FY 2007 electronic submissions totaled \$9.3 billion in royalty payments and \$107 million in rental payments,

Prior to 2001, MRM used an automated tool known as the Accounting and Financial System/Production Auditing and Reporting System (AFS/PAAS). The AFS/PAAS system would compare of Federal oil and gas production volume reports to the royalties paid. Upon finding inconsistencies, the system would generate automatic exception reports. These exception reports, numbering in the thousands every

⁴⁷ Issues contributing to the abandonment of this system include difficulties with migrating data systems for concerns related to "Y2K," competing priorities relating to the Automated Land and Minerals Record System implementation effort, and agencies' failure to reach consensus on the use of "company codes" to identify lessees in data transmittals to MRM. *Personal communication*, Manager, Reporting Services, MMS. September 18, 2007 and November 14, 2007.

month, identified royalty payment discrepancies which could warrant follow-up action by MRM. This system was terminated during an MRM software migration, and has not been replaced.

Findings

For onshore and offshore Federal oil and gas leases, BLM manually transmits information on lease establishment and follow-up lease actions (e.g., notices of first production) to MRM. This manual process is a major impediment to efficient royalty collection operations.

When operators manually submit oil and gas volume and quality statements, OMM personnel manually enter volume statements to the Liquid Verification System (LVS) and Gas Verification System (GVS). LVS and GVS then automatically compare the volume data to the volumes reported in Oil and Gas Operations Reports (OGORs). Manual entry by operators and OMM staff is inefficient and introduces potential for reporting errors.

Neither MMS's OMM division nor BLM receive Federal natural gas production volume data in a form that can be automatically imported into MMS computer systems. If volume reporting were automated, MMS and BLM would have a far more efficient system for reviewing the accuracy of Federal gas production data.

BLM is currently developing a system for near real-time production data collection and auditing. The Remote Data Acquisition for Well Production system (RDAWP) is a secure, automated system being implemented in two BLM pilot offices established under Section 365 of the Energy Policy Act of 2005.⁴⁸ RDAWP will allow BLM and industry to access current production data and other information necessary for timely production accountability assessments.

As described in the MRM Strategic Business Plan 2007-2012, submission of non-electronic rental and royalty payments to MRM can introduce errors as well as delays in distribution payments to States.⁴⁹ For example, payors may submit payments for several leases without clearly or accurately indicating how to allocate the payment among the leases. This, in turn, makes it difficult for MRM to match payments to leases.

When payors make electronic payments for Federal solid minerals production (i.e., coal, potash, etc.) using the Solid Minerals Production and Royalty Report Form (MMS-4430), the electronic interface performs up-front error correction. For example, when payors enter payment data, the data entry screens check for erroneous or prohibited data. Electronic payments could be matched to other information submitted on production volumes and royalties as well. The electronic Report of Sales and Royalty Remittance form (MMS-2014) is used for Federal oil

⁴⁸ Section 365 establishes a Federal Permit Streamlining Pilot Project ("Pilot Project") with the intent to improve the efficiency of processing oil and gas use authorizations on Federal lands.

⁴⁹ See <http://www.mrm.mms.gov/StudyRepts/PDFDocs/MRMSP0712.pdf>.

and gas production payments, and includes error correction for some, but not all, data entry.

Prior to 2001, AFS/PAAS automatically generated exception reports that might warrant follow-up action by MRM staff to ensure that correct royalty was paid on produced Federal oil and gas. The new system replacing AFS/PAAS does not generate exception reports. As a result, MRM staff must use other tools to determine which royalty cases to investigate.

Increased sharing of electronic information between BLM and MRM, as well as between OMM and MRM, would dramatically increase the consistency of Federal lease status and production information across these agencies. In turn, this would help ensure timely and accurate royalty payments to the United States.

Recommendations

Recommendation 3-9 BLM should work with MMS's Minerals Revenue Management (MRM) division to develop and implement a system that electronically transmits information on lease establishment and any follow-up leasing actions affecting lease status.

Recommendation 3-10 MMS and BLM should require gas analysis reports from all operators, at a frequency to be determined by the agencies.

Recommendation 3-11 MMS's Offshore Minerals Management division (OMM) should phase in a requirement for offshore lease operators to submit all oil and gas volume and quality statements electronically, in an automated file format. Once electronic reporting of quality information is established, MMS should modify the Gas and Liquid Verification Systems (GVS and LVS) to compare information submitted via GVS/LVS to information submitted via Oil and Gas Operations Reports (OGORs).

Submittal of gas analysis reports to MMS's OMM division and BLM would enable these agencies to more readily verify the reasonableness of reported BTU values.

Recommendation 3-12 BLM should complete the pilot effort on Remote Data Acquisition for Well Production, and determine whether the system can be implemented for all Federal and Indian onshore oil and gas production.

Recommendation 3-13 MMS's Minerals Revenue Management division (MRM) should phase in a requirement that all payors submit their payments electronically, with a goal of full implementation in five years.

Recommendation 3-14 As outlined in the Minerals Revenue Management (MRM) Strategic Business Plan 2007–2012, MMS's MRM division should complete the process of adding up-front error correction to the electronic interface for

Form MMS-2014. This will reduce errors received by MRM, by up-front checks to a payor's entry to the electronic royalty payment system.

Completion of the system allowing these up-front edits would ultimately save staff resources at MRM.

Recommendation 3-15 MMS's Minerals Revenue Management division (MRM) should develop and implement software to perform the function of the Accounting and Financial System/Production Auditing and Reporting System in automatically generating exception reports. This system should work in conjunction with MMS's Compliance Program Tools to automatically generate exception reports requiring follow-up gas plant compliance reviews or audits. MRM would need to establish a system to prioritize cases for follow-up, to ensure proper royalties are being paid.

This recommendation will also assist in addressing the Gas Plant Efficiency issues discussed below.

4. Gas Plant Efficiency

Issue

For Federal leases, MMS's Minerals Revenue Management division (MRM) reconciles payments reported on Form MMS-2014 (for individual component gases) with reported production in Oil and Gas Operations Reports (OGORs) (for unprocessed natural gas). This process depends on the accuracy of gas plant data, and is necessary for checking the accuracy of royalties paid on gas-plant products (i.e. valuable liquids extracted during processing).

Background

Royalties are paid at the wellhead for 30% of offshore natural gas, and for 63% of conventional (non-coalbed methane) Federal onshore natural gas. Royalties are paid after gas-plant processing for the remainder: 70% of Federal offshore natural gas; 37% of conventional (non-coalbed methane) Federal onshore natural gas production.⁵⁰ Volumes reported at the wellhead differ from the volumes reported after gas-plant processing, following compression and removal of valuable natural gas liquids, such as ethane, propane, and butane. Thus for royalties paid after processing, MRM must rely on gas-plant efficiency data to determine whether payments are reasonable.

BTU values and gas volumes must be reported on OGORs for both offshore and onshore natural gas. In instances where such gas is sold at the lease, MMS compares the production reported on the OGOR to the royalty paid for the gas, reported on Form MMS-2014. In cases where royalty is paid on gas after processing at a gas plant, MRM looks at gas-plant efficiency to predict expected

⁵⁰ Data from Supervisory Minerals Revenue Specialist, MMS-MRM, December 7, 2007

volumes of gas components such as residue gas (methane) and natural gas liquids for which royalty should be paid. MRM then reviews the natural gas volumes reported on OGORs for Federal oil and gas leases feeding the gas plant.

For example, an OGOR may report 100 mcf of natural gas transferred to a gas processing plant, while a Form MMS-2014 reports 75 mcf of residue gas and 100 gallons of NGLs. If gas-plant efficiency data (factors) indicate that 75 mcf of residue gas and 100 gallons of NGLs would be the expected products from 100 mcf of unprocessed gas, then MMS would conclude that the volumes reported on Form MMS-2014 are reasonable. If the gas plant factors were inaccurate, the calculated volume would be either overstated or understated, and MMS would not be aware of a possible underpayment of royalties.

Gas plant factors may change for various reasons such as upgrades to the gas plant, a change in the makeup of the incoming gas stream from the wells, or a change in processing requirements. Furthermore, gas-plant efficiency may change over time as a plant ages. It is important that MRM maintain current gas-plant efficiency data. If the gas-plant efficiency factors used by MRM in calculating expected volumes are inaccurate, MMS will not receive the correct royalty.

In the past, all offshore (and some onshore) gas-plant operators were required to submit Gas Plant Operations Reports (GPORs) to MRM on a monthly basis. The monthly GPOR filing requirement was terminated in 2001 and was not reinstated. MRM may still request information about gas plant operations, and use the response to calculate plant efficiency.

Prior to 2001, MRM used an automated tool known as the Accounting and Financial System/Production Auditing and Reporting System (AFS/PAAS).⁵¹ AFS/PAAS imported gas plant efficiency data from Form MMS-2014 when it was submitted for royalties paid on gas plant products.

MRM currently uses a suite of automated tools known as Compliance Program Tools (CPTs) in performing compliance reviews. Such tools can help calculate expected volumes of natural gas fed to a gas plant when assessing the accuracy of royalties paid on gas plant products.

Findings

MMS relies on the efficiency data from natural gas processing plants to determine expected volumes of processed gas and natural gas liquids, and ultimately the royalties owed. Accurate gas plant efficiency data are critical for making this determination. In general, gas plant efficiency data used by MRM are not current. Such data may change through time as plants age or are modified, potentially losing or gaining efficiency.

⁵¹ See discussion under Electronic Data Submittals, Data Exchange, and Accounting Tools beginning on Page 24.

The Compliance Program Tools (CPTs) used by MRM in performing compliance reviews are targeting tools for estimating gas volume discrepancies. However, CPTs must be invoked by MRM staff; there is no automatic check for discrepancies. These tools can help calculate expected volumes of natural gas fed to a gas plant when assessing the accuracy of royalties paid on gas plant products.

Recommendations

Recommendation 3-16 MMS should reinstate periodic reporting of gas plant efficiency data by plant operators, similar to Gas Plant Operations Reports (GPORs). The reporting period should be consistent with established audit schedules.

Recommendation 3-17 MMS should establish a prioritized gas-plant compliance review or audit schedule to examine gas-plant efficiency. This schedule could be based on factors such as plant processing capacity, age of the plant and age of the efficiency data.

Compliance reviews and audits using up-to-date gas plant efficiency data would help ensure that proper royalties for gas plant products are being paid to the United States.

B. Policy and Guidance for Production Accountability Activities

Issue

Written guidance regarding BLM's and MMS's production accountability responsibilities is unconsolidated, outdated, and sometimes insufficient. This results in inconsistent and outmoded approaches to production accountability tasks, and potential reductions in royalty revenue.

Background

BLM has promulgated regulations and established guidance to manage programs on public lands. These become outdated over time with changes in laws, Congressional appropriations, administrative policy, and new technology. For example, the use of a plane table for surveying the volume of rock taken from a mine has been replaced with the use of automation software, with increased accuracy and less time required for these measurements.

Policy and guidance play a critical role in oil and gas production accountability, both onshore and offshore. Guidance for the oil and gas program tends to be more complicated than that of the solid minerals program, as oil and gas leases are located both offshore and onshore, and are managed by two agencies: MMS for offshore leases and BLM for onshore leases. This responsibility fell to BLM following the merger of the United States Geological Survey Conservation Division with BLM in 1982.

Information collected from the BLM field offices indicate that they continue to rely on guidance from the now defunct USGS Conservation Division, some of which is outdated. BLM utilizes other forms of guidance to administer its production accountability responsibilities, including its Manual guidance systems and Onshore Orders. Nevertheless, the agency's policy and guidance have not kept pace with the rapid changes in technology in the oil and gas industry, or shifts in law, administrative policy, and procedure. Similarly, MMS's Offshore Minerals Management (OMM) division has limited written guidance or manuals to guide their performance of production accountability tasks, and instead relies primarily on informal on-the-job training.

BLM's most recent guidance for solid minerals operations, including production verification, was released in 1985, in what is called the "Redbook." Portions of this guidance are sufficient, but much of it is now outdated.

Findings

Updated policy and guidance is critical for BLM and MMS field personnel carrying out production verification and accountability duties. It is equally important for the minerals industry, as they need certainty and consistency in their interactions with BLM and MMS.

BLM policy and guidance have not been consolidated in a single document or publication. As a result, BLM's 31 oil and gas field offices use varying policy and guidance to address or correct oil and gas protocol because the policy and guidance is not consolidated. Some BLM policy and guidance is outdated or non-existent (e.g., policy and guidance for non-metered "beneficial use" of natural gas at the lease), and some policies issued by memoranda have expired. As there is no national on-lease policy, some BLM State Offices (e.g., Wyoming) have issued their own. For the solid minerals most BLM field offices rely on the "Redbook" (last revised in 1985), which appears to never have been placed in BLM's record library as an official document.

In addition, some BLM state offices have issued their own "Notices to Lessees" for oil and gas operations.⁵² While such Notices to Lessees may impact oil and gas field operations in a positive manner, they nevertheless lack a national perspective and may introduce inconsistencies among States. One field office reported that "over the last 20 years, field offices have had to set standards for everything from Electronic Flow Computers to V-cone/wafer cone measurement. As a result, national consistency in measurement standards has been an issue." Operators regularly question why BLM has not updated its policy and guidance to reflect new technology and standards.

⁵² Notices to Lessees and Operators (NTLs) are written notices issued by BLM to implement oil and gas regulations and operating orders, and serve as instructions on specific items of importance within a State or field office.

Consistent policy and guidance would provide consistency in regulating mineral producers and monitoring production accountability. Updated guidance and policy would ensure consistency in application of methodology for minerals resources removed from Federal and Indian lands, and provide for more timely and thorough review of production records. Revenue collection from oil and gas production would be enhanced through up-to-date, consolidated, and consistent guidance.

Recommendations

BLM and MMS should undertake a number of actions to update and consolidate existing policy and guidance. These include the following:

Recommendation 3-18 BLM should update all policy and guidance on production accountability, including any expired and current instruction memoranda, the “Redbook,” and any relevant pre-1983 USGS guidance. The updated material should be incorporated into the BLM Manual System.⁵³

Specific policy and guidance updates include the following:

- Require that commingling requests identify allocation between zones.
- Re-evaluate the policies and guidance for onsite beneficial use of gas.
- Remove references to the Solid Leasable Minerals System, which ceased to exist in the early 1990’s.
- Include the use of tools such as “BRIO” to access MMS reports.⁵⁴
- Require entry into LR2000 (BLM’s records tracking system) no later than 30 days after an inspection, using the Action Code of 411 for production verification inspections.
- Require that BLM Inspectors obtain copies of the State certification of weight scales, whenever it is required by the State.
- Update requirements for certification of BLM mine inspectors.

Recommendation 3-19 BLM and MMS should develop timelines and standards for communicating and providing feedback to each other on production accountability issues.

Recommendation 3-20 MMS should provide BLM an updated MMS personnel contact list for production accountability issues, by operator.

Recommendation 3-21 MMS should update production accountability guidance and handbooks. This guidance should be used instead of on-the-job training.

Recommendation 3-22 BLM should establish a workgroup to evaluate Onshore Orders 2, 3, 4, and 5 to ensure that they include sufficient guidance for checking that sufficient royalties are paid on oil and gas. This workgroup should be established as soon as possible and complete its work by June

⁵³ BLM Instruction Memoranda expire automatically if no action is taken to incorporate them into BLM’s manual/handbook system.

⁵⁴ BRIO is a software package used for processing and reporting for all the major database management systems.

2008. In particular, Onshore Order #5 (involving gas measurement) should be evaluated for its treatment of electric flow computers, gas sampling and analysis, point of measurements, alternate measurement devices and BTU determination. Furthermore BLM should clarify standards when it comes to meters that record less than 100 mcf per day, address overall uncertainty and bias, and finally address minimum distances that compression must be placed from a meter.⁵⁵

Recommendation 3-23 BLM should establish and maintain a gas measurement team of specialists to assess new gas measurement technologies. This team should provide recommendations to BLM by June 2008. Following the development of an initial set of recommendations, the team should meet on an annual basis to evaluate the extent to which new technologies should be considered in BLM's guidance.

C. Personnel Issues for Production Accountability and Revenue Collection Activities

1. BLM Staffing for Production Accountability Activities

Issue

It is unclear whether BLM's current levels of production accountability staff (Production Accountability Technicians and Petroleum Engineering Technicians) are adequate to meet the agency's production accountability goals. Adequate BLM production accountability staffing levels are necessary to ensure accurate collection of royalty revenues.

Background

While MMS's OMM division oversees approximately 2,300 producing Federal and Indian offshore leases, BLM is responsible for the oversight of approximately 26,500 producing onshore oil and gas leases. A minimum of quarterly inspections is

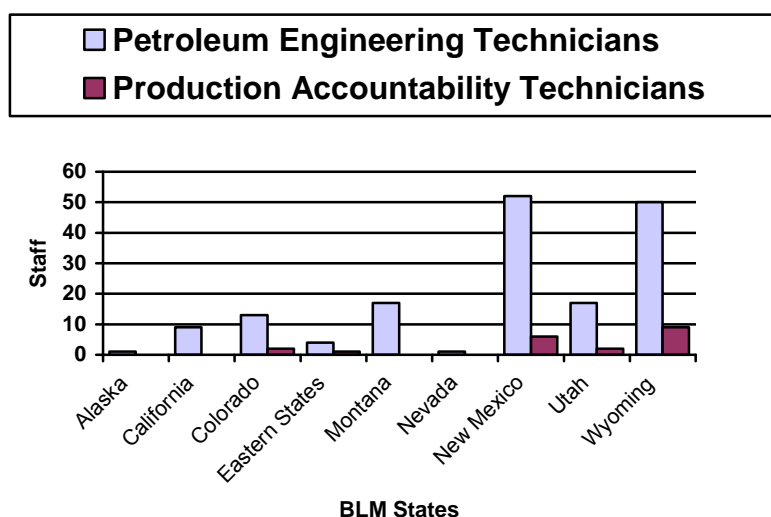
⁵⁵ Potential issues to consider might include the following:

- If production is less than 100 mcf of gas per day on a monthly basis, the meter must be calibrated at least annually and the orifice plate removed and inspected at least annually.
- If production is at least 100 mcf but less than 200 mcf of gas per day on a monthly basis, the meter must be calibrated at least semiannually and the orifice plate removed and inspected at least annually.
- For production of 200 mcf or more of gas per day on a monthly basis, the meter must be calibrated at least quarterly and the orifice plate removed and inspected at least semiannually.
- Whether each allocation meter should consist of, as a minimum, a positive displacement meter with a non-resettable totalizer, a static mixer, a composite sampler, and a cut probe. The allocation meters and cut probes must be calibrated monthly for a period of six months following installation.
- Whether to require the use of Flow Conditioners in lieu of straightening vanes to shorten the upstream meter run; reducing the meter calibration frequency based on low volume production; and the use of "Roots" for a positive displacement of gas meters for very low volume wells.
- Whether to include Coriolis and Ultrasonic meters, and meter proving schedules.

required for each producing solid mineral lease (or mine) to verify that production reported to MMS by the operator is accurate.

Figure 1 shows the distribution of Petroleum Engineering Technicians (PETs) and Production Accountability Technicians (PATs) currently employed in BLM States. In FY 2006, BLM employed 164 PETs and 20 PATs nationwide, with nine of those PATs located in Wyoming field offices. Nineteen of the thirty-one BLM field offices with oil and gas responsibilities employ no PATs. In those offices where PATs are employed, there are currently no more than four PATs in a given office. Mining Engineers are also in short supply, and BLM has difficulty recruiting and retaining staff for these jobs because of the higher salaries that are available in the private sector. This presents a daunting challenge for BLM to meet its production accountability responsibilities.⁵⁶

Figure 1 BLM Staffing Levels for Production Accountability Functions (FY 2006)



Source: BLM AFMSS data.

For FY 2006, BLM’s Inspection and Enforcement policy required inspections of all 572 Federal Oil and Gas Royalty Management Act (FOGRMA)-high producing leases, and inspection of 33% of the 26,200 non-FOGRMA-high cases on Federal and Indian lands.⁵⁷ A FOGRMA high producing lease is a lease that produces more than 12,000 barrels of oil, and 120,000 mcf of gas per month.

Because BLM field offices commonly face funding constraints, PATs typically must divide their time between production accountability duties and administrative or clerical tasks. Also, in offices with high levels of oil and gas drilling activity, PETs

⁵⁶BLM is responsible for production accountability for coal and other leased minerals shown in Table 3 on page 18.

⁵⁷ BLM Washington Office Instruction Memorandum No. 2006-033, Nov. 2, 2005, <http://www.blm.gov/nhp/efoia/wo/fy06/im2006-033.htm>.

must divide their time between on-the-ground inspections and production accountability tasks. These considerations adversely impact the effectiveness of BLM's overall production accountability capabilities and the ability of individual field offices to fulfill their production accountability responsibilities.

BLM's budget system utilizes "program elements" to track expenditures and workload accomplishments in all program areas. This allows the agency to, among other things, validate areas of budgetary needs and identify where the agency is falling short of workload accomplishment goals. BLM does not have a program element that specifically tracks production accountability reviews.

Findings

Information gathered by the Subcommittee indicates that BLM field offices may not be able to completely meet their current production accountability annual targets. This is due, in part, to a shortage of production accountability personnel and the use of some production accountability personnel for non-production-accountability activities.⁵⁸ BLM field offices reported that they could complete more detailed production accountability reviews if additional staff were available. BLM's current internal cost-tracking system does not include a "program element" for tracking production accountability review activities.

In FY 2007, there were approximately 29,000 producing Federal and Indian oil and gas leases. Interviews with several BLM Production Accountability Technicians (PATs) indicate that reviews performed on these leases can be categorized as either "simple" or "complex." Based on these interviews, about 15% of leases can be categorized as "complex cases." A complex case requires approximately 16 to 40 in-office hours, not including Petroleum Engineering Technician field work, to complete a review of onshore lease production records. Approximately 85% of producing leases can be categorized as "simple cases," requiring approximately 5 to 16 hours to complete.

Production accountability reviews are critical for accurate revenue collection, given the potential for underreporting by payors or lease operators. Cumulative net onshore underreporting for fiscal years 2005, 2006 and 2007 for all Federal oil and gas⁵⁹ was estimated to be 2.3 million barrels of oil and 137.4 million mcf of natural gas.⁶⁰ For one BLM field office in FY 2007, discrepancies between operator records requested by BLM (i.e., sales reports, run tickets, etc) and operator reports sent to MMS Minerals Revenue Management (MRM)⁶¹ totaled 814,000 barrels of oil, and 33 million mcf of natural gas.⁶² When discrepancies are identified, BLM notifies

⁵⁸ *Washington Office Instruction Memorandum No. 2007-100.*

⁵⁹ Issues related to the *Cobell* lawsuit have reduced the availability of underreporting statistics for Indian oil and gas.

⁶⁰ Information derived from BLM's Automated Fluid Minerals Support System.

⁶¹ Production volumes are reported to MRM in the Oil and Gas Operations Report (OGOR).

⁶² Personal communications with BLM staff and field manager at this field office. The extent to which these numbers are representative of other Field Offices is unclear.

MRM of underreporting, and MMS sends the operators identified an order to pay royalties on the underreported volumes, plus interest.

Recommendations

Recommendation 3-24 BLM should add an action code in its LR2000 records tracking system to allow each production accountability review to be tracked for management and performance monitoring purpose.⁶³

Recommendation 3-25 BLM should develop estimates of the number of hours required to complete simple and complex reviews. These estimates should be used to help determine appropriate staffing levels, closely corresponding to oil or gas activity in a given field office. In the interim, BLM should reallocate its FY 2008 funding for oil and gas activities to place greater emphasis on the timely hiring of additional Production Accountability Technicians (PATs) sufficient to meet current and expected workloads.

Recommendation 3-26 BLM should ensure that current Production Accountability Technicians (PATs) are fully utilized for production accountability needs, whether for the home office or adjacent offices. PATs should typically not be used for non-production-accountability-related duties.

2. MMS Staffing Levels for Revenue Collection Activities

Issue

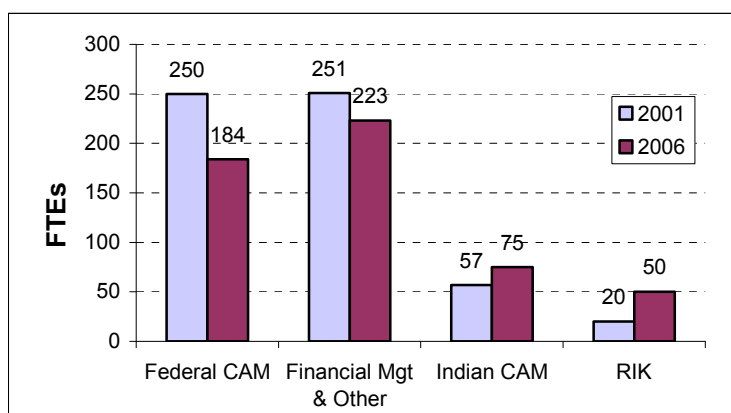
Important collection activities have backlogs or otherwise receive insufficient support. Collection activities are crucial to ensuring receipt of accurate royalty revenues.

Background

During FY 2001-2006, MMS reduced Federal onshore and offshore compliance employees by 66 and Financial Management and other employees by 28, for a total reduction in these areas of 94 positions. Of these 94 positions, 46 were redeployed, and the remaining 48 positions were eliminated through attrition, reducing overall Minerals Revenue Management FTEs from 578 in 2001 to 530 in 2006.

⁶³ BLM (and the public) can access lease data over the Internet via BLM's Land and Mineral Records System (LR2000). Data are tracked in part using "action code" entries to reflect the status of mineral leases. Adding an action code for completed production accountability reviews will allow LR2000 users to quickly review all BLM onshore production accountability actions, without having to examine lease files.

Figure 2 Minerals Revenue Management FTEs, FY 2001 Compared to FY 2006



Source: MRM FTE and Payroll Summary FY 2001-2006

Some of these reductions in staffing are partly due to efficiencies gained by MRM and also to the growth of the RIK program. Nevertheless, Financial Management staffing levels have decreased over the past ten years, as shown in Figure 2. This has caused a resultant strain on some MRM functions, such as procedures for resolving volume discrepancies identified by the Offshore Minerals Management (OMM) when using the LVS and GVS. Likewise, MRM has increased its reliance on compliance reviews and limited-scale audits, rather than full-scale audits. Out of these compliance options, full-scale audits require the most time and resources.

Gulf of Mexico production from Federal leases is also reported on the Oil and Gas Operations Report. Unlike onshore production, offshore production relies on automated systems: the Liquid Verification System (LVS) for crude oil, and the Gas Verification System (GVS) for natural gas. From November 2005 through May 2007, the LVS and GVS accounted for production of 739 million barrels of oil and 4.51 trillion cubic feet of natural gas, respectively. Comparison with information derived from Oil and Gas Operations Reports indicated discrepancies of 4.3 million barrels of oil and 66.3 billion cubic feet of natural gas, respectively.⁶⁴

MMS compares actual source metering data (run tickets, meter proving reports, gas metering statements) to the Oil and Gas Operations Report (OGOR) production volumes in the Gas Verification System and the Liquid Verification System. The discrepancies noted above require MMS staff follow-up to determine the cause (e.g., reporting errors, metering errors). While the MRM's CAM Office resolves Liquid Verification System volume discrepancies ("exceptions") for offshore leases, MRM is not sufficiently staffed to resolve GVS volume exceptions for offshore production. Instead, the duty of resolving Gas Verification System exceptions falls to the OMM division, which is not adequately staffed for that important function. In fact, in the Gulf of Mexico Region, OMM division has only one Petroleum Engineer available to

⁶⁴ Derived from MMS data at

http://www.gomr.mms.gov/homepg/pubinfo/freeasci/product/OGOR_by_Vol.pdf and
http://www.gomr.mms.gov/homepg/pubinfo/freeasci/product/OGOR_by_GAS_Vol.pdf.

work on these discrepancies. Resolving Liquid Verification System and Gas Verification System discrepancies is a crucial function as it provides MMS with accurate data for use in volume analysis for compliance reviews.

Findings

Insufficient staffing levels in MMS's MRM Production Reporting Group cause backlogs in obtaining missing Oil and Gas Operations Reports (OGORs), in correcting errors in submitted OGORs, and potentially limit the ability of MMS to resolve discrepancies. If OGOR reports are missing or inaccurate MMS cannot compare production data with royalty payment data. Prior to the passage of the Royalty Simplification and Fairness Act in 1996, MRM charged OGOR submitters an assessment of \$10 per error for inaccurate data. This assessment was dropped when MRM determined that low error rates and labor-intensive review requirements did not warrant such assessments.⁶⁵ In addition, OMM staffing levels are insufficient to adequately review GVS discrepancies.

MRM replaces some retirees with employees from other sources, such as other Federal agencies, the Financial Management Internship Program, and other professional internship programs.

Recommendations

In order to eliminate backlogs of MMS's MRM Production Reporting Group, and subsequently stay current on processing the following recommendations should be implemented:

Recommendation 3-27 MMS should prioritize resolving Oil and Gas Operations Report errors and enforcing compliance via written orders and civil penalties.

Recommendation 3-28 MMS should replace retirees with qualified contractors or trained non-permanent or seasonal employees. Potential sources of employees include other Federal agencies (such as the Defense Financial Accounting Service) the Financial Management Internship Program, and other professional internship programs.

Recommendation 3-29 MMS should ensure that Offshore Minerals Management (OMM) division staffing levels are adequate for sufficient review of discrepancies in the Gas Verification System (GVS).

3. Training for BLM Production Accountability Staff

Issue

BLM Production Accountability Technicians (PATs) and Petroleum Engineering Technicians (PETs) need adequate training and standardized position descriptions. Training improvements would increase the efficiency of production accountability staff and assist in ensuring accurate collection of royalty revenues.

⁶⁵ *Personal communication*, Manager, Reporting Systems, MMS – MRM, October 10, 2007.

Background

BLM production accountability staff consists primarily of PETs, PATs, and, to some extent, Petroleum Engineers.

BLM utilizes PETs to perform onsite inspections of producing onshore Federal oil and gas leases. Such inspections verify that lease operators are in compliance with applicable regulations and BLM-approved drilling permits, site construction requirements, site security plans, and oil and gas measurement requirements. PETs identify discrepancies in reported production to PATs.

PETs must be certified by BLM in order to perform the full range of their inspection duties, including issuing Incident of Noncompliance notices to operators. BLM's National Training Center in Phoenix, Arizona provides periodic certification training for PETs. BLM State Offices test and certify PETs within their respective States.

PATs work closely with PETs and Petroleum Engineers to perform production accountability verification reviews, including source document reviews and verification that oil and gas production reported to MMS matches production measurement data. BLM's National Training Center provides infrequent certification training for PATs, so on-the-job training is relied on to prepare PATs for their very specialized duties. PATs have been utilized by BLM only since 1998, and do not yet have a clearly defined set of duties established through standardized position descriptions.

Findings

In the course of gathering data, the Subcommittee heard from several BLM field offices that the BLM National Training Center does not offer needed "Inspection and Enforcement Certification" training for PETs on a frequent enough basis. Similarly, the formal training course offered by the BLM National Training Center for PATs is only offered once every two to three years, depending on demand, leaving many BLM PATs to rely instead on informal training classes or on-the-job training. Due in part to infrequent formal training opportunities, some members of BLM's production accountability staff may not be aware of new policies, practices, and procedures currently in place. Training is also important because oil and gas agreements (unit agreements, communitization agreements, and gas storage agreements) are becoming more complex. MMS's production accountability staff generally relies heavily on on-the-job training as well, with little formal training available.

Furthermore, information gathered by the Subcommittee indicates that standardized position descriptions for BLM PATs are either unavailable or not used throughout many BLM state/field offices, and that the roles and responsibilities of PATs were also not sufficiently defined within BLM state/field offices. BLM also does not have a certification process for solid mineral mine inspectors, as there is no established protocol for issuing certificates to BLM mine inspectors.

To do their jobs properly, production accountability staff need the proper tools. Not all BLM offices with producing solid mineral mines have software, i.e., AutoCAD and Vulcan, to provide for automated measurements of surface minerals removed in the mining operation, in this case coal and Indian sand and gravel.

Improving the training opportunities available to BLM and MMS production accountability staff would help to ensure that accurate royalty revenues are received.

Recommendations

This section contains recommendations addressed to both MMS and BLM.

Recommendation 3-30 MMS and BLM should establish standardized position descriptions for Production Accountability Technicians in order to consistently define the roles and responsibilities of these individuals.

Recommendation 3-31 The BLM National Training Center should work with the BLM Washington Office and States to project the training demands for Petroleum Engineering Technicians (PETs) and certification requirements, and should offer such courses on a schedule that would meet these demands. In doing so, BLM should weigh the costs of waiting to offer a certification class until it is fully enrolled, against potential lost royalty revenues due to delays in PET certifications.

Recommendation 3-32 BLM should assess the training needs for Petroleum Engineering Technicians and Production Accountability Technicians. This needs assessment should include the development of a national training program for Production Accountability Technicians, that would provide training related to fundamental production accountability tasks, as well as more detailed instruction on topics such as oil and gas agreements (unit agreements, communitization agreements, commingling, allocation, and off-lease measurement, and gas storage agreements). In addition, BLM should ensure that PETs are adequately trained in use of the Automated Fluid Minerals Support System (AFMSS) and other information systems necessary for performing production accountability tasks. Updating formal guidance on the items identified above is essential to developing the necessary training materials.

Recommendation 3-33 MMS and BLM should convene an annual workshop for BLM Petroleum Engineering Technicians and Petroleum Accountability Technicians and equivalent MMS Offshore Minerals Management (OMM) personnel to share applicable best practices and identify and propose resolutions to common production accountability concerns.

Recommendation 3-34 BLM should establish a formal procedure to certify mine inspectors, including appropriate education and experience criteria.

Recommendation 3-35 BLM should ensure that offices involved with surface mines are equipped with appropriate technology to accurately measure removed minerals materials.

Recommendation 3-36 BLM should conduct periodic National and Statewide Production Accountability Technician/Petroleum Engineering Technician meetings to discuss production accountability procedures. Such meetings could provide supplemental training regarding new policies and procedures, as well as serve as a forum for identifying on-the-ground production accountability issues.

Chapter 4

Audits, Compliance, and Enforcement

Chapter 4 Audits, Compliance, and Enforcement

Summary of Major Recommendations in Chapter 4

(A complete list of all recommendations is provided in Appendix 1)

Regulatory Changes

- MMS should finalize the “technical changes” Indian oil valuation rule immediately, and forward it to the Office of Management and Budget. The rulemaking process to change to Indian oil valuation methodology to provide greater certainty for all parties and address a long standing concern of Indian Tribes should commence as soon as possible once the proposed rule has been forwarded to OMB. (see Recommendation 4-24 on page 72)

Compliance Strategy

- MMS should complete its risk-based compliance pilot project and develop a plan for implementing a risk-based compliance strategy on an MMS-wide basis, using an incremental approach to ensure that essential data and related management information systems are validated and ready for wider application. The first phase of this effort should be completed by the end of FY 2008 and should address the offshore program. (see Recommendation 4-9 on page 65)
- MMS should develop a new set of Government Performance and Results Act goals and measures based on the recently completed analysis of the benefits and costs of different compliance tools and the risk-based compliance process pilot (a risk-based pilot is scheduled for completion in February 2008). MMS should establish final goals and measures by the end of February 2008. (see Recommendation 4-13 on page 67)

Process Improvements

- MMS should place a high priority on improving the processes and procedures associated with calculating interest on royalty payments. (see Recommendation 4-16 on page 69)
- MMS should eliminate duplicate data by consolidating several databases, including databases for the Compliance Information Management system (CIM), the Performance Tracking Tool (PTT), and the Government Performance and Results Act (GPRA). (see Recommendation 4-17 on page 69)
- MMS should require electronic submission of all offshore run tickets for input to Liquid Verification System and Gas Verification System. (see Recommendation 4-21 on page 70)
- By the end of FY 2008, MMS should publish proposed revisions to the gas valuation regulations and guidelines to address the cost-bundling issue, and to facilitate the calculation of gas transportation and gas processing deductions. MMS should consider incorporating into the proposed revisions the use of market indices for gas valuation in the context of non-arm’s length transactions in lieu of the benchmarks that have been employed since 1988. (see Recommendation 4-26 on page 73)

- By the end of FY 2008 MMS should review, and (as appropriate) revise and implement the regulations and guidance for calculating prices used in checking royalty compliance for solid minerals, with particular attention to non-arms-length transactions. (see Recommendation 4-27 on page 73)

Chapter 4 Audits, Compliance, and Enforcement

I. Subcommittee Charge

The charter creating the Subcommittee on Royalty Management charged the Subcommittee with reviewing:

“the audit, compliance and enforcement procedures and processes of the Minerals Management Service to determine if they are adequate to ensure that mineral companies are complying with existing statutes, lease terms, and regulations as they pertain to payment of royalties.”

II. Introduction

In fulfilling its charge, the Subcommittee identified several issues relating to audit, compliance, and enforcement procedures. These issues fall into two broad categories. The first group is those issues involving only the Minerals Revenue Management (MRM) division within MMS. MRM-only issues are addressed in this chapter. The second broad category includes issues involving coordination and information-sharing between MRM and other DOI bureaus. These issues are presented in Chapter 5 “Coordination, Communication, and Information Sharing among MMS, BLM, and BIA,” starting on page 75.

The Compliance and Asset Management program (CAM) is a component of MRM, and assists with the MRM mission of accounting for, substantiating, and disbursing Federal and Indian mineral revenues. There are four CAM offices: Federal Onshore, Indian, Offshore, and Solids and Geothermal. CAM personnel are located in Colorado, Texas, New Mexico and Oklahoma, as well as in major royalty payor offices. State and Tribal auditors are located in eleven States and on seven Indian Reservations. Onshore production volume information is collected by the Bureau of Land Management (BLM) and provided to MMS.

III. Background

A. Compliance and Enforcement—Process and Tools

The audit, compliance, and enforcement process begins when the collections and production accountability systems return information filed by the operators and payors (e.g., production and sales volumes, royalty due).⁶⁶ This information may include deductions allowed in calculating royalties (e.g., transportation costs). The CAM Program uses audits and compliance reviews to validate data provided by the operators and payors. When discrepancies are found, a range of formal and informal steps may be taken to obtain information for resolving the discrepancy.

⁶⁶ MMS is responsible for offshore oil and gas production accountability; BLM is responsible for onshore activities.

Accurate calculation of royalties requires information related to lessees, payors, operators, royalty rates, prices, and transportation costs.⁶⁷ Much of this information is tracked in CAM data systems. However, some information relating to royalty compliance is recorded outside of CAM data systems (e.g., land status, lease information, operator information, lease and well status). Company-reported information comes from Reports of Sales and Royalty Remittance (Form MMS-2014), Oil and Gas Operations Reports (OGORs), and Production and Reporting reports (P&Rs).

The receipt of accurate and timely information on critical parameters such as lease status, royalty volumes, deductions, royalty values, etc. is important to the operation of an efficient audit/compliance/enforcement function. For onshore Federal and Indian lands, in particular, this starts with an accurate survey and identification of land status.⁶⁸

The MRM audit program, in compliance with Generally Accepted Government Auditing Standards (GAGAS), is required to undergo an external independent review every three years. In October 2005, MRM received an unqualified audit opinion with no reportable conditions from an independent certified public accounting firm.

The primary compliance tools currently used by MMS include informal efforts, “issue letters,” audits, “compliance reviews,” and enforcement actions. Each of these involves a different level of detail, effort, and engagement.⁶⁹ The compliance tools often have a role in both identifying and resolving problems. For example, audits and compliance reviews identify problems, and typically involve requests for information. Enforcement actions are used for resolving problems. At almost any point in the compliance/enforcement process, a payor can provide information resolving a problem. Many problems or discrepancies are resolved via informal requests for information.

⁶⁷ Special considerations can apply for Indian leases. These may include dual accounting and valuation using the “major portion” approach. While most Indian gas is valued using published index prices, a 1996 regulation allows natural gas to be valued at the highest price paid (or offered) for a “major portion” (at least 50%).

⁶⁸ This information includes ownership (is a parcel Federal, Indian, State, or private); type of Federal ownership (public lands, acquired lands, national grasslands, Corps of Engineer lands, etc.); lease status (is the parcel leased? If an active lease exists, is it producing?). Land status also identifies the revenue recipients and their share of bonuses, rents, and royalties. Land use planning determines which lands are available for lease and some of the stipulations that would apply to new leases. While these stipulations are primarily operational issues, they may affect deductible costs for royalty purposes.

⁶⁹ Suits brought by private citizens under the False Claims Act might also be considered a compliance tool, but are not considered in this report. The False Claims Act provides that the person who files the *qui tam* lawsuit may receive between 15% and 30% of any money recovered. As stated on page 5 of the September 7, 2007 Inspector General Report, “Minerals Management Service False Claims Allegations,” between 1998 and 2004, the Inspector General jointly conducted royalty *qui tam* investigations with the Department of Justice resulting in the recovery of more than \$568 million from 25 companies operating oil, natural gas, coal, and other activities on Federal and Indian lands.

Compliance efforts are often initiated through issuance of “issue letters” or “orders” on unresolved variances. These letters/orders are designed to elicit information or remedial actions. Variances may come to the attention of MMS through a variety of ways, including third parties. Issue letters/orders may lead to other compliance and/or enforcement actions. Systemic problems or other issues are referred to audit as deemed necessary.

Audits and compliance reviews validate companies’ compliance with their royalty responsibilities. If problems are found, information may be requested from a payor and, if necessary, subsequent enforcement actions may be taken to address the identified underpayment. However, in contrast to an audit, a compliance review relies on existing information provided by the companies and/or other public information gathered by MMS to evaluate royalty compliance relative to standard benchmarks or averages.

The Internal Revenue Service (IRS) also relies on a set of compliance tools that are arrayed along a continuum. The continuum of tools includes “soft notices,” full scale audits, “issue audits,” (similar to MMS’s limited-scope compliance reviews), as well as simple “math checks.” The IRS also has a “whistleblower” program under which rewards may be paid to individual taxpayers that bring non-compliance issues to the attention of the IRS. Information from a whistleblower would typically trigger some type of audit or compliance review.

Table 5 summarizes the major tools used by MMS’s compliance program. Table 6 summarizes the IRS’s set of compliance tools.

Table 5 MMS Compliance and Asset Management Activities

Type of Compliance Activity	Description
Audits	
Company audit	Review a payor's internal controls, production and royalty accounting systems, and royalty payments on specific leases.
Property audit	Review an individual lease or unit agreement containing numerous leases. Auditors select the properties that will be reviewed by performing an assessment regarding the elements of uncertainty present in a particular property.
Issue audit	Cover multiple leases involved in a specific high-risk aspect of royalty determination.
Compliance Reviews	
Full-Scope Compliance Review	Addresses all four elements of the royalty equation (volume, value, royalty rate, and allowances). Typically relies on data that has already been collected or information that is publically available.
Limited-Scope Compliance Review	Analyze one or more, but not all elements of the royalty equation. Typically relies on data that has already been collected or information that is publically available.
Other Compliance Activities	
"Issue Letter"/"Order," and other informal efforts	Can address unresolved variances on any of the elements of the royalty equation (volume, value, royalty rate, and allowances). Could result in resolution of an issue or a continuance of compliance activities.
Enforcement Actions	
Enforcement and Collections	Occurs subsequent to compliance activities. Used to collect unpaid or underpaid royalties.
Source: MMS.	

Table 6 Internal Revenue Service Compliance Activities

Compliance Activity	Description
Math Error Process	During the processing of filed tax returns the IRS corrects math errors, incorrect Social Security numbers, and incomplete supporting information. The IRS notifies taxpayers by mail of these adjustments, along with any refund or additional tax owed as a result. Returns that go through the math error process may also be selected for document matching and audit.
“Soft” Notice	The IRS sends a letter (including educational materials on the relevant tax rules and regulations) to notify a taxpayer that there may be an error with a filed return. The letter directs the taxpayer to file an amended return if a correction needs to be made.
Document Matching	The IRS issues a notice to a taxpayer for a return that the IRS is unable to reconcile with third-party information (W-2s, 1099s, etc.) The taxpayer is asked to provide documentation explaining the discrepancy, or to pay the difference in tax owed. Returns that go through the Document Matching process may also be selected for audit.
Correspondence Audit	The IRS sends a letter to notify a taxpayer of tax return(s) selected for audit, and of the issues under review. The taxpayer is asked to submit relevant documentation for review by a Tax Examiner. Correspondence audits are limited to the issues identified in the initial letter.
Office Audit	The IRS sends a letter to notify a taxpayer of tax return(s) selected for audit, and of the issue(s) under review. The taxpayer is requested to bring relevant records to an IRS office for review with a Tax Compliance Officer (TCO). The audit typically focuses on a limited set of issues, but the TCO has the discretion to expand the audit, with management concurrence, based on the facts of the case.
Compliance Check	The IRS performs a review by a Revenue Agent to determine whether recordkeeping and reporting requirements are being met for the taxpayer. The check is intended to increase voluntary compliance by educating business owners about their reporting requirements.
Field Audit: Agent (limited- or full-scope)	<p>A single Revenue Agent meets with the taxpayer (or the taxpayer’s representative) at the taxpayer’s home or business to conduct the audit. The agent has the discretion to expand the audit, with management concurrence, based on the facts of the case.</p> <p><u>Limited-Scope</u>: A limited set of issues is addressed. <u>Full-Scope</u>: Multiple issues are addressed.</p>
Field Audit: Team (limited- or full-scope)	<p>A team of Revenue Agents, supported by technical specialists (e.g., Economists, Engineers, Computer Audit Specialists) as necessary, meet with taxpayer (or the taxpayer’s representative) at the taxpayer’s business to conduct the audit. The team has the discretion to expand the audit, with management concurrence, based on the facts of the case.</p> <p><u>Limited-Scope</u>: A limited set of issues is addressed. <u>Full-Scope</u>: Multiple issues are addressed.</p>
Source: IRS.	

MMS uses audits for formal examinations of company records on Federal and Indian mineral properties, to ensure the accuracy of reporting and payment in accordance with applicable laws, regulations and lease terms. MMS employs three types of audits:

- Company audits review a payor's internal controls, production and royalty accounting systems, and royalty payments on specific leases.
- Property audits review an individual lease or unit agreement containing numerous leases. Auditors select the properties that will be reviewed by performing an assessment regarding the elements of uncertainty present in a particular property.
- Issue audits cover multiple leases involved in a specific high-risk aspect of royalty determination.

Compliance Reviews compare all of the elements of the royalty equation (e.g., volume, value, royalty rate and allowances) to anticipated values to check for variances. There are two types of compliance reviews:

- Full-scope compliance reviews address all four elements of the royalty equation (volume, value, royalty rate, and allowances).
- Limited-scope compliance reviews analyze one or more, but not all elements of the royalty equation.

Compliance reviews are used in conjunction with audits to increase compliance coverage with available resources. Compliance reviews are substantially less costly than full audits, however, they are also substantially less detailed compared to a traditional audit. During FY 2005 and FY 2006 information provided by MMS indicated that on average audits were 3.6 times more costly than compliance reviews. Compliance reviews offer the advantage that they can be performed against many companies with the same resources it would take to audit one company. If it is determined, via a compliance review, that a payor's variances exceed tolerances, documentation is requested to resolve the variance or further develop the issue.

When MMS "orders" or verbal requests for company corrections are not complied with, MMS compliance activity leads to enforcement activities.⁷⁰ MMS statutory enforcement authority has civil and criminal dimensions and the authority to levy penalties.

Examples of situations where enforcement actions might be appropriate include the following:

- Reporting failure: failure to submit/correct monthly reports;
- Unresolved variances: reported volumes/values differ from expected amounts;
- Payment violations: failure to pay or repeated late payments;

⁷⁰ Authorities under which the enforcement operations take place include 30 USC §1719 and FOGPMA §109 (Oil and Gas Civil Penalties).

- Information refusal: refusal to adequately fulfill data requests for audit/compliance review; and
- False information: false submissions in reports, letters or documents.

The enforcement process begins when the Office of Enforcement learns of violations. This information would typically come from one of MMS's operating divisions, though enforcement actions might be initiated based on information provided by an outside party. Enforcement staff investigate to confirm the existence of a violation and to determine why it occurred. A first offense or an offense judged by MMS to not to be made knowingly and willfully is typically resolved informally. Informal resolutions represent more than half of all cases. Other cases result in a "Notice of Noncompliance" (curable if satisfactory action is undertaken by the payor within twenty days) or an immediate civil penalty. Additional enforcement options include issuing a "Supplemental Notice of Civil Penalty," referral to the U.S. Treasury, and referral to the Inspector General. Another avenue for enforcement is suits brought by private citizens under the False Claims Act. Cases are resolved when compliance has been verified, settlements executed or the case has been referred elsewhere.

Office of Enforcement
Process Summary

- Learn of violations from operating divisions, outside parties or Office initiatives
- Investigate to confirm violations; determine why they occurred
- Informally resolve case if appropriate (first offence; non-knowing/willful)
- Issue a Notice of Noncompliance ("curable" if resolved within 20 days)
- Issue civil penalty
- Issue Supplemental Notice of Civil Penalty Cases resolved by verifying compliance, settlement or referral to U.S. Treasury, BLM, or IG

B. Audits and Compliance Reviews

1. Compliance and Enforcement Activity

Historically, audits have been the principal compliance tool, but the use of compliance reviews has increased in recent years to meet the increased compliance workload.⁷¹ Table 7 presents information on the number of audits and compliance reviews, as well as on "work in progress" in FY 2005 and FY 2006. Information on the number and type of audit and compliance reviews is not readily available for years prior to FY 2005.

Over the last four years, MMS, States, and Tribes have completed 1,572 audits. MMS is not currently able to report the number of audits by type of audit. Compliance Reviews are characterized as either "full scope" or "limited scope" reviews. In FY 2005 and FY 2006, a total of 1,042 audits were completed, compared to 5,994 compliance reviews.

⁷¹ MMS compliance activities also include educational efforts to help companies be compliant.

In January 2007, Subcommittee staff members were briefed by MMS's Office of Enforcement. MMS reported that since FY 2000 a total of 334 cases had been opened, of which 206 had closed with compliance; 81 cases had been closed with a finding of bankruptcy, erroneous orders, etc.; and 47 cases remained open.

Audits and compliance reviews frequently begin in one fiscal year and are completed in the following year. Some audits and reviews require longer than a year to complete. Thus, the number of completed audits and compliance reviews is an incomplete indicator of the level of work occurring in any given fiscal year.

The information in Table 7 indicates that the proportion of compliance activity represented by audits may be falling. In FY 2005 (in-progress and completed) audits represented 26% of compliance activity (the other 74% comprised limited and full-scope compliance reviews). This percentage fell to 22.4% in FY 2006. Full compliance reviews form the largest proportion of compliance activity. In FY 2005, (in-progress and completed) full-scope compliance reviews represented 40.3% of compliance activity. This percentage rose to 47.9% in FY 2006. Limited-scope compliance reviews represent about 30% of compliance activity in both FY 2005 and FY 2006.

Table 7 Audits and Compliance Reviews by Compliance Office, FY 2005-06

Compliance Activity, by Compliance Office	FY 2005			FY 2006		
	In Progress	Completed	Total	In Progress	Completed	Total
Audits						
Federal Onshore CAM	42	227	269	46	8	54
Indian CAM	46	136	182	67	27	94
Offshore CAM	91	256	347	82	40	122
Solids & Geothermal CAM	3	8	11	2	2	4
State and Tribal	641	5	646	701	67	768
Subtotal	823	632	1,455	898	144	1,042
Full Compliance Reviews						
Federal Onshore CAM	53	532	585	82	339	421
Indian CAM	39	147	186	151	199	350
Offshore CAM	35	1,615	1,650	44	1,373	1,417
Solids & Geothermal CAM	1	25	26	0	18	18
State and Tribal	0	0	0	22	0	22
Subtotal	128	2,319	2,447	299	1,929	2,228
Limited Compliance Reviews						
Federal Onshore CAM	7	15	22	28	4	32
Indian CAM	186	858	1,044	278	476	754
Offshore CAM	150	205	355	92	104	196
Solids & Geothermal CAM	109	10	119	145	49	194
State and Tribal	129	3	132	183	22	205
Subtotal	581	1,091	1,672	726	655	1,381
Grand Total	1,532	4,042	5,574	1,923	2,728	4,651

Source: MMS data.

The current goal of the CAM program is to complete compliance activity within three years of the payment date on an increasing percentage of royalty revenue.⁷² CAM strategy focuses primarily on the largest properties in producing status. CAM implements a more detailed strategy for Indian leases.⁷³ Given this strategy, smaller producing Federal properties typically are not reviewed as frequently or in as much detail relative to the larger producing properties.

2. Risk-Based Compliance Strategy

Beginning in 2006, the CAM program initiated development of a risk-based methodology pilot program to identify risk factors in Federal and Indian compliance, and to inform a new risk-based process for compliance and auditing programs. In

⁷² *Strategic Business Plan, 2007-2012*, U.S. Department of the Interior, Minerals Management Service, Minerals Revenue Management, December 2005.

⁷³ In keeping with the Department's Trust responsibilities, MMS places a higher priority on revenues from Indian leases, processing collections sooner and conducting compliance on a higher percentage of revenue than for Federal leases, including 100% of Indian gas revenue. While Indian royalty makes up only 3% of total revenue collected, MMS expends more than 20% of its resources managing Indian revenue.

addition to royalties paid, this methodology was designed to incorporate factors that estimate the risks of production and payment variances, and the probability of discovering those variances. Thus large payors that generally do not have variances would be audited or reviewed less frequently, while smaller payors with a higher risk of error would be audited or reviewed more frequently. This methodology, once fully implemented, is expected to complement the current revenue-based goal.

In developing the risk-based pilot project, MMS's MRM division stratified the royalty universe by Location (onshore, offshore, or Indian), Lease, Region, and Commodity. These four variables are collectively referred to as "LLRC." Risk factors are weighted and applied to the stratified lists. The results are analyzed for usefulness in predicting high risk properties and payors. This effort should also provide information on the probability of finding discrepancies based on the type of audit or compliance review. A full implementation of a risk-based process would include a self-correcting element that would adjust the factors used and the weights of those factors, based on compliance history and other information, to ensure MRM is making the most efficient use of its resources. Implementation of a risk-based process would indicate when a breakeven point is reached (i.e., when the costs of compliance exceed the expected proceeds).

C. Staffing and Resources Available for Compliance Activities

MMS staff for compliance activities has been reduced from 438 FTEs in 2000 to 363 FTEs in 2006. Funding for compliance activities was \$18.9 million in FY 2003; this increased to \$22.1 million in FY 2005 and declined to \$16.3 million in FY 2006.

States and Tribes also perform audits and compliance reviews through agreements with MMS. MMS contracts with States and Tribes to conduct audits of leases within these jurisdictions, and reimburses the State's or Tribe's costs.⁷⁴ Over the years, the level of funding for States and Tribes has not kept pace with inflation or increases in staffing needs or salary costs. As additional States and Tribes have entered into cooperative audit agreements, available funding has been stretched further.

State and Tribal audit and compliance costs represent a significant proportion of total compliance costs. In FY 2006, State and Tribal costs represented about 37% of the total. About \$9.5 million was budgeted for FY 2007 for State and Tribal audit costs with about 72% allocated to States and 28% to the Tribes.

⁷⁴ The Federal Oil and Gas Royalty Management Act of 1982 (FOGRMA) §202 lists the following Tribes: Blackfeet, Jicarilla Apache, Navajo nation, Shoshone/Arapaho, Southern Ute, Ute and Ute Mountain; §205 lists the following States: Alaska, California, Colorado, Louisiana, Montana, New Mexico, North Dakota, Oklahoma, Texas, Utah and Wyoming.

Information on the allocation of compliance funding across States and Tribes is not available. The number of leases varies across States, as do the revenues from those leases, as shown in Table 8. At the low end of the range is Alaska, with 41 leases providing \$60.5 million in FY 2006 royalty revenue. At the high end is Wyoming, with nearly seven thousand leases providing \$1,716 million. Considering royalty revenue per lease, Oklahoma falls at the low end, with each lease providing an average of less than \$20,000 in FY 2006. At the high end is Alaska, where each lease provided an average of \$1.5 million. The situation is similar for Tribes.

Table 8 Leases and Revenues by State, FY 2006

FOGRMA 205/202 Entities	FY 2006 Leases	FY 2006 Royalty Revenues	Average Revenue per Lease
Alaska	41	\$60,515,487	\$1,475,987
California	393	\$147,150,946	\$374,430
Colorado	2,370	\$488,075,017	\$205,939
Louisiana	322	\$223,333,853	\$693,583
Montana	1,866	\$89,447,781	\$47,936
New Mexico	6,843	\$1,174,327,259	\$171,610
North Dakota	643	\$52,524,890	\$81,687
Oklahoma	2,696	\$53,012,562	\$19,663
Texas	265	\$106,649,516	\$402,451
Utah	2,182	\$328,249,282	\$150,435
Wyoming	6,986	\$1,715,730,810	\$245,596
State Totals	24,607	\$4,439,017,402	\$180,397

Source: MMS data.

D. Inspector General Reports

A December 2006 Inspector General (IG) audit made a number of findings related to MMS's audit and compliance activities. The Subcommittee found this report useful and agrees with its findings.⁷⁵ The major findings included the following:

- Compliance reviews are a legitimate tool for evaluating the reasonableness of company-reported royalties and allow a broader coverage of royalties while requiring fewer resources than audits. However, the IG noted that MMS's selection process to identify properties for compliance reviews or audits does not take into account which companies have the highest risk for underpaying royalties.⁷⁶ The IG stated that this inappropriately treats audits, compliance

⁷⁵ *Minerals Management Service's Compliance Review Process*. Report No. C-IN-MMS-006-2006. December 2006, Department of the Interior Office of Inspector General.

⁷⁶ The IG identified a number of other areas where compliance reviews could be improved. These included: volume analysis; analysis of transportation and processing allowances; rationale for variance thresholds; guidance for audit referrals; notification of companies when compliance reviews

reviews, and Royalty in Kind analyses equally, and that it is flawed because it focuses on dollar coverage results in many of the same companies and properties being reviewed year after year.

- MMS data systems are “inaccurate and incomplete.”
- Cost tracking is insufficient for cost allocations. Costs were not separated by the different types of audits and compliance reviews. The handling of overhead costs was also disputed.
- The allocation of benefits from audits and compliance reviews is uncertain and needs more justification.

In December 2006, MMS’s MRM division developed an Action Plan in response to the Inspector General’s recommendations.⁷⁷ The IG report and the MRM action plan formed the starting point for the Subcommittee review. Prior to the IG report, MRM internal reviews had identified and initiated improvements related to some of the problems noted by the IG. For example, MRM began investigating risk-based processes early in 2006.

While some tasks identified in the Action Plan have been completed, others have not been initiated as they require the completion of earlier tasks. Thus the complete results of the Action Plan will not be available until 2008.

A September 2007 IG report also draws attention to issues associated with royalty collections.⁷⁸ Among other issues, the report highlights issues associated with the calculation of interest payments on royalties and concerns associated with determining the extent to which companies were entitled to transportation deductions in some situations. The Subcommittee concurs that these issues are significant, though they may be avoided in certain cases by switching from collecting royalty in value (i.e., money) to collecting royalty in kind (i.e., quantities of gas and oil), for cases where analysis supports making this change. This advantage of in-kind royalty collection is discussed further in Chapter 6, “The Royalty in Kind Program,” starting on page 87.

E. Royalty Collections As a Result of Audit and Compliance Activities

Royalty collection data for FY 2003 – FY 2006 are summarized in Table 9. In FY 2006, royalty revenue was about \$10.7 billion. Compliance-activity collections totaled about \$80 million. The large increase in collections in 2005 and 2006 is in part due to MMS’s recent adoption of the compliance review option.

are performed; collection follow-up; adherence to quality control procedures; and sharing compliance review tools with State and Tribal Royalty Audit Committees (STRAC).

⁷⁷ *Action Plan to Strengthen Minerals Management Service Compliance Program Operations*, U.S. Department of the Interior, Minerals Management Service, Minerals Revenue Management, December 2006.

⁷⁸ Minerals Management Service, False Claims Allegations, Redacted Report of Investigation, U.S. Department of the Interior, Office of Inspector General, September 7, 2007.

Table 9 Reported Royalty Revenue and Royalty Collections As a Result of Compliance Activities, FY 2003 – FY 2006 (\$ millions)

	FY 2003	FY 2004	FY 2005	FY 2006
Royalty Revenues				
Federal Offshore	\$4,536	\$4,608	\$5,535	\$6,515
Federal Onshore	\$1,744	\$2,141	\$2,731	\$3,638
American Indian	\$272	\$387	\$440	\$579
Total Royalty Revenue¹	\$6,551	\$7,136	\$8,706	\$10,732
Collections as a result of:				
Audits	\$29.0	\$21.2	\$42.1	\$33.5
Full-Scope Compliance Review ²	\$1.5	\$1.5	\$15.4	\$15.7
Limited-Scope Compliance Review ³	\$9.2	\$19.5	\$53.4	\$30.3
Total Collections	\$39.6	\$42.2	\$110.9	\$79.5

¹ Total reported royalty revenues include all royalties reported to MMS in a particular fiscal year, including audit and compliance recoveries and False Claims Act recoveries. Reported Royalty Revenues sums the dollars received from various sales periods during the accounting year and includes collections from compliance activities.

² Full-scope compliance reviews address all four elements of the royalty equation (volume, value, royalty rate, and allowances).

³ Limited-scope compliance reviews analyze one or more, but not all elements of the royalty equation.

Source: MMS web site.

Table 10 shows the total costs incurred for compliance activities by Compliance and Asset Management (CAM) office for FY 2003-FY 2006.

Table 10 Total Cost by Compliance Office, FY 2003–FY 2006 (\$ millions)

Compliance Office	FY 2003	FY 2004	FY 2005	FY 2006
Federal Onshore CAM	\$1.85	\$1.82	\$2.14	\$1.81
Indian CAM	\$2.90	\$4.29	\$4.80	\$2.94
Offshore CAM	\$7.61	\$7.85	\$8.24	\$4.83
Solids and Geothermal CAM	\$0.54	\$0.51	\$0.75	\$0.75
State and Tribal	\$6.07	\$6.17	\$6.21	\$5.96
All Offices	\$18.97	\$20.64	\$22.13	\$16.29

Source: MMS data.

Table 11 presents MMS information on revenues collected, the costs for all audits and compliance reviews, and the ratio of royalties collected per dollar of compliance expenditure. As shown in the table, the ratio of royalties collected per dollar of compliance expenditure exceeded unity for FY 2003 – FY 2006.

Table 11 Total Cost of Compliance Activities and Revenue Collections by Compliance Activity (\$ millions)

	FY 2003	FY 2004	FY 2005	FY 2006
Collections as a result of:				
Audits	\$29.0	\$21.2	\$42.1	\$33.5
Full-Scope Compliance Review	\$1.5	\$1.5	\$15.4	\$15.7
Limited-Scope Compliance Review	\$9.2	\$19.5	\$53.4	\$30.3
Total Revenue Collected	\$39.6	\$42.2	\$110.9	\$79.5
Costs Associated With:				
Audit	\$10.40	\$10.74	\$10.97	\$9.95
Compliance Reviews	\$8.57	\$9.90	\$11.16	\$6.34
Total Cost	\$18.97	\$20.64	\$22.13	\$16.29
Royalties Collected per Dollar of Compliance Expenditure, by Compliance Activity				
Audit	\$2.79	\$1.97	\$3.84	\$3.37
Compliance Review	\$1.25	\$2.12	\$6.16	\$7.26

Source: MMS.

Table 11 shows a significant return to compliance activities, in terms of revenue collected. However, the Subcommittee recognizes that the information shown in is likely to be revised by MMS once cost tracking efforts have been strengthened. The magnitude of these adjustments may change the relative “return on investment” figures reported here.

The December 2006 IG report questioned the tallying of costs and benefits across the various compliance activities. Questions about the costs and benefits raise concerns about the accuracy of reported net benefits (i.e., royalty revenues collected).

IV. Findings and Recommendations

This section presents specific issues, findings and recommendations related to audits, compliance and enforcement. As noted above, some issues in the Coordination section (starting on page 75) related to inter-bureau coordination and information-sharing are similar to those addressed in Chapter 3 on Collections and Production Accountability.

Issue

Reallocating compliance resources (among compliance tools and across compliance partners) and establishing a more systematic compliance strategy could potentially increase royalty revenues.

Background

MMS has a choice in determining how to deploy its compliance resources. Analyzing the financial returns to different compliance tools can assist in this regard and could ultimately result in increased royalty revenues. Furthermore, MMS funds

compliance activities undertaken by the States and Tribes. This funding is not necessarily allocated based on risks associated with compliance issues in these jurisdictions, the number of producing leases, or the associated royalty revenues.

Although funding information is not available on a per-State or per-Tribe basis, the Subcommittee received anecdotal information that such funding is not allocated based on the number of leases, royalty revenue returned, or revenue-per-lease. In concept, funding allocations should be associated with such measures of activity.

The December 2006 IG report criticized the cost-benefit analyses performed by MMS for the audit and compliance programs, as providing insufficient information to substantiate the allocation of costs or benefits to each type of audit and compliance review. Without enumerating costs and benefits by type of audit/compliance review, MMS cannot efficiently allocate compliance resources or apply risk-based processes to the compliance program.

A final report prepared by consultants on the costs and benefits of different compliance approaches was provided to MMS's Royalty Policy Committee in August 2007. The report analyzed the costs and benefit of using of different compliance strategies. The Report proposed that MMS's MRM division track costs and benefits by the three types of audits and the two types of compliance reviews, and by the five compliance offices (Federal onshore CAM; Indian CAM; offshore CAM; solids and geothermal CAM; State and Tribal).

Findings

MMS and the IRS each use a continuum of compliance strategies. The IRS continuum, however, seems to be more finely graded, more explicit and perhaps a good model for MMS to use in sharpening its own approach. The IRS continuum also includes a Whistleblower program.

As noted earlier, the December 2006 IG report made a number of key findings regarding audit and compliance. One important point was the need for a compliance strategy for choosing among types of audits and compliance reviews. The Subcommittee believes that a risk-based process is essential to ensure a more robust compliance program. A risk-based approach could entail considering risks associated with particular types of entities, geographic locations, and/or individual operators. Some consideration should be given to the allocation of the overall compliance budget, including funding for audits or compliance reviews performed by States and Tribes.

The IRS has found that the level, quality, and quantity of available information impact the cost of assessing compliance, as well as the ability to evaluate the risk of non-compliance. Increased availability of information and reliable information systems, increase the probability of compliance and decreases the costs for assessing the risk of non-compliance and conducting audits or compliance reviews. Given that MMS had not been tracking costs by type of audit or compliance review,

the Subcommittee concluded that the concerns raised by the December 2006 IG are legitimate.

Recommendations

These recommendations will assist MMS in establishing a systematic compliance policy. This involves setting high-level compliance policies and ensuring that adequate information is available to allocate the costs and benefits by compliance method and by CAM office. This is essential input to the risk-based compliance process and performance measures.

Recommendation 4-1 MMS should establish a “Compliance Strategy Council” to identify an MMS-wide compliance strategy. The Council should be established by June 2008. Membership of the Council should include senior MMS compliance managers. Outside membership, such as senior IRS staff experienced in risk-based compliance processes, should also be considered.

The Council could consider a number of issues initially including:

- Establishing an overall compliance policy premised on the fact that a set of audit/reviews are mandatory (e.g., Indian leases) and another set of audit/reviews is discretionary. This set would include the very large companies where MMS currently has teams onsite, high risk companies or properties, and cases suitable for training new personnel. MMS should employ risk models to assist in cost effectively targeting its compliance resources.⁷⁹
- Establishing a process whereby compliance initiatives identified by MMS compliance staff can be reviewed and approved.
- Establishing performance guidelines and measures to govern overall compliance strategy (performance measures are discussed in more detail below). The guidelines could be based on “yield” (either revenues collected per hour and/or revenue collected per dollar compliance cost incurred); identifying and stopping egregious behavior; and establishing an even-handed, fair, enforcement program.
- Identifying a set of “filters” that could be applied to assist in targeting compliance resources. These filters might be based on geographic factors (e.g., offshore versus onshore) or on products (e.g., oil versus gas).

⁷⁹ The IRS dedicates about half its compliance budget to “discretionary” compliance activities. In general, filings are scored using risk models. Using historical data, the models assist in estimating the time and cost required and the potential benefit. For different categories of taxpayers (or payors or properties for MMS) the goal is to develop ranked list to determine the best candidates for an audit/review.

Recommendation 4-2 MMS should systematically review staffing and budgetary needs required to implement the August 2007 consultant's report on compliance strategies. MMS should prepare a plan for tracking costs and benefits by audit/review type and by compliance office.

Recommendation 4-3 MMS should systematically review the allocation of compliance resources across States and Tribes. This review should include an examination of the staffing and budgets for other Federal agencies engaged in similar activities.

Recommendation 4-4 MMS should commit to an ongoing effort to evaluate the relative benefits and costs associated with different compliance tools. This effort should include appropriate investments in data gathering and analysis. As a starting point, MMS should evaluate the results from the audit and compliance program cost-benefit study and implement its recommendations as appropriate. During the next fiscal year, MMS should develop a plan to ensure that the appropriate compliance data will be collected and analyzed on an ongoing basis to assist in ensuring that the best mix of compliance tools is being applied. MMS should consider consulting with the IG and GAO regarding the sufficiency of these Plans.

Recommendation 4-5 MMS should assess the use of more targeted audits/reviews that focus on high-risk issues, and determine the extent to which a more flexible approach to audits is feasible (along the lines of the IRS model). In particular, the IRS employs a suite of enforcement approaches ranging from compliance checks to limited- or full-scope field audits.

Recommendation 4-6 MMS should initial a pilot test of a royalty non-compliance "whistleblower" program, similar to the program administered by the IRS, as authorized under Section 7623 of the Internal Revenue Code. A short-term step could be setting up a "hot line," and posting signs at Federal and Indian facilities listing a telephone number for reporting theft of Federal minerals to MMS.

A longer-term effort would require authorization by Congress and could permit MMS to pay a reward from additional non-interest royalties collected. The reward would be a portion of the additional revenues collected as a result of receiving information leading to the identification of Federal or Indian mineral royalty non-compliance.

Anyone could file a claim for award unless:

1. They were employed by the Minerals Management Service or the Bureau of Land Management at the time they received or provided the information; or
2. They are a present or former Federal employee or contractor who received the information in the course of official duties.

Notices about the program would be posted on wells and production facilities located on Federal and Indian land. The identity of informants would be kept confidential.

Information provided by a whistleblower would trigger some form of compliance review or audit. MMS would determine the amount of the reward (if any) to be paid. The amount of the reward would be in proportion to the value of the information provided, as a percentage of the additional taxes, fines, and penalties MMS collects.⁸⁰ MMS would determine if the information provided warrants an investigation, and the value of any information received. If an investigation is initiated, there would be no time limit for disposition of the case.

In addition to the above-described pilot effort, BLM should revise the regulations at 43 CFR 3162.6 to require a notice be posted at each Federal oil and gas location within a one-year phase-in period. Such notice, perhaps placed on condensate tanks or meter houses, could provide the reader with a toll-free number for reporting theft of Federal minerals to the Bureau of Land Management.

Recommendation 4-7 MMS should evaluate the extent to which additional flexibility with accounting standards and requirements might reduce costs without compromising the integrity of the compliance process. MMS should consult with the IRS in this evaluation.

Recommendation 4-8 MMS should require electronic submission of all relevant information.

Issue

Establishing a risk-based compliance process could improve compliance and potentially increase royalty revenues

Background

The Inspector General concluded that MMS's processes for determining whom to review and when to perform audits versus compliance reviews was inadequate. This also applied to the level of audit or compliance review to be performed. This recommendation from the IG is the basis for establishing a comprehensive strategy that incorporates both audits and compliance reviews. As previously described, there are three types of audits (company audits; property audits; and issue audits), and two types of compliance reviews (full and limited scope). The current process focuses on properties with the highest royalty dollars. Thus, there is a significant risk that non-compliant payors are not reviewed while resources are expended reviewing payors with a low risk of non-compliance. Changes to compliance strategy could be expected to increase collections as well as making the compliance program more equitable.

⁸⁰ Interest payments would be excluded from the basis.

Findings

- The Subcommittee agrees with the Inspector General that MMS needs to develop a comprehensive compliance strategy that incorporates both compliance reviews and audits.
- MMS compliance and audit resources may not be deployed in the most efficient manner. Reducing the frequency of audits for low risk properties would allow resources to be redirected to reviews of small, high risk properties, reducing errors from rarely-reviewed operators.
- The process for determining which properties to review has focused on high royalty properties. Thus properties producing high volumes of oil and gas are reviewed frequently even when there is a low incidence of discrepancies. Low volume non-Indian properties are reviewed infrequently.
- The decision of whether to perform an audit or a compliance review has been based mostly on costs incurred, rather than risk of underpayment. While this results in wider coverage by the reviews, it may not be the best use of resources because error on high risk properties may be missed by a review.
- MMS has initiated a pilot project to develop risk-based processes to help determine the extent to which an audit or a compliance review should be undertaken for any particular property, however it is premature to draw conclusions about the results. The pilot project is on schedule and is expected to be completed by February 2008. Once completed, the results will have to be evaluated, changes proposed, approved, and implemented. The expectation is this will be completed for FY 2009. The final design will be an evolving process that is adjusted over time as risks and conditions change.
- The IRS has more than 40 years of experience with risk-based processes in its compliance program.⁸¹ While the scale and scope of the IRS mission are much broader than MMS mission, the issues are similar. The IRS uses sophisticated risk models to assist in cost-effectively deploying its compliance resources. The development of these models required a substantial investment in data collection and analysis. The data collection efforts included random samples of tax returns to examine the types of errors that occur and the reasons for those errors. Actual use of these models requires use of extensive information for every audit and compliance review, including what/who was audited/reviewed, what work was done, location, who did the work, why the audit/review was conducted (size, risk factors, random, etc), time and costs, and results. There are, however, issues for which manual review is still more useful than automated risk models.
- Oversight of the actions identified in MMS's Action Plan should continue until the satisfactory conclusion of the action plan and subsequent implementation of improvements.
- Budget and staff resources available for compliance activities have decreased over the past several years. The Subcommittee believes that the likelihood of a

⁸¹ The IRS has invested significant resources gathering and analyzing data designed to assist in focusing their compliance resources in an efficient manner. Underlying their efforts to effectively deploy their resources are data on the magnitude and composition of the "tax gap," or the difference between what taxpayers owe and what they actually pay on a timely basis.

successful risk-based approach will be reduced unless these trends are reversed.

Recommendations

A robust risk-based process for compliance would enable MRM to employ a more sophisticated and potentially more cost effective approach. Estimating the amounts and associated probabilities of potential royalty recovery from each payor or various types of payors could be combined with information on the costs of performing each type of audit/review (discussed in more detail below) to provide information on the net returns to various compliance strategies. Ultimately, implementation of a risk-based process could assist MMS in making the most efficient use of its resources.

The following recommendations address the establishment of a risk-based compliance strategy.

Recommendation 4-9 MMS should complete its risk-based compliance pilot project and develop a plan for implementing a risk-based compliance strategy on an MMS-wide basis, using an incremental approach to ensure that essential data and related management information systems are validated and ready for wider application. The first phase of this effort should be completed by the end of FY 2008 and should address the offshore program.

This plan should include a review by knowledgeable IRS staff to ensure that relevant experience and information from the IRS's experience with implementing risk-based audit strategies can be incorporated. The IRS experience suggests also the following:

- In the short-term, the MMS risk-based pilot project should develop compliance risk models based on the data currently available. MMS should collect additional data over the next year to allow it to develop and implement more complex models.
- Procedures should be established to ensure that the information systems necessary to support a successful risk-based compliance strategy are systematically reviewed, refined, and improved on a periodic basis.
- Validation of risk models – MMS should establish a process to validate and update the risk models. If the risk models are poor predictors of compliance problems, MMS should collect additional information and analyze other factors that may be better correlated with a lack of compliance. Continuous evaluation and refinement over time are critical, and should be based on empirical analysis of the factors underlying compliance or non-compliance.
- MMS should tailor its issue audits and limited scope compliance reviews to the high risk factors found in the pilot project and future risk analyses. For the most part, this means focusing on high payors and non-compliance actions that either are having significant impacts or evolve in that direction. However, sampling of other categories of payors is also necessary to ensure comprehensive coverage.

Recommendation 4-10 MMS should enhance its tracking system to include the following information for every audit and compliance review: identification of the company/property/location; who performed work (staff, office, etc.); the type of work that was done (type of audit/review, information collected, reviewed, analyzed, etc.); why the work was initiated (mandate, risk factors, random sample, etc.); results (royalties recovered, penalties, etc.); and time and resources spent.

Recommendation 4-11 MMS should keep GAO and the IG informed on the progress of the pilot project and resultant proposals.

Recommendation 4-12 The Royalty Policy Committee should continue to monitor the pilot, resultant proposals, implementation of improvements, and impacts on the compliance program.

Issue

A meaningful set of performance measures is essential to improve the management of the compliance program.

Background

The current Government Performance and Results Act (GPRA) goals and performance measures associated with royalty compliance do not provide adequate metrics to evaluate compliance. A strong set of performance measures is integral to evaluating program performance. It is important to select performance measures that will provide feedback on the most important elements of the activities at issue.

Findings

- The Performance Tracking Tool (PTT) relies heavily on manual data entry. This has the potential for being out of date, creating data inconsistencies, and is subject to manipulation.
- As required by the IRS Restructuring and Reform Act of 1998 (RRA 98), the IRS developed their Balanced Measures Performance System. This approach has three major components: Customer Satisfaction, Employee Satisfaction, and Business Results. The Business Results measure uses goals to increase fairness of compliance as well as to increase overall compliance to meet the mission of taxpayer compliance (accurate data, timely submission, and correct payment). The Balanced Measures Performance System has a management hierarchy that starts with strategic goals and filters down to individual performance measures.

Recommendations

MMS should establish stronger measures to evaluate the performance of the compliance program. This would enable further improvements to the program and provide a justification for additional resources if necessary.

Recommendation 4-13 MMS should develop a new set of Government Performance and Results Act goals and measures based on the recently completed analysis of the benefits and costs of different compliance tools and the risk-based compliance process pilot (a risk-based pilot is scheduled for completion in February 2008). MMS should establish final goals and measures by the end of February 2008.

Recommendation 4-14 MMS should automate the data entry process for all compliance management information systems and establish a schedule for completing this effort, with a completion date of not later than June 2009. This will keep data current, improve data quality and consistency, and improve the reliability of the information used in decision-making and performance tracking and evaluation.

Recommendation 4-15 MMS should evaluate the performance measures used by other entities. In particular, MMS should review the IRS “Balanced Measures” performance system.

Issue

Existing compliance information systems contain duplicate information; data quality is also a concern.

Background

MMS utilizes several information systems to manage their compliance program. The main systems are the Compliance Information Management (CIM) system, the Performance Tracking Tool (PTT), the GPRA databases, the Liquid Verification System (LVS) and the Gas Verification System (GVS). The December 2006 IG report stated that these systems have “data reliability issues” and are “inaccurate and incomplete.” MMS is currently reviewing processes regarding LVS and GVS for improvements.

Annual Compliance Workplans also constitute, in some sense, a compliance information system. MMS sets and communicates annual goals to the CAM offices, the States and the Tribes. The CAM offices, States and Tribes then develop an annual workplan of activities for the coming fiscal year, which must be approved by MMS. MMS currently seeks to avoid duplicating audits or reviews underway by the States and Tribes; a risk-based process would likely require greater coordination throughout the year, as each office works through the risk-based lists

The September 2007 IG report also noted difficulties with the MMS systems used to calculate interest payments on royalties. This issue merits further attention from MMS management.

Findings

- Unreliable data leads to poor decisions and miscalculations. The resulting problems take time and resources to correct and may also result in negative financial audit findings against MMS as well as incorrect payments to States, Tribes, and individual Indians.
- Data entry and maintenance for the Compliance Information Management (CIM) tracking system by various MMS Compliance and Asset Management (CAM) offices has been inconsistent, preventing accurate tracking and reporting on compliance reviews. Some CAM offices do not enter complete information on their compliance reviews into CIM. In addition, the status of work in progress is not in CIM so managers do not have sufficient information to track the progress of compliance reviews and manage their workloads.
- Existing compliance management information systems contain identical data and may be redundant. Duplicate data is collected for the Workplan, Compliance Information Management system (CIM), and Performance Tracking Tool (PTT) systems.

Information is entered and updated manually separately for three databases: the Workplan, the Compliance Information Management system (CIM), and the Performance Tracking Tool (PTT), creating the possibility of data errors. As a result, periodic manual check must be performed to ensure that the values for identical data elements match across all three databases. This takes time and resources away from doing productive work.

Good data management practices suggest that there should be a single authoritative source for each data element. When a data element from one dataset is required for another dataset, the element should be passed between datasets, rather than collected again.

Table 12 illustrates this duplication across systems. The validation procedure involves checking that data elements match across all systems, and correcting any mismatches. This exercise is performed quarterly and at the end of the year to ensure that all systems contain consistent information.

Table 12 Data Fields in Various Compliance Information Systems

System Name:	Compliance Information Management System	Performance Tracking Tool	Approved Work Plan
Data Field Names, by system:	CIM Case No.	CIM No.	CIM Case No.
	Compliance Type	Type	Compliance Type
	Office	CAM	Office
	Sub-Office	“Primary” (GS-13 Supervisor’s name)	Sub-Office
	Property	Property	Property
	Compliance Period	Period	Compliance Period

- There are data reliability problems with the Liquid Verification and the Gas Verification Systems, both of which are used to verify offshore production volumes. Much of the data required for these systems is entered automatically from electronic run tickets, but some volume data comes in paper reports and must be entered manually.⁸² In some cases data may not be entered or may be entered inaccurately. MMS has released draft procedures and standards for entry and maintenance of data in the CIM for full scope compliance reviews, as well as procedures to ensure quality and consistency. However, these draft procedures do not apply to limited-scope compliance reviews. In general, the draft procedures define roles and responsibilities and identify procedures for manual data entry and cross-checks. Entering data into the other systems referenced in Table 10 above (PTT and the Workplan) are separate processes.

Recommendations

As noted below and in prior recommendations (e.g., those associated with risk-based processes) the Subcommittee believes it essential that data quality, reliability, and consistency be improved. This will reduce the time required to manually enter and check data.

The following recommendations are directed toward MMS:

Recommendation 4-16 MMS should place a high priority on improving the processes and procedures associated with calculating interest on royalty payments. These issues should be addressed as soon as possible.

Recommendation 4-17 MMS should eliminate duplicate data by consolidating several databases, including databases for the Compliance Information Management system (CIM), the Performance Tracking Tool (PTT), and the Government Performance and Results Act (GPRA).

MMS management must define a comprehensive set of requirements for generating management information in the work process. Queries to management information systems should draw from a common database that

⁸² Run tickets record the volume of a “run” or portion of oil or gas flowing through a measurement meter.

can be modified to meet changing management needs and integrated with other systems as necessary.

Recommendation 4-18 MMS should implement automatic updates by integrating the Compliance Information Management System (CIM) and the Performance Tracking Tool information system (PTT) rather than depending on manual data entry.

For example, when a supervisor approves a compliance review, she subsequently goes into CIM, finds the entry for that review, indicates that she approved it, enters her name, the date, etc. An electronic approval process would allow all of information to be entered automatically and limit backdating or otherwise modifying entries.

Recommendation 4-19 MMS should define and use consistent procedures for all compliance reviews.

Recommendation 4-20 MMS should seek consult with the Inspector General on the draft procedures in the updated manuals.

Recommendation 4-21 MMS should require electronic submission of all offshore run tickets for input to Liquid Verification System and Gas Verification System.

The following recommendations are directed toward BLM:

Recommendation 4-22 BLM should evaluate implementing equivalent systems onshore for electronic submission of run tickets. BLM can accept electronic run tickets now, but the many small operators onshore may render a requirement for electronic submission impractical. Adapting LVS and GVS to onshore production may supplement existing systems.

Recommendation 4-23 BLM should integrate business process improvements and information management planning via improved coordination with MMS.

Issue

MMS refers to certain data collected for pricing and compliance reviews as “expected values.” This term may be more commonly used to denote estimated or forecasted values, rather than proxy values, as understood by MMS.

Background

Compliance reviews examine production volume reports, royalty reports, and publicly available data to assess whether the royalty amounts reported and paid seem reasonable, given available price data and volume measurements. Thus, invalid price data may lead to the compliance review overlooking likely royalty discrepancies. The IG questioned the validity of these “expected values” for prices used in compliance reviews.

Findings

The term “expected values” is misleading when used to connote estimated or forecasted numbers. In general, these “expected values” are in fact actual prices or actual values of market indices. The “expected value” label refers to the fact that although MMS does not know the exact price that should be applied during a royalty calculation, the prices or indices used are expected to be approximately similar. These prices and indices vary in quality and reliability and are dependent on the resource valued and its location as described below:

- Indian gas valuation: the gas valuation methodology required in the January 1, 2000 Indian gas rule has improved product value certainty for both the Indian lessors and the payors of Indian gas production. The certainty results in fewer issues concerning gas value issues, which also results in reduced lease administrative and compliance cost.
- Indian oil valuation: MMS continues to rely on a rule dating from March 1988. This rule references product valuation methods based on industry posted prices. A revised rule to change the posted price methodology to a method that is based on market-driven indices was proposed in February 1998, supplemented by an additional proposed rule in January 2000. These proposed rules were withdrawn in February 2005, pending a series of public meetings and MMS’s review of the issue.⁸³

In February 2006, an Indian oil valuation rule was published, which based oil valuation on a lessee’s gross proceeds. The “major portion” provision⁸⁴ found in most Indian leases would have been difficult to implement, as MMS does not collect information on oil type or gravity, or sales data for State and private oil. As a result, MMS proposed designating certain producing areas from which sales information could be used to perform the “major portion” calculation. This proposed rule was subsequently abandoned in 2006, due to strong opposition to certain provisions the proposed rule by both the Indian community and industry. MMS told the Subcommittee that the most contentious provisions were the major portion provision (and the additional reporting requirements that were part of the provision) and the non-arm's-length transportation provision mirroring Federal oil and gas rules.⁸⁵ MMS has stated that it is planning to publish a final rule that would make only some technical amendments.

Once these technical corrections are made, MMS can propose a rulemaking that

⁸³ MMS decided to withdraw the two proposed rules because of the substantial time that had passed since the last proposal. “Public Workshop on Proposed Rule—Establishing Oil Value for Royalty Due on Indian Leases” 30 CFR Part 206 *Federal Register*. February 22, 2005, page 8556. Other reasons cited by MMS include changes in the market for crude oil, including a switch to selling most Indian oil in arms-length transactions, and information gathered in the 2004 rulemaking process, e.g. most mid-continent oil is sold on a “NYMEX plus the roll” basis. Deputy Associate Director, MMS. E-mail “RE: question re Indian oil regs history.” November 20, 2007.

⁸⁴ While most Indian gas is valued using published index prices, a 1996 regulation allows natural gas to be valued at the highest price paid (or offered) for a “major portion” (at least 50%).

⁸⁵ Deputy Associate Director, MMS. E-mail “RE: question re Indian oil regs history.” November 19, 2007.

would implement a system comparable to that used for Indian gas. Tribes are understandably frustrated by this lack of progress, and are waiting for a new oil rule along the lines of the Federal oil rule.

- Federal gas-onshore and offshore: The Federal gas rule promulgated in 1988 was revised in 1997 and MMS prevailed in the 2002 *DeWitt* decision. To conform to the *DeWitt* decision and address the calculation of transportation deductions the Federal gas rule was further revised in 2005. Unlike oil valuation, gas valuation has not shifted to indexing but still employs benchmarks, although this has been the subject of review. As a separate matter, the calculation of gas transportation and gas processing has for both arm's length and non-arm's length transactions become very difficult because deductible and non-deductible costs are often bundled in the transportation or processing rates being used thereby greatly complicating MMS compliance review and audits.⁸⁶
- Federal oil – onshore and offshore: MMS uses NYMEX prices (except a benchmark price in the Rocky Mountain Region). This method uses a rolling average to estimate near-term prices. This is the standard market practice for pricing and overcomes issues with non-arms-length transactions.
- Solid minerals: Valuation uses the actual prices paid. This works well for arms-length transactions, but there are problems with non-arms-length transactions. For example, coal may be sold to a power plant where there is common ownership of the mine and power plant. The coal could be sold at less than fair market value with the lost profit gained in the sale of the electricity. Thus the government would not be receiving the appropriate royalty on the coal. Non-arms-length transactions are common in the coal industry. The potential development of coal for liquefaction and gasification and the development of oil shale will likely result in similar non-arms length transactions.

Recommendations

Clarifying the rules for onshore gas and transportation deductions and for solid minerals would provide more certainty for MMS, BLM, and industry and should result in better compliance.

The following recommendations are directed toward MMS and the Department of the Interior:

Recommendation 4-24 MMS should finalize the “technical changes” Indian oil valuation rule immediately, and forward it to the Office of Management and

⁸⁶ MMS has had issues with gas valuation indexing for several years. Recently the topic was addressed by the Royalty Policy Committee (see, e.g., Status Report, Oil and Gas Valuation Subcommittee, Nov. 14, 2006). Nevertheless, some issues still remain, such as gas price reporting by reporting services, an area regulated by the Federal Energy Regulatory Commission. As an example of the complexities associated with this issue, gas may have to be piped to a central gathering facility far from the lease. Gas may also be processed offsite to separate valuable liquids or to meet pipeline specifications. In any of these examples the magnitude of allowable deductions may be unclear. Transportation deductions are also discussed in “Minerals Management Service: False Claims Allegations”, Office of the Inspector General, U.S. Department of the Interior, September 7, 2007, pp. 76-80.

Budget. The rulemaking process to change to Indian oil valuation methodology to provide greater certainty for all parties and address a long standing concern of Indian Tribes should commence as soon as possible once the proposed rule has been forwarded to OMB.

Recommendation 4-25 By June FY 2008 MMS should propose an Indian oil rule to change the methodology for valuing Indian oil from a posted price method to a market index methodology, as was done for production from Federal oil and Indian gas leases.

Recommendation 4-26 By the end of FY 2008, MMS should publish proposed revisions to the gas valuation regulations and guidelines to address the cost-bundling issue, and to facilitate the calculation of gas transportation and gas processing deductions. MMS should consider incorporating into the proposed revisions the use of market indices for gas valuation in the context of non-arm's length transactions in lieu of the benchmarks that have been employed since 1988.

Recommendation 4-27 By the end of FY 2008 MMS should review, and (as appropriate) revise and implement the regulations and guidance for calculating prices used in checking royalty compliance for solid minerals, with particular attention to non-arms-length transactions.

Chapter 5

Coordination, Communication, and Information Sharing among MMS, BLM, and BIA

Chapter 5 Coordination, Communication, and Information Sharing among MMS, BLM, and BIA

Summary of Major Recommendations in Chapter 5

(A complete list of all recommendations is provided in Appendix 1)

- By June 2008, the Department should establish a Coordinating Committee with representatives from the senior management level in MMS, BLM, and BIA. Bureau representatives should have the authority to ensure decisions and recommendations are implemented in their respective bureaus. (see Recommendation 5-9 on page 85)
- To support the Departmental Coordinating Committee described in Recommendation 5-9, each Bureau should establish procedures for strengthening intra-Bureau coordination. (see Recommendation 5-10 on page 86)
- MMS and BLM should secure appropriate access to the Indian lease system. This is necessary to prevent delays in approving lease activity, and to ensure MMS has the correct information for managing revenue from Indian leases. (see Recommendation 5-2 on page 84)
- DOI should work to reconnect the systems containing Indian data after appropriate security measures are in place. The Indian Automated Fluid Mineral Support System (IAFMSS) and the Indian Well Information System (IWIS) should be restarted; appropriate access to IAFMSS for MMS and Indian contract inspectors should be provided. In addition, once appropriate security measures are in place, MMS should provide BLM users with the ability to query these systems by any parameter (e.g., lease number). (see Recommendation 5-3 on page 84)
- DOI should establish standards for geospatial data regarding Indian leases that facilitate management of Indian resources while still meeting DOI's Trust responsibilities. (see Recommendation 5-7 on page 84)
- DOI should seek a review of the decision classifying boundary information for Indian allotments, leases, and agreements as Trust information. Any solution should satisfy Trust responsibilities and allow the DOI bureaus to carry out their management responsibilities efficiently. (see Recommendation 5-8 on page 85)

Chapter 5 Coordination, Communication, and Information Sharing among MMS, BLM, and BIA

I. Introduction

The Minerals Management Service (MMS), the Bureau of Land Management (BLM), and the Bureau of Indian Affairs (BIA) all have responsibilities associated with the extraction of onshore minerals resources on Federal and Indian lands. Coordination and communication among these Interior bureaus is important for administering the minerals royalty program in an efficient manner. Clarification of the respective role of each agency is needed. This will help determine the level of integration of their activities and sharing of information.

II. Background

A. Roles and Responsibilities of the Federal Agencies

Management of Federal and Indian mineral resources is a complex process requiring careful coordination to ensure that:

- Those resources are available for development and production;
- The environment is protected; and
- Royalty revenues are collected and properly distributed.

While there are many parties with a role in this process (Federal and State agencies, industry, and the public), the managing Federal agencies are MMS, BLM, and the BIA. For this discussion it is appropriate to separate MMS into its two components: Offshore Minerals Management (OMM) and Minerals Revenue Management (MRM).

Table 13 identifies the major roles and responsibilities of the bureaus and the significant information and coordination required at each step in the royalty management process.

Table 13 Management of Federal and Indian Mineral Resources: Roles and Responsibilities

Function	Location of Mineral Resource			Information necessary for effective coordination
	Offshore	Onshore		
		Federal	Indian	
Develop and implement Management Plans*	MMS	BLM	BIA	Land status, areas available for leasing, stipulations
Lease parcels	MMS	BLM	BIA	Lease terms and conditions, royalty rate, distribution of revenue
Permit/inspect operations/enforcement	MMS	BLM	BLM	Well/lease operating and production status, information on operations
Production verification	MMS	BLM	BLM	Production information generated by agency field measurements and inspections
Production reports	MMS	MMS	MMS	Operator reported production
Production accountability (compare measurements to reports)	MMS	BLM	BLM	Production information reported by operators; production information from agency information systems
Royalty payment compliance	MMS	MMS	MMS	Compliance status
Royalty collections/enforcement	MMS	MMS	MMS	Compliance status
Revenue distribution	MMS	MMS	MMS	Revenue distribution information
*BLM is responsible for Resource Management Plans on BLM-managed lands. Other Federal agencies are responsible for surface management on lands they manage (e.g., Forest Service, Department of Defense., Fish and Wildlife Service).				
Source: Subcommittee.				

Previous inter-bureau projects were intended to improve coordination. For example, BLM and MMS’s Offshore Minerals Management (OMM) developed data standards for well information that led to BLM’s Well Information System. Past proposals have also included a “DOI Land and Resource Management (DLRM) system.”

While inter-bureau communication is essential, intra-bureau communication is also critical. This can facilitate the implementation of more effective compliance strategies as well as stronger production accountability efforts.

B. Mineral Leases on Indian Lands

BIA is responsible for planning for and issuing mineral leases on Indian lands. This includes solid minerals, primarily coal, and fluid minerals, such as oil and gas.

For solid minerals, once a lease has been issued and a mining plan of operations submitted, BLM must process this plan and, if adequate, approve it for the extraction of the solid minerals resource. This responsibility includes at least quarterly inspections, and documentation of the production that will be reported to MMS. It is customary for BLM to invite the BIA and a Tribal member or allottee to join BLM in its inspection of the mine proper. Upon request and approval by BLM, the Indian community may also be delegated the authority to assume BLM's operational responsibility under P.L. 93-638, the Indian Self Determination Act and Educational Assistance Act. On a monthly basis, operators submit a Production and Royalty Report to MMS, who enters this data into MMS's Minerals Revenue Management (MRM) system. This data is then available to BLM the same day it is entered into the MRM system. BLM then compares this data with sales reports, volumetric measurements taken in the mine, and other records to determine if the operator accurately reported production to MMS.

BIA also issues "Business Permits" for mineral extraction. These permits are issued for the removal of relatively small quantities of material from particular sites. However, BLM is not necessarily made aware when a permit is issued, the minerals covered, or the location of the permit. These permits may in some instances also be issued without procedures normally applied under the more formal issuance of a mineral lease.⁸⁷ Typically these procedures would involve compliance with the requirements of the National Environmental Policy Act, mitigation, reclamation, and inspection requirements for royalty management and production verification.

For fluid minerals, after the lease is issued by BIA, the operator submits an application for permit to drill (APD). BLM approves the APD, conducts inspections and performs production accountability reviews. Indian Tribes can establish a contract with BLM to perform inspections of operations on their lands. Due to the large number of operations, automated information sharing is necessary for efficient operations.

C. Decentralization of Mineral Leasing Responsibilities

MMS, BLM and BIA royalty compliance staff are highly decentralized, particularly BLM and BIA. In addition, State and Tribal auditors are located in eleven States and seven Indian Reservations. The oil and gas program in BLM is active in 31 separate offices under the jurisdiction of eight different BLM State Offices. Further, as noted earlier, the onshore program manages far more leases than the offshore program. AFMSS has provided standardization on most operations and inspections. However, a standardized national lease sale system does not exist.⁸⁸ The lack of a national lease sales system has resulted in inconsistent records creation and maintenance. This leads to rejections during the processing of records by MMS. Inaccurate data will sometimes pass MMS's edits, resulting in problems later.

⁸⁷ A "permit" means any contract issued by the superintendent or the area director to conduct exploration operations on, or remove less than 5,000 cubic yards per year of common varieties of minerals from, Indian Lands.

⁸⁸ While proposed, the National Lease Sale System has been deferred for budgetary reasons.

The problems associated with decentralization are exacerbated by the lack of well-trained employees. Anecdotal information gathered by the Subcommittee indicates that some BLM offices have reported high turnover rates due to staff “burn out” and to experienced staff leaving for higher salaries in private industry. The consequence of this is that experienced personnel are not always available to address increasing workload demands. In BLM for example, the number of oil and gas leases issued increased from about 2,000 in FY 2003 to almost 4,000 in FY 2006; and approvals of applications for permit to drill (APDs) more than doubled between FY 2002 and FY 2006. Inexperienced personnel tend to make relatively more errors than experienced personnel, especially when addressing complex, unusual, or special cases.⁸⁹

Leases issued under the Indian Mineral Development Act of 1982 (IMDA) do not follow a standard for lease terms and conditions. This creates difficulty for MMS’s systems to manage automatically and typically requires manual intervention.

D. Geospatial Information

Efficient management of minerals makes use of geospatial information. Using geospatial information allows one to easily observe where leases are in effect, where land is available for lease, and the location of environmental resources that may be impacted by mineral development. For example, BLM is currently developing a pilot sponsored by the Trust Executive Steering Committee (TESC) aimed at automating the Trust Asset and Accounting Management System (TAMMS) in a geospatial environment. Geospatial information is also used to identify drainage (where oil and gas resources are being drained from Federal or Indian lands by wells on adjacent property). Maps are also useful for identifying trespass where someone is conducting unauthorized mineral activities. This information is also important for fire and safety issues.⁹⁰

⁸⁹ Relatively complex situations include leases on lands with unusual stipulations, Army Corps of Engineer lands, and Federal acquired lands (formerly privately or State-managed),

⁹⁰ OMB Circular A-16 lists BLM as the agency responsible for three areas of geospatial data: Federal land ownership status, public land conveyance records and cadastral survey. To-date, BLM’s geospatial data have been maintained in separate state offices, and sometimes at individual field offices. BLM has recently developed national-level databases for text and GIS data, including legal land descriptions, Federal land status, case files for mineral leases, rights-of-way, mining claim data, grazing permits, and BLM roads and facilities. BLM is now working with the Forest Service to incorporate their geospatial and case data into the National Integrated Lands System and the LR2000 system. These GIS data are currently used for internal and public planning and decision-making; cross-checking against other data and paper maps and files will be required until data validation is complete. Data on Indian lands is not readily accessible from the existing databases because of Cobell lawsuit issues.

III. Findings and Recommendations

A. Indian Mineral Leases

Findings

The Regulations on “Leasing of Tribal Lands for Mineral Development” (25 CFR 211.1 and 211.3) allow issuance of permits for mineral activities in Indian Country. These permits may be issued by BIA in place of mineral leases, if they are limited to a one-year length and a volume of 5,000 cubic yards of sand and gravel. In nearly all cases, BLM and MMS are not notified when these permits have been issued, and thus do not conduct inspections for environmental impacts or production accountability. BLM and MMS cannot effectively carry out their Trust responsibilities without being informed of issuance of these permits, the conditions under which royalties are paid, and how the material is mined and reclaimed. The BIA Office of Indian Energy and Economic Development has taken some initial steps to address this issue.

Recommendation

Recommendation 5-1 BLM should collaborate with BIA, MMS, and the Office of Indian Energy and Economic Development to ensure there is an understanding on the issuance of “permits” and the role the respective agencies play, in order that Trust responsibilities are met. Additionally, a renewed agreement on joint inspections should be initiated.

B. Interagency Coordination

Findings

The impacts of inadequate coordination, communication and information sharing can manifest themselves via missing or incorrect data, resulting in delays in processing permits and receiving royalty revenues. Incorrect data leads to errors in royalty receipts and revenue distribution, requiring staff to correct the information and redistribute the revenue. This issue is particularly sensitive when the revenue is for States, Indian Tribes and allottees.⁹¹

Unfavorable MMS audit findings may also result.

The Subcommittee documented many instances of inadequate coordination and communication among MMS, BLM, and BIA in the area of royalty management. Inadequate coordination results from having three bureaus manage separate, but related, parts of one program. Coordination of activities associated with managing offshore oil and gas leases is more straightforward because only a single bureau (MMS) is involved.

Examples of Problems Resulting from Inadequate Information

- BLM receives an APD for an Indian lease for which BLM does not have the necessary information. This results in delays while BLM acquires the information from BIA and creates a record in the Automated Fluid Minerals Support System. The result is unnecessary costs and delays in processing the APD.
- MRM receives a royalty payment for a lease that it has not received a first production notice from BLM. The record is rejected until the records are updated, resulting in unnecessary costs and potentially delaying distribution of revenue. This could result from a late notification from the operator or a backlog of data entries into BLM's systems.
- BLM/BIA/OMM enters incorrect information in the lease record, resulting in incorrect distribution of revenue. MMS must obtain the correct data, update records, and rectify the revenue distribution. This is particularly a problem with distributions to States or Indian Tribes and allottees where even small errors in revenue are significant. It also will result in an audit finding during the regular audits that MRM contracts.
- MRM makes untimely notifications to BLM of delinquent or late lease rental payments. Such delays result in BLM approving drilling permits, and operators drilling wells on leases which have terminated by law.

⁹¹ At certain times in the past (late 1800's and early 1900's) individual Indians were deeded a parcel, or allotment, of land, including the mineral rights. Over the generations those rights were passed down and apportioned to the descendants of the original owner. The allotment is not subdivided, but each descendant owns a fraction of the values of the total parcel. For example, if an original owner had two children, then each would own 50%. If one child had two children then each would have 25% (50% divided by two). If the second child had five children, then each would have 10% (50% divided by five). After many generations the current allottees own small percentages of one or more allotments. The level of precision required in the accounting system used is much higher than the precision in standard off-the-shelf applications.

Information sharing has been severely hampered by the Cobell lawsuit.⁹² Previously BLM had implemented the Automated Fluid Minerals Support System (AFMSS) for all Federal and Indian lease operations.⁹³ MMS had full access to this system. Federal lease information contained in LR2000 (BLM's case recordation system) was available to MMS. BLM had also implemented the Well Information System (WIS), a web-based system that allowed operators on Federal and Indian leases to electronically submit applications, reports, and notices. WIS screened for errors before the submittal was reviewed and accepted by BLM. It automatically populated AFMSS, reducing the data entry workload for BLM and reducing the risk of data entry errors. Oil and Gas Operations Reports (OGORs) submitted by operators to MMS were automatically loaded into AFMSS for production accountability reviews by BLM. Inspectors working under Tribal agreements⁹⁴ were able to access the appropriate records in AFMSS, supporting their inspection work. The Cobell lawsuit resulted in several shutdowns of information technology systems across the Department for data security reasons. Currently, BIA is still isolated from the Internet, preventing access to Indian lease information by MMS and BLM. After the last shutdown AFMSS and WIS were split into Indian and Federal versions. Federal AFMSS was restarted earlier this year and MMS just recently obtained access. Federal WIS was restarted in August. Indian AFMSS and Indian WIS remain unavailable.⁹⁵

Coordination and information-sharing among MMS, BLM, and BIA should be improved and integrated, both internally and externally. The focus of these changes should be on clarifying the roles and responsibilities of each bureau. Strengthening coordination among MMS, BLM, and the BIA is critical to royalty management. Expected results of addressing this issue include higher productivity and fewer problems from missing or incorrect data.

One issue found by the Subcommittee is that even in cases where well defined roles, procedures, and data standards exist, there is no common set of information available to all of the entities involved. Improvements in information sharing are necessary to ensure that:

⁹² Cobell v. Kempthorne (originally Cobell v. Babbitt) is a class action lawsuit asserting that DOI has not met its Trust responsibility to ensure that Indian allottees receive correct revenues for mineral development on their allotments. The court for this case expanded the suit with the claim that DOI's automated system security is inadequate to ensure protection of Indian Trust data.

⁹³ Prior to implementation of AFMSS BLM and MMS were each spending more than \$2 million each every year to clean up data passed back and forth.

⁹⁴ Indian Tribes can establish cooperative agreements or contracts for inspection of operations under Tribal jurisdiction. The Federal Oil and Gas Royalty Simplification and Fairness Act of 1996 (Pub. L. 104-185) authorized a number of changes to the process for establishing cooperative agreements on non-Federal lands. Guidelines for cooperative agreements are provided in 43 CFR 3192 (Cooperative Agreements). Title I of the Indian Self-Determination and Education Assistance Act (Public Law 93-638) authorized the establishment of self-governance contracts. Guidance for self-governance contracts is found in 25 CFR 900 (Contracts under the Indian Self-Determination and Education Assistance Act) and 25 CFR 1001 (Self-Governance Program).

⁹⁵ The Department of the Interior is in the process of reconnecting the BIA and the DOI offices currently isolated from the Internet. BLM is in the process of restarting Indian AFMSS and WIS.

- All relevant data is shared;
- Data quality is improved, by avoiding errors requiring time, effort, and funds to correct;
- Business processes related to royalty management are completed in a timely manner, given that MMS and BLM have time limits driven by data from other agencies, or from industry; and
- Common data standards are adopted.

Recommendations

The Subcommittee recommends a number of actions to be accomplished in FY 2008:

Recommendation 5-2 MMS and BLM should secure appropriate access to the Indian lease system. This is necessary to prevent delays in approving lease activity, and to ensure MMS has the correct information for managing revenue from Indian leases.

Recommendation 5-3 DOI should work to reconnect the systems containing Indian data after appropriate security measures are in place. The Indian Automated Fluid Mineral Support System (IAFMSS) and the Indian Well Information System (IWIS) should be restarted; appropriate access to IAFMSS for MMS and Indian contract inspectors should be provided. In addition, once appropriate security measures are in place, MMS should provide BLM users with the ability to query these systems by any parameter (e.g., lease number).

These systems are essential for BLM to efficiently meet its Trust responsibilities.

Recommendation 5-4 MMS should revise the database management software password requirements to make passwords good for 90 days rather than 60, and to remind users to change passwords before the 90 days expire.⁹⁶

Recommendation 5-5 Until more integrated processes can be developed, BLM should issue guidance to field personnel, to address known coordination problems. One example is the errors introduced when BLM manually sends MRM “first production” notices.

Recommendation 5-6 BLM should report to MMS on a quarterly basis for each mine, Indian and Federal, whether production has or has not been verified for that quarter.

Recommendation 5-7 DOI should establish standards for geospatial data regarding Indian leases that facilitate management of Indian resources while still meeting DOI’s Trust responsibilities.

⁹⁶ The database software is “BRIO.” This software is used for analytical processing and reporting for all the major database management systems both for ad hoc and canned reports.

Recommendation 5-8 DOI should seek a review of the decision classifying boundary information for Indian allotments, leases, and agreements as Trust information. Any solution should satisfy Trust responsibilities and allow the DOI bureaus to carry out their management responsibilities efficiently.

Recommendation 5-9 By June 2008, the Department should establish a Coordinating Committee with representatives from the senior management level in MMS, BLM, and BIA. Bureau representatives should have the authority to ensure decisions and recommendations are implemented in their respective bureaus.

The committee should be chaired by a Deputy Assistant Secretary for Land and Minerals. Subgroups, composed primarily of field representatives, would be charged with addressing the following issues:

- Clarification of roles and responsibilities;
- Defining and coordinating common processes;
- Defining common data standards;
- Developing solutions for technical issues of coordination and information sharing;
- Developing consistent guidance and training as necessary; and
- Propose changes in regulations or statute as necessary.

The Coordinating Committee should establish a baseline for future work by conducting an integrated architecture analysis of the business of managing the Federal and Indian minerals resources and the revenue derived from those resources.

The integrated architecture project should follow DOI's established Enterprise Architecture (EA) blueprint process. Proposed information technology (IT) investments should follow the DOI's capital planning and investment control (CPIC) process. This effort should build on past efforts and address the full life cycle starting with the assessment and creation of potential lease parcels. This will ensure that the correct land status information is captured up front, including leasing, exploration, development, operations, production, reclamation, and lease termination information. Special focus should be placed on royalty management and compliance and any other areas requiring coordination and information sharing among MMS, BLM, and BIA. All three bureaus (including MMS's MRM and OMM divisions) should participate in all phases to ensure full sharing of knowledge, lessons learned, and best practices.

Specific tasks to be undertaken should include the following:

- Identify applicable business processes and best practices.
- Update guidance and training.

- Develop common data standards across the bureaus. This should include standards for data that are used outside of minerals management.⁹⁷ In addition, efforts should be made to establish authoritative data sources and to concentrate on data sharing. Many of these changes may require software application changes.
- Review currently used software applications based on business process and data management improvements. Seek to use shared systems, as appropriate, and implement improvements during application maintenance where possible.

Recommendation 5-10 To support the Departmental Coordinating Committee described in Recommendation 5-9, each Bureau should establish procedures for strengthening intra-Bureau coordination.

⁹⁷ Data used outside of minerals management is information that is not directly related to minerals development, production, or revenue, such as archeological survey information required on permit applications.

Chapter 6

The Royalty in Kind Program

Chapter 6 The Royalty in Kind Program

Summary of Major Recommendations in Chapter 6

(A complete list of all recommendations is provided in Appendix 1)

Governance (Short-Term)

- MMS should establish an RIK Subcommittee to the Royalty Policy Committee (RPC). Issues that should be addressed include performance benchmarks, volume verification and market positioning. (see Recommendation 6-1 on page 108)
- MMS should issue new or revised regulations and/or guidelines that would offer MMS, the public, and potential RIK purchasers or providers of transportation/processing services additional certainty concerning program administration. Additional certainty for these parties may assist in providing greater transparency for MMS business practices. (see Recommendation 6-3 on page 108)
- By the end of FY 2008, MMS should clarify the extent to which Federal Acquisition Regulations (FAR) apply. If the FAR is found to apply, MMS should place a high priority on identifying contracting arrangements least likely to impair the program. (see Recommendation 6-7 on page 114)
- MMS should amend the Memorandum of Understanding with the Department of Energy to include reimbursement for administrative and contract costs incurred in transferring RIK oil to the Strategic Petroleum Reserve. Additional reimbursement should not result in a reduction in MMS's base budget. (see Recommendation 6-14 on page 122)

Governance (Medium-Term)

- MMS should explore the feasibility of establishing a "trust fund" within Treasury, the interest from which could be used to fund DOI activities, particularly those related to royalty management. Priority for funding should be given to activities required for addressing the Subcommittee's recommendations related to production accountability, audit, collections and enforcement (as noted above, RIK administrative costs are already funded by a share of RIK revenues). Legislation would be required to establish this fund. If this option is pursued, it is essential that these funds should be available without subsequent appropriation. It is important to "hold harmless" the base budgets for fund-supported activities to ensure net increases in support for them; otherwise there will be no net increase in program support. (see Recommendation 6-6 on page 108)
- MMS should conduct a cost-benefit analysis of various governance arrangements for the RIK program to determine the organizational structure that will best and most cost effectively align incentives with programmatic goals and provide the institutional flexibility necessary to function in a commercial environment. Alternatives should include but not be limited to: the status quo; contracting out marketing functions; an FFRDC model or some variation thereof; and the status quo with some legislative exemptions from the FAR and personnel

regulations. Any such arrangement should maintain institutional oversight by the Department of the Interior and MMS, and also provide the additional oversight mechanism suggested in Recommendation 6-10 (see Recommendation 6-9 on page 114)

- If an alternative governance structure is established for the RIK program, an independent oversight board should be established. This board should include experts in marketing and management, and representatives of the public interest. The board should periodically evaluate the RIK program, to assess balance sheets and other “business-like” performance measures. The board should have the ability to recommend program expansion or contraction (onshore or offshore and by commodity) based on market trends and other concerns, and to address specific concerns such as the small refiner program. Furthermore, the Secretary could respond to the Board’s recommendations with on-the-record findings. (see Recommendation 6-10 on page 115)
- MMS should explicitly recognize (e.g., in a charter or mission statement) that the RIK program is a commercial activity, and should treat the program accordingly. Consistent with this, MMS should seek to operate the program as close to how a private business would operate as possible, including establishing a sole objective to maximize net revenue within risk parameters established by program executives. A business model should apply to all aspects of the RIK program, including identifying potential properties where royalties might be taken in kind, pre-sale bidder qualification procedures, the sales themselves, and performance measurement. (see Recommendation 6-8 on page 114)
- MMS should undertake a concerted effort to provide outreach to States, Industry, and the public to assist in communicating RIK’s inner workings (e.g., seminar courses, workshops). This will clarify MMS’s role in administering royalties, and facilitate understanding and confidence for clients and partners of MMS. (see Recommendation 6-5 on page 108)
- MMS should discontinue its onshore RIK crude oil program until it can be determined to be in the best financial interest of the government. While MMS has realized sizable revenue gains relative to RIK on crude oil sales in the past, there has been no systematic evaluation of onshore crude oil costs. Any decision to restart the onshore program should consider administrative cost implications. This will ensure that the government is collecting onshore royalties in the most beneficial manner. (see Recommendation 6-11 on page 121)
- The Subcommittee finds no strong justification for the small refiners’ set-aside, and recommends discontinuing the program as soon as possible. The program should not be resumed until the Secretary makes a new determination of need. (see Recommendation 6-13 on page 122)

Human Resource Issues

- MMS should immediately take steps to ensure that the RIK program has sufficient personnel depth to maintain an expanding trading operation and to ensure that RIK personnel have a solid understanding of existing ethics guidelines. MMS should develop and implement a Personnel Plan by June 2008 to strengthen those areas requiring additional personnel with industry expertise. (see Recommendation 6-16 on page 125)
- MMS should streamline the process for announcing and filling vacancies. Priority should be given to filling the asset manager vacancies for oil and gas. (see Recommendation 6-18 on page 125)
- MMS should secure dedicated legal support for the RIK program, ideally stationed within the program in Denver, Colorado, or otherwise in the Regional or Washington, DC Office of the Solicitor. Securing dedicated legal support should improve the ability of RIK personnel to interact with their industry counterparts and with industry lawyers. (see Recommendation 6-19 on page 125)

Performance Measurement

- MMS should recognize, and annually report on, the opportunity costs associated with transfers of oil to the SPR using the performance measures established for the RIK program. (see Recommendation 6-15 on page 122)
- MMS should carry the range-of-values methodology associated with benchmarks through to the reporting of performance measures based on those benchmarks. (see Recommendation 6-23 on page 128)
- MMS should develop a presentation of the benchmarking process that makes it easier for outsiders to quickly understand the basics of how the benchmarks are assembled and applied. (see Recommendation 6-22 on page 128)
- MMS should evaluate whether performance measures could be enhanced following standard business practices (e.g., balance sheet, cash flow statement, financial ratios). (see Recommendation 6-27 on page 128)
- MMS should publish a program cost comparison, comparing the RIK program to other public- and private-sector efforts toward marketing in-kind royalties (e.g., the Province of Alberta, Texas General Land Office, industry). (see Recommendation 6-28 on page 128)
- MMS should implement a systematic and detailed procedure for handling bid documents (including both bids and notices of acceptance) to ensure security and integrity. In particular, the procedures should address “refreshing.” In that regard, the procedures and associated documents used to announce sales and associated procedures should explicitly lay out the procedures for determining when and if additional bidding rounds will be held. (see Recommendation 6-30 on page 131)

Chapter 6 The Royalty in Kind Program

I. Subcommittee Charge

The Secretary's charge to the Subcommittee, as relates to the Royalty in Kind program, was to review:

“the operations of the Royalty in Kind program to ensure that adequate policies, procedures and controls are in place to ensure that decisions to take Federal oil and gas royalties in kind result in net benefits to the American people.”

II. Introduction

This chapter will briefly review the history of the RIK program and identify a number of issues that are important to the future of the program. This chapter is not intended as a comprehensive review of the RIK program.

III. Background

This section provides background information on the history and origins of the Royalty in Kind (RIK) program.

Federal statutes and oil and gas lease terms provide the Secretary of the Interior with two options for managing oil and gas royalties. Payments may be received either as cash payments, which are referred to as royalty in value (RIV) or as produced commodities, which are referred to as royalty in kind (RIK). The Minerals Revenue Management organization within MMS manages the use of both RIV and RIK.

Historically, virtually all oil and gas royalties have been managed as RIV payments. However, in recent years MMS has developed and significantly expanded the RIK program in which title to the royalty commodity is taken at or near the producing lease.

Producing properties are “converted” from RIV to RIK only if the expected net RIK revenues are higher than expected RIV revenues. MMS has procedures to return properties to RIV status if RIK revenues appear to be less than what would be received under RIV.⁹⁸ Prior to converting a property, MMS undertakes a systematic economic analysis of the expected benefits of shifting the property to RIK. Relevant considerations include:

- Pipeline transportation rates;
- Processing value of the gas;
- Market areas available from production point;
- Price forecasts; and
- Potential administrative cost savings.

An RIK program for eligible small refiners has existed since the 1970s. This program was authorized pursuant to provisions of the Mineral Leasing Act (MLA) and the Outer Continental Shelf Lands Act (OCSLA). In the mid-1990s, MMS began exploring the potential for a broader RIK program and subsequently conducted a number of feasibility studies and pilot projects.⁹⁹ Upon completion of the pilot projects, MMS undertook additional internal planning, including the development of management information systems to support RIK functions and in 2004 adopted its *Five Year Royalty in Kind Business Plan* (Plan). The Plan outlined business principles, goals, objectives, and strategies for 2004-2009 period.¹⁰⁰

One issue that impacts RIK sales is MMS’s role in providing crude oil for the Strategic Petroleum Reserve (SPR), managed by the Department of Energy (DOE). Crude oil exchanges with DOE are authorized under the Outer Continental Shelf Lands Act and the Energy Policy and Conservation Act (1975). More detail on this activity is provided in Section IV C, starting on page 120.

MMS has adopted a business model for the RIK program, which assumes the agency will be an active participant in the market. Prior to the adoption of the business model, RIK program objectives and activities were handled on a much more informal and ad hoc basis.

RIK volumes are sold at entry points into the wholesale market at or near the lease in producing areas. Sales are on a competitive basis, and spot market prices typically form the benchmark to judge performance. MMS’s conservative approach avoids riskier activities such as using speculative storage positions, fixed prices, hedging, or financial derivatives. Typically, sales cover periods of 6 months or less.

⁹⁸ To date, MMS has reverted at least one gas sales portfolio. See page 12, Minerals Management Service, *Royalty in Kind Fiscal Year 2005 Report* for a discussion of the “MOPS” portfolio.

⁹⁹ *Wyoming Crude Oil RIK Pilot; Texas 8(g) Natural Gas RIK Pilot; Federal Gulf of Mexico Natural Gas RIK Pilot*. Additional information on these pilot projects can be found on the MMS web site: <http://www.mms.gov/>. The pilot projects culminated in 2001 with MMS’s *RIK Road Map to the Future*. This document identified the strategic direction and presented actions to develop the capabilities needed to transition from pilot projects to an operational program.

¹⁰⁰ For additional details see *Five Year Royalty In Kind Business Plan*, Minerals Management Service, May 2004.

In the future, MMS seeks to position itself closer to downstream markets, rather than solely selling RIK production at the lease. This market positioning involves the use of pooling arrangements and longer-term transportation contracts, which also entail MMS accepting a certain level of risk. MMS's August 2005 Royalty in Kind Risk Management Policy identifies the principles and policies that drive risk management decisions of the RIK program.¹⁰¹ Additional details on MMS's RIK risk policies can be found in Appendix 2.

A. Advantages Associated with Royalty in Kind Compared to Royalty in Value

The Subcommittee has identified a number of advantages to the Federal government of taking royalties in kind:

- Best Practices. RIK allows MMS to address some of the concerns regarding valuation and transportation costs addressed by the Office of the Inspector General (2006, 2007), and avoid facing similar criticism in the future. As discussed below, verification that the Federal government has received appropriate royalties is much less difficult under RIK compared to RIV. This is an important advantage of the program.
- Fewer Valuation Disputes. RIK avoids disputes over the value of the resources for which royalties are due. Under RIV, determining the appropriate royalty payment can be contentious because MMS and payors may disagree on how the elements of the royalty formula are valued (e.g., identifying the appropriate set of prices to value the resource itself and the value of any "deductions" for transportation or processing).¹⁰² Valuation has been a contentious issue in the past and resolving valuation disputes can be extremely time-consuming. Accordingly, many of the issues pertinent to RIV, including those documented in recent assessments by the Office of the Inspector General of MMS's audit and compliance review efforts, do not pertain to the RIK program.
- Lower Program Costs. RIK allows royalty obligations to be satisfied with less cost and in less time (for MMS and industry) by avoiding certain problematic areas. In particular, royalty enforcement is simpler under RIK, as it depends largely upon volume verification and avoids issues associated with valuation (e.g., deductions, non-arm's length transactions, etc.). RIK administrative costs are discussed in more detail below.
- Additional Revenue. Once royalty obligations have been satisfied and the royalty oil or gas is in the government's control, the RIK program allows the government

¹⁰¹ For additional details see Minerals Management Service, *Royalty in Kind Risk Management Policy*, August, 2005.

¹⁰² The royalty formula is as follows:

$$\text{Royalty Revenues} = (\text{Royalty Rate}) \times [(\text{Volume of Crude Oil Sold}) \times (\text{Sales Price}) - (\text{deductions})].$$

An example of how contentious issues associated with valuation can be is given by the recent Inspector General Report of Investigation, "Minerals Management Service False Claims Allegations," September 7, 2007. A significant element of this Investigation concerned the value of natural gas transportation deductions.

opportunities to enjoy higher revenues than had the royalty been taken in value. There are several explanations for these increased net revenues.

- **Large Volumes**
MMS may be able to take advantage of its market position to increase revenues. This is especially relevant for natural gas produced in the Gulf of Mexico, where MMS's has the ability to aggregate volumes. This ability allows MMS to negotiate advantageous natural gas processing and transportation contracts. Current excess transportation and processing capacity in the Gulf of Mexico provide further opportunities to negotiate favorable gas transportation and processing contracts.
- **Time Value of Money**
RIK revenues are typically received five to ten days earlier than RIV payments, allowing more interest to accrue relative to what would have been the case with RIV.

As this chapter notes, RIK is not always the most appropriate option. Nonetheless, the advantages of including an RIK approach among MMS's asset management options are clear, and MMS's process for evaluating the feasibility of RIK versus RIV appears to be rigorous and effective. Nevertheless, in order to ensure the program's successful operation, a number of challenges must be addressed, including

- Operating what essentially is a business within the public sector;
- Gathering market data and having the ability to act in a timely, unencumbered manner on this information;
- Obtaining and retaining expertise in oil and gas trading; and
- Establishing, maintaining and evolving clear organizational objectives.

B. Statistics and Program Administration

This section presents relevant statistics for the RIK program and discusses several issues associated with administering the program. This material highlights the most important descriptive statistics and does not represent a comprehensive set of descriptive information on the RIK program.

1. RIK Volumes and Revenues

As of FY 2006, MMS took in kind approximately 72% of the crude oil royalty volumes and 45% of the natural gas royalty volumes produced in the Gulf of Mexico (GOM). During 2006, in a joint pilot project with the State of Wyoming, MMS began taking natural gas in kind for Federal gas production in Wyoming at the rate of 30,000 mmBTU per day. Table 14 shows the total amounts of royalty oil and gas volumes (volumes sold at auction or exchanged for the SPR) from 2004 to 2006, reported as barrel-of-oil equivalents (BOE).¹⁰³ Table 15 shows oil and gas revenues from RIK

¹⁰³ A barrel of oil equivalent (BOE) is equivalent to the energy from burning one barrel of crude oil. The US Internal Revenue Service defines it as equal to 5.8×10^6 BTU or about 1.70 MWh.

auction sales over the 2004–2006 period. Note that no revenue is received for RIK volumes sent to the SPR. In FY 2006, RIK revenue totaled about \$4 billion.

Table 14 RIK Volumes FY 2004-2006

	FY 2004	FY 2005	FY 2006
Oil (million bbl)	17.2	26.1	44.2
Gas (million mmbTU)	170.7	184.0	180.2
Gas (million BOE)	29.4	31.7	31.1
Total RIK Sales (million BOE)	46.6	57.8	75.3
SPR (million bbl)	38.8	25.6	0.0
Total RIK Volumes (million BOE)	85.4	83.4	75.3

bbl = barrels

BOE = barrel-of-oil equivalent

mmbTU = millions of British Thermal Units

Source: MMS data.

Total RIK sales (i.e., non-SPR volumes) have increased from 2004 to 2006. When the SPR volumes are included, total RIK volumes are seen to have fallen slightly over this period. In spite of this fall, revenues have increased, reflecting the increase in non-SPR sales (MMS receives no revenues for SPR sales), and increasing oil and gas prices.¹⁰⁴ As shown in Table 14, the total volume of oil and gas handled by the RIK program fell from 85 million BOE in 2004 to 75 million BOE in 2006. Over this same period, SPR volumes fell from 38.8 million BOE to zero, and RIK revenue increased from \$1.5 billion to \$4.1 billion.

Table 15 presents detailed information on RIK and RIV revenues from 2004 to 2006. As shown in the table, RIK's share of total revenue (RIK plus RIV) has increased, from 23.8% in 2004 to 42.0% in 2006. It is anticipated that RIK revenue as a percentage of total royalty revenue will increase further, given MMS's expectations about future RIK volumes.

¹⁰⁴ Crude oil prices rose from \$41.51 per barrel in 2004 to \$66.05 per barrel in 2006. Natural gas prices rose from \$5.46/mmbTU in 2004 to \$6.42/mmbTU in 2006. For information on the trend in oil and gas prices over 1990-2006 see Appendix 2.

Table 15 RIK Oil and Gas Revenues (from RIK Auctions), FY 2004-2006 (\$ millions)

	FY 2004	FY 2005	FY 2006
RIK (Gas)	\$924	\$1,266	\$1,423
RIK (Oil)	\$579	\$1,263	\$2,665
RIK Revenue (Total)	\$1,503	\$2,529	\$4,088
RIV (Gas)	\$3,846	\$3,885	\$4,343
RIV (Oil)	\$960	\$1,331	\$1,312
RIV Revenue (Total)	\$4,806	\$5,217	\$5,656
RIK % of RIV Revenue	31.3%	48.5%	72.3%
RIK % of Total Royalty Revenue	23.8%	32.6%	42.0%

Source: RIK data: Reports to Congress: Minerals Management Service Royalty in Kind Operation for Fiscal Year 2004, 2005, 2006;

RIV data: MRM website <http://www.mrm.mms.gov/MRMWebStats/Home.aspx>.

Volumes of royalty gas and oil are expected to increase significantly in coming years. Figure 3 shows natural gas volume projections to 2010, as well as the actual 2004-2006 volumes. Figure 4 shows the same information for RIK crude oil.

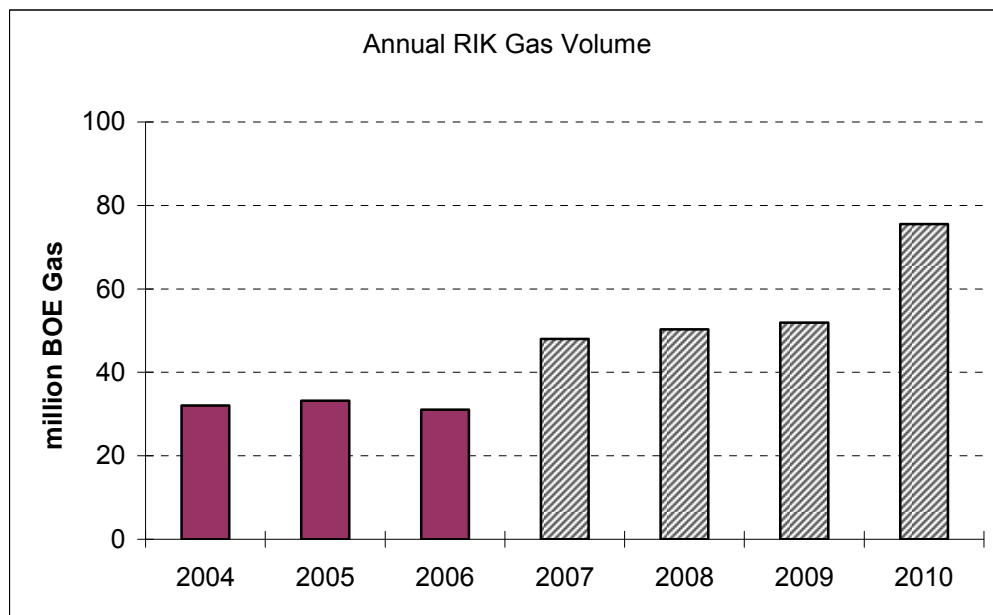


Figure 3 Annual RIK Natural Gas Volumes, 2004-2010

Source: MMS data.

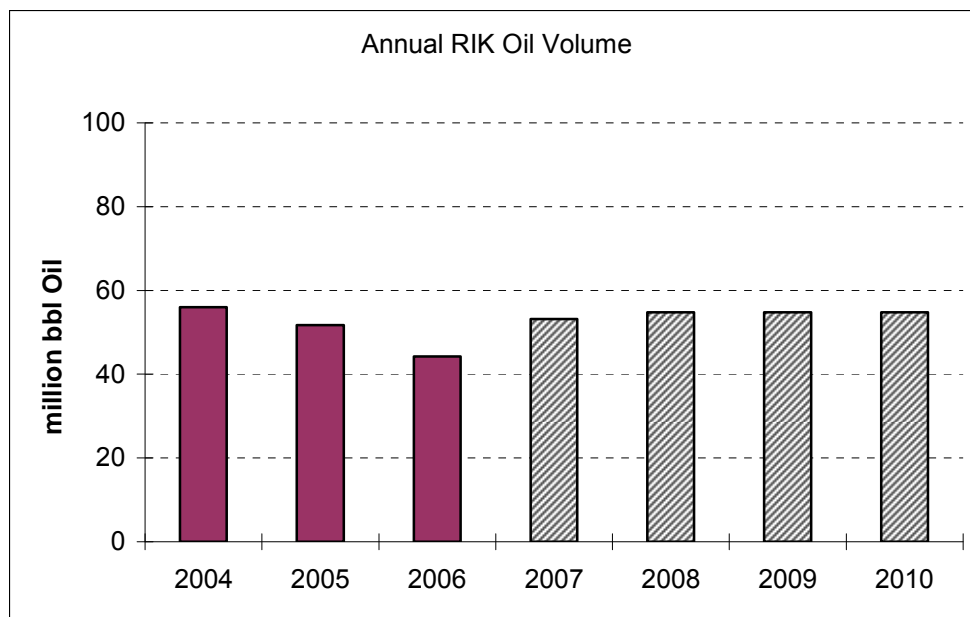


Figure 4 Annual RIK Oil Volumes, 2004-2010

Source: MMS data.

These figures illustrate expected future RIK volumes; separating the volumes into oil and gas facilitates comparing these two different aspects of the RIK program. In particular, oil volumes are expected to remain relatively constant at about 54.8 million barrels, while gas volumes are expected to increase significantly by 2010, from about 48.0 million BOE in 2007 to 75.5 million BOE in 2010.

To put these volumes in perspective, during 2005 the US produced about 1.89 billion barrels of crude oil.¹⁰⁵ The 51.7 million barrels of FY 2005 RIK crude oil (including oil transferred to the Strategic Petroleum Reserve) represent about 2.7% of the total US crude oil production.¹⁰⁶

2. RIK Administrative Costs

P.L. 108-447 (the Consolidated Appropriations Act, 2005) authorized MMS to:

“... use a portion of the revenues from Royalty in Kind sales, without regard to fiscal year limitation, to pay for transportation to wholesale market centers or upstream pooling points, to process or otherwise dispose of royalty production taken in kind, and to recover MMS transportation costs, salaries, and other administrative costs directly related to the Royalty in Kind program.”

Table 16 compares RIK and RIV administrative costs for offshore oil and gas. The annual cost of administering the RIK program was about \$10 million in FY 2004 and

¹⁰⁵ EIA Petroleum Navigator, U.S. Crude Oil Field Production, <http://tonto.eia.DOE.gov/dnav/pet/hist/mcrfpus1A.htm>.

¹⁰⁶ 51.7 million bbl RIK crude oil/1.89 billion US total = approximately 2.7%.

FY 2005, increasing to about \$14 million in FY 2006. Comparing RIK and RIV administrative costs on an equivalent dollar per BOE basis (adjusting for fixed costs and overhead costs), in FY 2006, RIK costs were \$0.076 per BOE compared to RIV administrative costs of \$0.108 per BOE.¹⁰⁷ In general, dollar-per-BOE RIK administrative costs are lower than dollar-per-BOE RIV administrative costs because value and transportation costs do not need to be audited.

Table 16 *Administrative Costs for RIK and RIV: \$ per Barrel of Oil Equivalent (BOE)*

	FY 2004	FY 2005	FY 2006
RIK total administrative cost (\$ millions) ¹	\$9.7	\$10.2	\$14.4
RIK cost per BOE (\$/BOE) ²	\$0.057	\$0.059	\$0.076
RIV administrative costs (\$/BOE) ²	\$0.075	\$0.102	\$0.108

¹ RIK total administrative costs include direct RIK costs, overhead, and SPR related costs.

² In order to compare RIK and RIV costs on an equivalent BOE basis, MMS excluded the following cost categories from the unit cost administrative cost calculations: IT costs, RIK onshore direct costs, and overhead costs.

Source: MMS data.

The information presented in Table 16 indicates that for FY 2006, the administrative costs for the RIK program were \$0.032 per BOE less than the administrative costs associated with the RIV program.¹⁰⁸ This small differential, when applied to the millions of BOE sold via RIK, translates into significant savings for the RIK program. For example, in FY 2006 MMS sold about 75.3 million BOE via the RIK program. The administrative cost savings associated with these sales is estimated to be about \$2.41 million based on the per-BOE savings identified by MMS.¹⁰⁹ MMS's *Budget Requirements and Comparative Costs* report¹¹⁰ indicates that efficiency gains should lead to a further 10% reduction in RIK administrative costs by the end of FY 2009.

3. Comparison between Crude Oil and Natural Gas Sales

Natural gas production in the Gulf of Mexico (GOM) has been declining over the past decade. As shown in Figure 5 below, Federal offshore GOM natural gas production in 2006 fell to 2.8 billion mcf, representing only 55% of 1997 levels. Data on natural

¹⁰⁷ See pages 8-9, *Royalty in Kind Operations for Fiscal Year 2006*, Minerals Management Service.

¹⁰⁸ In order to compare RIK and RIV costs on an equivalent basis, MMS excluded the following cost categories from the administrative cost calculation: IT costs, RIK onshore costs, and overhead costs.

¹⁰⁹ These unit cost savings estimates are derived from the costs associated with the offshore MMS RIK program, and exclude overhead costs as well as other fixed costs.

¹¹⁰ RIK/RIV Administrative Cost Team, *Budget Requirements and Comparative Costs*. U.S. Department of the Interior, MMS, MRM. (Undated)

gas pipeline flows and capacities from the Energy Information Administration (EIA) indicate that there may be excess pipeline capacity in the Gulf of Mexico.¹¹¹

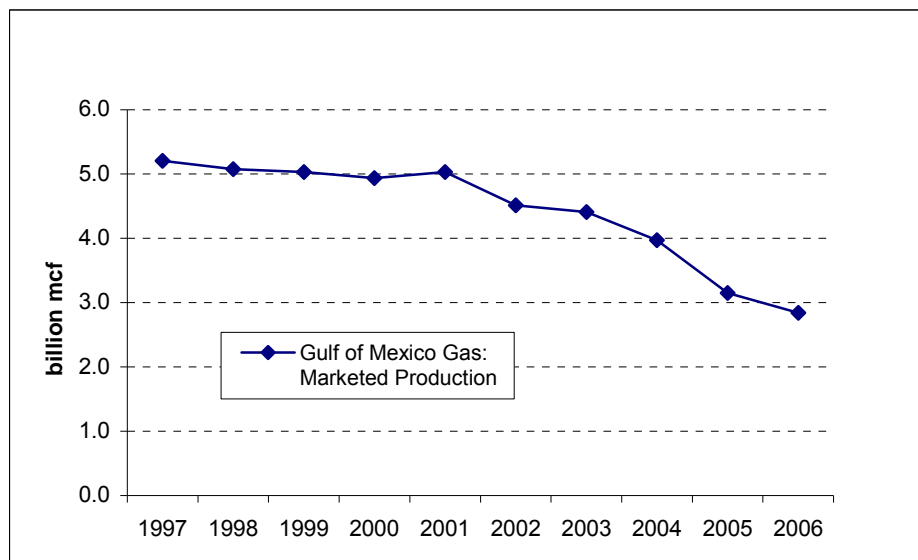


Figure 5 Federal Offshore Gulf of Mexico Natural Gas Marketed Production, 1997-2006

Source: EIA Natural Gas Monthly, September 2007.

Excess natural gas pipeline and processing plant capacities in the Gulf of Mexico place MMS in a strong position to negotiate favorable transportation and processing tariffs. MMS is able to use accumulated market knowledge and experience to seek out favorable gas transportation routes and markets. Oil markets offer relatively fewer opportunities to negotiate favorable marketing/transport arrangements.

Table 17 below illustrates the RIK sale process and some important differences between oil and natural gas sales. This material is presented because differences in oil and gas marketing are an important factor in determining returns to the RIK program.

¹¹¹ EIA data indicate that at the end of 2006 the capacity for pipelines identified as carrying natural gas out of the Gulf of Mexico was 31,847 mmcf/day, while the average daily flow was 7,983 mmcf/day. This average daily flow represents 25.1% of the end-of-year capacity.

Table 17 Comparison of RIK Sales for Crude Oil and Natural Gas

Process Step	Crude Oil	Natural Gas
Sales per Year	7 sales (combination of unrestricted, small refiner, SPR)	5 sales (combination of GOM, Wyoming, BLM Helium Reserve ¹¹²)
Minimum Acceptable Bid	Based on NYMEX (with Roll) less allowable deductions (approach similar to existing valuation regulations)	More general series of benchmarks, not solely index-based
Infrastructure Issues	Few options; fixed tariffs for transport/quality bank	Relatively more options. Also extra pipeline/processing capacity allows MMS to negotiate favorable prices
Sale dates	Sale typically held 60 days ahead of 1 st day of production month	Sale typically held 15-20 business days ahead of 1 st day of production month
Sale point	Usually sold at the facility measuring point, but may be sold at market center	Sold by pipeline; production bundled for favorable transport/processing rates
Number of Offerors per Sale	Approximately 10 bidders (including financial houses and resellers)	20+ bidders; 100+ offers
Award Process	Sold via auction to highest bidder. Bids refreshed in case of a tie; award 3 days after accepting bid; transaction confirmation 2 days after award	Sold via auction to highest bidder. Time-sensitive (NYMEX-based) bids refreshed; award 3 days after accepting bid; transaction confirmation 2 days after award
Post Sale	Press release/web site lists winners but not winning bid amounts	Press release/web site lists winners but not winning bid amount
Performance Measurement	By property-specific level as awarded	By pipeline as sold; 3 rd party transport/processing estimates scored against contracts

Source: MMS and Subcommittee staff

4. Competition for RIK Volumes

This section presents information on the extent to which RIK sales have been competitive. The extent to which RIK sales are competitive is an important determinant of MMS's ability to maximize the revenue it receives and to provide assurance that it is receiving at least as much as would have been received had royalties been received in value.

¹¹² This gas is a byproduct of processing helium-bearing natural gas at the BLM's crude helium enrichment unit (CHEU) at the Cliffside Gas Field, in Amarillo, Texas. The CHEU has capacity to produce 24,000 mcf of gas per day, equivalent to 0.01% of MMS's onshore gas operations. The RIK program oversees the marketing and sale of this gas under a cost-recovery MOU with BLM. All revenues of the sale are returned to BLM to partially fund the operation of the CHEU. Enriched helium has a variety of uses including being used as a coolant in nuclear reactors. Helium is also used to pressurize liquid propellants used by the space shuttle and in the semiconductor/computer chip manufacturing process. Liquid helium is used to cool magnets used in MRI (Magnetic Resonance Imaging) equipment.

RIK natural gas and oil is sold in competitive markets and at competitive prices using an auction to the highest bidder approach. Table 18 provides summary information on the number of companies bidding, number of gas “packages” offered for sale,¹¹³ gas volumes, and the total number of bids for natural gas sales. Gulf of Mexico RIK gas sales have attracted from 10 to 20 companies for each sale. The average number of bids per package has ranged from 8 to 12. Onshore gas sales have attracted somewhat lower numbers of bidding companies (with the exception of the January 2007 sale), but the average number of bids per package is comparable to the offshore sales.

Table 18 RIK Gas Sale Statistics, 2005-2007

Sale Date	Bidders	Packages	Gas Volume (mmBTU/day)	Total Bids	Average Bids per Package
Gulf of Mexico					
April 2005	19	16	485,400	126	7.9
November 2005	10	7	195,575	42	6.0
April 2006	21	14	509,800	127	9.1
November 2006	15	13	340,150	155	11.9
April 2007	20	13	398,000	152	11.7
Onshore					
April 2006	8	2	30,000	23	11.5
January 2007	14	2	120,000	44	22.0
April 2007	6	2	29,000	17	8.5

Source: MMS data.

Statistics on the number of bidders, number of “packages” of crude oil and the average number of bids per package are shown below in Table 19. The number of bids per “facility measuring point” (FMP) ranges from 3 to 6.

¹¹³ A “package” of gas or oil represents a defined volume of gas or oil offered for sale from a particular set of Federal leases.

Table 19 RIK Oil Sale Statistics, 2005-2007

Sale Date	Bidders	Facility Measuring Points	Volume (bbl)	Bids	Average Bids per FMP
SPR Contracts					
Apr 2005	4	111	86,980	239	2.2
Jul 2007	5	37	47,100	87	2.4
Small Refiner Program Sale					
Apr 2005	5	70	57,700	237	3.4
Oct 2005	5	48	57,010	111	2.3
Oct 2006	3	48	44,585	150	3.1
Oct 2007	2	31	36,310	67	2.2
Unrestricted Sales					
Apr 2005	5	20	15,875	65	3.3
Aug 2005	5	2	10,500	9	4.5
Oct 2005	7	86	98,585	259	3.0
Dec 2005	4	2	10,850	7	3.5
*Apr 2006	8	39	51,135	221	5.7
**Apr 2006	6	34	46,965	87	2.6
Jul 2005	9	31	45,660	115	3.7
Oct 2006	9	26	47,005	82	3.2
Jan 2007	13	35	53,615	131	3.7
Apr 2007	11	27	41,750	106	3.9
Jul 2007	6	23	13,800	66	2.9
Oct 2007	5	6	8,510	36	6.0

* 3-month contract; ** 6-month contract

Source: MMS data.

Oil sales feature fewer bids per package than natural gas sales. However, this does not necessarily imply that oil sales are less competitive than natural gas sales. Industry structure accounts for some of differences in the number of bidders for RIK oil as compared to gas. For example, the oil industry is more vertically integrated than the natural gas industry; hence, fewer entities participate in the market for oil. The oil industry is also relatively more capital intensive. Given commodity prices, it requires a significant amount of capital to bid on RIK oil and to subsequently transport the oil to refineries and market centers.¹¹⁴ The number of bidders, the total number of bids received, and the average number of bids per package strongly suggests that sales are occurring in a competitive manner.

¹¹⁴ As an example of the capital required to participate in an RIK oil sale, consider that petroleum pipelines often have a "line-fill" requirement, commonly set at 25% of shipped volumes. This is equivalent to an in-kind deposit to secure capacity on a pipeline. A company wishing to ship 20,000 bbl/day over a 30 day lease-period would be required to make a "deposit" of 150,000 bbl with the pipeline. At \$70/bbl, this is equivalent to tying up \$10.5 million for those 30 days. Larger companies tend to leave deposits in place on several pipelines, so as to always have shipping capacity available to them. In addition to a sizable financial imposition, there is also a price risk associated with these deposits: if the price of oil declines after the deposit has been made, the value of the oil returned will be less than the value of the deposit.

Another way to evaluate the extent to which MMS receives market value for its resources is to compare the prices MMS receives for RIK volumes to a market index benchmark price. The market index commonly used as a benchmark for gas is the Henry Hub price.¹¹⁵ Comparisons to this index would have to account for natural gas processing costs and allowable transportation deductions. Private sellers of natural gas would face similar costs and deductions.

Because of the large number of grades of crude oils, buyers and sellers use benchmark crude oils as a reference in pricing crude oil. A benchmark crude oil is typically an abundantly produced and frequently traded crude oil. The market index for RIK crude oil is the NYMEX West Texas Intermediate (WTI) crude oil spot market price.¹¹⁶ WTI crude is a high quality crude; lower quality oil typically trades below this market index, reflecting the “grade differential” between these types of crude. For example, over the past three years, the heavy sour oil from Mars and Poseidon pipelines has traded at about \$5-\$6 below the WTI price. The majority of Gulf of Mexico oil (including volumes marketed by the RIK program¹¹⁷) is of lower quality than WTI crude, and thus MMS would expect to receive prices below the WTI index.¹¹⁸ In this respect, MMS is no different than any other seller of crude oil of a quality below WTI crude.

The crude oil grade differential (i.e. differences in the specific gravity and sulfur content) determine a substantial portion of the differential between the average RIK sale prices and NYMEX prices. Much of the RIK oil sold in the Gulf of Mexico is classified as “heavy sour,” as shown in Table 20. Heavy oil has a relatively low

¹¹⁵ Market participants typically use the Henry Hub spot and futures prices as surrogate measures for the current wellhead price. The Henry Hub is a major pipeline interconnection point located in Louisiana and operated by Sabine Pipe Line, LLC. It interconnects with 16 separate interstate and intrastate pipelines. The Henry Hub is the designated delivery point for the NYMEX Natural Gas futures contract. The Henry Hub is also a highly liquid trading point, with numerous buyers and sellers of both physical natural gas and financial derivatives. The Henry Hub spot price pertains to transactions for delivery at the Henry Gas Processing Plant and is measured downstream of the wellhead, after the natural gas liquids have been removed and after all transportation costs have been incurred. In contrast, the wellhead price includes the value of natural gas liquids, and pertains to all transactions occurring in the United States, thereby encompassing purchase commitments of all durations. The Henry Hub price includes a transportation cost for moving the natural gas from the wellhead. A 2001 EIA analysis, “U.S. Natural Gas Markets: Relationship Between Henry Hub Spot Prices and U.S. Wellhead Prices” found that the median difference between the Henry Hub price and wellhead prices over the 1996-2000 period was about 10%.

¹¹⁶ WTI crude oil, because it is light-weight and has low sulfur content, is usually made into gasoline. Thus the WTI price is a good benchmark for the value of crude oil in the Americas. Crude oils vary in price because they vary in quality. Other factors—the supply and demand for different qualities of crude oil, chemical composition of the oil, and/or its market penetration—can also influence price. West Texas Intermediate and Brent Blend are two crude oils that are either traded themselves or whose prices affect other types of crude oil. For a general explanation of why the prices of various crude types differ from the market index prices, see “California Crude Oil Price Fluctuations Are Consistent with Broader Market Trends,” Government Accountability Office, 07-315, January 2007.

¹¹⁷ Mars and Poseidon oil account for approximately 30% of RIK oil; over half of the RIK portfolio consists of heavy sour crude.

¹¹⁸ For example, “heavy-sour” crude oil from the Mars, Poseidon, and other offshore platforms accounted for over half of the FY2006 RIK portfolio.

specific gravity (API), and sour oil has relatively high sulfur content. These characteristics imply that significant discounts relative to the WTI are to be expected for RIK oil received from the Gulf of Mexico. Private sellers of similar quality oil would face a similar situation.

Table 20 MMS Classification of Crude Types

% of GOM Crude		Sulfur Content	
		Sweet (≤0.5%)	Sour (>0.5%)
Specific Gravity	Heavy (<35 API)	35.92%	51.38%
	Light (≥35 API)	8.87%	3.82%

Source: MMS data.

The price MMS receives does not include transportation costs or line-loss charges, which is also the case for private sellers. Information on grade differential, transportation costs, etc. are considered when MMS prepares its “minimum acceptable bid” (MAB) for an auction. A volume for which no bid meets or exceeds the MAB is withdrawn from the sale, and reverts to the Royalty-in-Value program. Note that costs for transportation, line-loss, etc. are incurred whether the royalty is taken in kind or in value.

MMS considers some auction information to be proprietary; this includes prices paid by winning bidders. Thus, the Subcommittee was only able to compare market prices to the yearly average of RIK prices. Table 21 shows that for 2004-2006 the average RIK oil and gas sale prices were approximately 90% of the market index prices. This does not indicate that MMS is receiving less than private sellers would expect to receive: MMS oil and gas prices are net of transportation deductions and other charges, and most RIK oil is of a lesser quality than the index crude. The bottom rows of Table 21 report *representative costs* related to transportation, line loss, quality adjustments (for oil) and natural gas processing for each year. Total costs are found to range from \$1.50 to \$5.00 per barrel of oil, and \$0.50 to \$1.25 per mmBTU for gas. Accounting for these costs can explain most of the difference between RIK price received and the market index.

For natural gas, a significant portion of the differential between the average RIK sales price and the Henry Hub price is accounted for by transportation and processing costs. For both RIK natural gas and oil, differentials from the market index prices beyond those accounted for by transportation and quality are related to the supply and demand conditions present at any particular time in oil and gas local, regional, and world markets.

Table 21 Comparison of Average RIK Prices Received with Market Index Prices

	2004		2005		2006	
	Oil (\$/bbl)	Gas (\$/mmBTU)	Oil (\$/bbl)	Gas (\$/mmBTU)	Oil (\$/bbl)	Gas (\$/mmBTU)
Average RIK sale price	\$33.74	\$5.41	\$48.41	\$6.88	\$60.29	\$7.89
Market index price (oil: NYMEX WTI; gas: Henry Hub)	\$37.21	\$5.51	\$53.80	\$7.15	\$66.22	\$8.85
Difference	\$3.47	\$0.10	\$5.39	\$0.29	\$5.93	\$0.96
Representative Price Adjustments						
Transportation Deductions/Line loss	\$0.50 to \$2.00 per bbl	\$0.10 to \$1.00 per mmBTU	\$0.50 to \$2.00 per bbl	\$0.10 to \$1.00 per mmBTU	\$0.50 to \$2.00 per bbl	\$0.10 to \$1.00 per mmBTU
Grade Differential (oil)/ Processing Cost (gas)	\$1.00 to \$3.00 per bbl	-\$1.00 to +\$1.00 ¹ per mmBTU	\$1.00 to \$3.00 per bbl	-\$1.00 to +\$1.00 ¹ per mmBTU	\$1.00 to \$3.00 per bbl	-\$1.00 to +\$1.00 ¹ per mmBTU
Total adjustments	\$1.50 to \$5.00 per bbl	-\$0.90 to +\$2.00 per mmBTU	\$1.50 to \$5.00 per bbl	-\$0.90 to +\$2.00 per mmBTU	\$1.50 to \$5.00 per bbl	-\$0.90 to +\$2.00 per mmBTU

Source: MMS data.

¹ The economics of gas processing (removing petroleum distillate “liquids” from the gas) depends on the relative prices of gas and oil. When gas is relatively more valuable, the minimum amount of processing is undertaken (as set by pipelines for safety). When oil is relatively more valuable, more of petroleum distillates will be extracted from the gas, for separate sale.

IV. Findings and Recommendations

At the outset, the Subcommittee recognizes that MMS has done a credible job managing the RIK program. However, given the program’s atypical character and its rapid and continuing growth, more intense oversight and distinct program improvements are essential.

A. Growth of the RIK Program

Issue

The rapid growth of the RIK program has notable policy implications for MMS. Program growth will bring increased scrutiny and the need to ensure that the RIK program is administered in an efficient and transparent manner.

Background

The RIK program has grown dramatically in a short period of time, evolving from a pilot program to a major operational component of MMS’s activities. The RIK program is expected to continue growing, if the projections in MMS’s *Five Year Royalty in Kind Business Plan* prove to be accurate. Program growth has occurred in an environment with relatively unstructured in-house oversight. In addition,

program management is relatively informal, in terms of published guidelines or regulations, than what is typically encountered with the major expansion of an important Federal program.

During the 2004 – 2009 period covered by the *Five Year Business Plan*, the continued growth of the RIK program is primarily based on increasing amounts of royalty natural gas taken in kind. The quantity of RIK oil is expected to remain relatively constant. A continuation of current high energy prices implies that royalty revenues generated by the RIK program will represent an increasing proportion of total royalty revenue. Increased scrutiny of the program can be expected as RIK volumes increase and energy prices remain high.

Figure 3 and Figure 4 above showed the amounts of natural gas and oil taken in kind since 2004, with projections through 2010. The vast majority of the increase in onshore RIK natural gas is expected to be from production on Federal leases in the State of Wyoming. Successful marketing of this gas is dependent on MMS's ability to access the new Rockies Express Pipeline (discussed in more detail below).

When evaluated in comparison to the revenues that might have been received under RIV, the RIK program has been most successful with respect to natural gas from Federal leases in the Gulf of Mexico. Relative to the performance benchmarks established by MMS, natural gas RIK sales have resulted in larger returns on a dollar per BOE basis than oil RIK sales. For example, in FY 2006, on average, natural gas RIK sales resulted in a gain of \$0.126 per BOE compared to a gain of \$0.08 for RIK oil sales.¹¹⁹ The relative success of the RIK natural gas effort has been due in large part to the fact that the existing gas processing plant and transportation capacity is underutilized, and the fact that natural gas has relatively more transportation, processing, and marketing options than oil. This has allowed MMS to use its ability to bundle production as leverage to negotiate favorable transportation and processing terms. In addition, since royalty gas taken in kind is not dedicated to any particular pipeline, MMS can select favorable transportation routes and negotiate advantageous transportation rates and gas processing services.

Table 22 compares the relative marketing flexibility of RIK oil and gas and provides an explanation for why RIK natural gas has proven to provide greater revenue gain opportunities than RIK oil. Natural gas offers significantly more opportunities to take advantage of transportation, processing, and marketing options.

¹¹⁹ Performance is measured relative to a market index; increases or decreases in the index can impact the relative performance of the RIK results. Performance measurement is discussed in more detail below.

Table 22 Comparison of RIK Oil and Natural Gas Marketing Flexibility

Commodity	Gas pipelines	FMPs ¹	Options		
			Transport	Gas Processing	End Markets ²
Natural gas	25	358	14	16	25
Crude Oil	n/a	104	8	n/a	11

Notes:

¹ Facility measurement points (FMPs) are points where MMS can take possession of RIK volumes.

² Gas marketing can also involve a choice concerning which index to base the price on (NYMEX, Henry Hub, or a local index price).

Source: MMS data.

Findings

As the RIK program has grown, a sophisticated set of operating procedures has evolved to address program activities. These include the following:

- The use of standard industry contracts for RIK sales and service contracts;¹²⁰
- The use of standard “Invitations for Offer” (IFOs) to establish the terms and conditions of RIK sales¹²¹; and
- The development of manuals and procedures for RIK sales, presale qualification, determination of credit worthiness, and performance measurement.

To date, major policy decisions affecting the RIK program have been overseen by the MMS Executive Committee. The Executive Committee is composed of the Director, the Deputy Director, and three Associate Directors. In addition to MMS’s own internal oversight, RIV activities are overseen by the Royalty Policy Committee, a Federal Advisory Committee Act chartered body.

It is unclear that sufficient oversight mechanisms are in place given the rapid growth of the RIK program. While the Royalty Policy Committee has several standing subcommittees, there is no subcommittee assigned to observing the RIK program.

Program documentation is often not easily accessible or available in a single location. In addition, the inner workings of the program – how decisions are made, the fact that systematic analysis undertaken to determine whether to take royalties in kind or in value, and the approach used to determine whether to accept any particular bid in an RIK sale – may not be transparent to many observers of the program. Further, formal guidelines or regulations have not been adopted. The

¹²⁰ The sales and service provider contracts used in the RIK program are the same as those used in the U.S. oil and gas industry – the North American Energy Standards Board (NAESB) natural gas contract and the crude oil General Terms and Conditions contract modeled after the Conoco General Terms and Conditions contract and transportation and processing agreements. Use of these standard contracts provides private contracting entities with the assurance that doing business with the Federal government is not radically different than transactions among private oil and gas companies.

¹²¹ An “Invitation for Offer” serves as a contract between MMS and the purchaser.

“opaqueness” does not serve MMS well as it encourages skepticism about the program.

Planned expansion of the RIK program and expected future energy trends indicate that the program will play an increasingly prominent role in royalty management. Program expansion must be accompanied by increased accountability and transparency.

Recommendations

The following recommendations are for MMS to consider over the next six to eight months:

Recommendation 6-1 MMS should establish an RIK Subcommittee to the Royalty Policy Committee (RPC). Issues that should be addressed include performance benchmarks, volume verification and market positioning.

Recommendation 6-2 Providing appropriate and visible oversight for the program is a preemptive measure to address concerns about MMS operations. The new Subcommittee recommended above should conduct periodic reviews of the RIK program, both comprehensive and targeted, according to a fixed schedule. These reviews should result in specific recommendations for consideration by the RPC and as appropriate their transmittal to the Department.

Recommendation 6-3 MMS should issue new or revised regulations and/or guidelines that would offer MMS, the public, and potential RIK purchasers or providers of transportation/processing services additional certainty concerning program administration. Additional certainty for these parties may assist in providing greater transparency for MMS business practices.

Recommendation 6-4 MMS should compile and publish a guidebook of RIK procedures and policies, which should be made available to the public. This will reduce uncertainty regarding MMS procedures by offering a definitive source of information for RIK staff, affected industry personnel and other stakeholders.

Recommendation 6-5 MMS should undertake a concerted effort to provide outreach to States, Industry, and the public to assist in communicating RIK’s inner workings (e.g., seminar courses, workshops). This will clarify MMS’s role in administering royalties, and facilitate understanding and confidence for clients and partners of MMS.

The following recommendation is for MMS to consider in the medium-term:

Recommendation 6-6 MMS should explore the feasibility of establishing a “trust fund” within Treasury, the interest from which could be used to fund DOI activities, particularly those related to royalty management. Priority for

funding should be given to activities required for addressing the Subcommittee's recommendations related to production accountability, audit, collections and enforcement (as noted above, RIK administrative costs are already funded by a share of RIK revenues). Legislation would be required to establish this fund. If this option is pursued, it is essential that these funds should be available without subsequent appropriation. It is important to "hold harmless" the base budgets for fund-supported activities to ensure net increases in support for them; otherwise there will be no net increase in program support.

B. Market Position, Organizational Structure, and Incentives

Issue

It is essential to recognize that the RIK program is not a typical "government program." Rather it is a commercial enterprise housed within the public sector.¹²² As such, it is not subject to the same incentive structure, nor allowed the same flexibilities, as private-sector entities involved in similar undertakings.

Background

The RIK program is currently organized to mimic private-sector organizations involved in similar oil and gas trading activities:

- A "front office" is responsible for selling physical commodities (marketing execution), and initial capturing and logging of a transaction's terms and conditions.
- A "mid-office" monitors and mitigates credit risk within the RIK program.
- A "back office" accounts for RIK transactions by entering MMS Form-2014 information for the RIK leases, managing volume imbalances, and monitoring receivables and payments.

Nevertheless, the RIK program's organizational and incentive structures differ from private-sector operations in important respects. For example, the government does not have a profit motive, and this tends to limit the government's ability to realize higher returns. RIK managers' pay and bonuses are not linked to the "profits" that accrue from program activities, as might be the case in the private sector. The strategy guiding the RIK program is to take royalties in cases where analysis indicates that cost or revenue advantages can be realized over the in-value option. Effectively, this strategy implies that managers are selecting the better of two available options, rather than seeking the best of *all* possible options. This would typically not be sufficient for a commercial enterprise.

¹²² Other examples of public sector commercial activity include map sales by USGS, USDA Forest Service timber sales, and BLM land sales.

As the RIK program has evolved, MMS has sought to position itself closer to the wholesale market in an effort to increase returns. As shown in Figure 6, the *Five-Year Royalty in Kind Business Plan* seeks to shift the RIK program toward being a more active producer and seller of wholesale energy commodities, in order to “better optimize revenues within a conservative, physical spot market-based presence.”

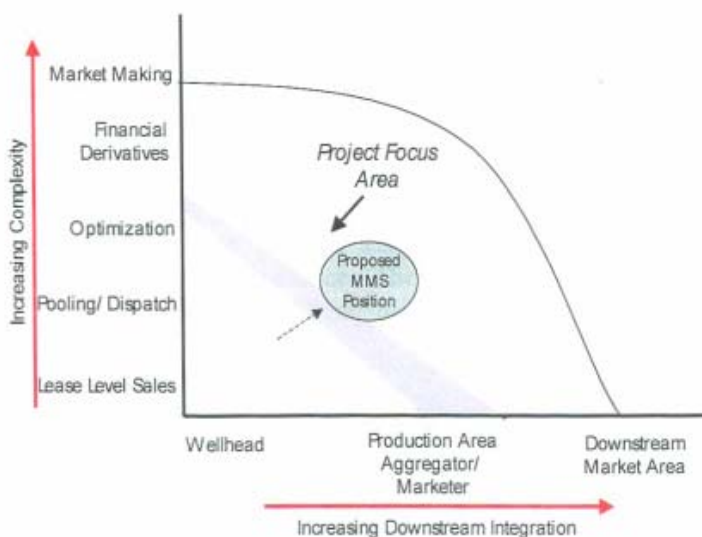


Figure 6 MMS Marketing Strategy

Source: MMS RIK 5-year Business Plan

Currently, MMS’s market position is very close to the shaded circle labeled “Proposed MMS Position” in Figure 6 above. For example, MMS has received approval from its Executive Committee to enter into natural gas “pooling” arrangements. Under a pooling arrangement, MMS would be responsible for scheduling the transport and arranging for processing and could sell the gas to multiple buyers. MMS believes this will

- Increase the number of interested buyers;
- Result in price advantages from increased competition; and
- Provide increased flexibility and control to MMS.

MMS has also entered into a 10-year transportation contract with the owners of the new Rockies Express natural gas pipeline, a proposed 1,679-mile natural gas pipeline system from Rio Blanco County, Colorado, to Monroe County, Ohio.¹²³ The contract will allow MMS to transport 50,000 mmBTU per day via the pipeline, representing about 2.8% of the 1.8 million mmBTU capacity of the pipeline, and 10% of MMS’s RIK gas for FY 2006. MMS’s contract will take effect in January 2008. In

¹²³ REX-West includes 713 miles from Weld County, Colorado, to Audrain County, Missouri, with a targeted in-service date of December 2007. REX-East is the easternmost 638 miles, from Audrain County, Missouri, to Monroe County, Ohio, with a targeted in-service date of June 2009.

November 2007, MMS plans to hold an RIK natural gas sale that will entail seeking bids on:

- The right to market RIK gas produced from Federal leases in Wyoming; and
- The right to manage MMS's capacity on the Rockies Express Pipeline.

MMS anticipates that this will be a two-year contract. Once the pipeline has been built out to the Midwest, MMS will solicit new bids and enter into a new contract. The primary area of growth in the RIK program in the coming years is expected to be natural gas. Successful marketing of this gas is largely dependent on MMS's market position.

Findings

The above arrangements are consistent with MMS's goals of increasing diversification in their customer and contract bases as well as offering potentially increased flexibility with respect to marketing RIK products. However, pooling and similar arrangements are not without risk. Risk-return tradeoffs are made on a daily basis by private investors. The extent to which the proper incentives exist within a government agency to evaluate these tradeoffs is an open question. The Subcommittee recognizes that MMS has gained a considerable amount of experience in selling oil and gas. Nevertheless, capitalizing on any marketing advantage could be a difficult prospect given the government's lack of pecuniary incentives and other factors.¹²⁴

Many of the factors influencing the prospects of the RIK program are outside of MMS control (e.g., commodity prices, natural events that might disrupt supplies, pipeline tariffs, etc.). Nevertheless, MMS is able to directly influence the organizational structure and incentives facing the RIK program. A rigid, inflexible organization will be unable to respond to changing market conditions. Lack of a clear incentive structure (e.g., maximize net revenue) could result in suboptimal revenue results.

The FY 2006 RIK Annual Report states that RIK sales were supported by 81 transportation, processing, and miscellaneous service contracts.¹²⁵ In general, because of the timing associated with RIK sales, entering into these service agreements cannot be easily accommodated in a framework that requires a lengthy bid, review, and award cycle. MMS recently formed a team of procurement officials and RIK personnel to review MMS's current contracting process in light of the Federal Acquisition Regulations (FAR), to determine what, if any, changes need to be made to contracting processes.

¹²⁴ The Subcommittee recognizes that MMS has gained a considerable amount of experience in selling oil and gas over the last several years.

¹²⁵ A single RIK sales contract may require several transportation agreements and a processing agreement to support that contract. It is also possible that due to changes in market dynamics, transportation rates, or processing options a given transportation or processing agreement may become idle while another transportation route or processing plant is used.

Flexibility, especially in terms of timeliness of contracting, has been integral to the ability of the RIK program to issue service contracts for transportation and processing. These contracts, negotiated following MMS procedures but not necessarily in accordance with the FAR, are integral to supporting RIK sales because absent these contracts MMS would either have to sell RIK volumes at the lease (potentially limiting MMS's ability to realize higher returns) and/or rely on producers to transport and process RIK volumes (which would imply the need to subsequently audit such arrangements, possibly leading to valuation disputes). Currently MMS finds it advantageous to bundle gas volumes and negotiate transport and processing contracts, and there is at present some ambiguity as to whether the FAR should apply to these contracts.

The Subcommittee wishes to emphasize that strict application of the FAR may limit MMS's ability to negotiate advantageous transportation and processing agreements, react quickly to market conditions, as well as the private sector's willingness to participate in the RIK program.

The organizational structure most appropriate for the RIK program follows from the activities that the program undertakes in fulfilling its mission:

- Contracting for sales and services;
- Monitoring transactions over their lifecycle;
- Obtaining and reacting to market intelligence;
- Hiring and retaining appropriate expertise; and
- Ensuring that procedures are in place for adequate oversight and review of program activities.

While all of these activities can be (and have been) undertaken in the public sector, for activities that are primarily commercial in nature operating within the public sector is constraining and perhaps suboptimal because of the lack of the profit motive.

Any organizational structure considered must be able to balance the flexibility required by the RIK program with the need for oversight and monitoring of a core governmental function (revenue collection), in order to ensure appropriate safeguards and integrity.

Alternative organizational structures for the RIK program are feasible, and a number of potential other models already exist. These models all have advantages and weaknesses and the full complexities of these are not discussed in detail here. The goal behind any consideration of appropriate organizational structure is to establish an organization with clear goals and accountability mechanisms, embodying the flexibility required for achieving the established goals.

The Subcommittee notes that a number of different approaches are currently in use in other similar settings.¹²⁶ The Subcommittee also recognizes that accountability issues have arisen with some existing quasi-public government entities. A common concern across all models is the need to ensure that appropriate accountability mechanisms exist and function effectively. The range of possible approaches includes:

- Contracting the marketing functions out to the private sector. For example, the Canadian province of Alberta takes all of its oil royalties in kind. This oil is then either sold by a marketing agent or by the Crown. Marketing agents are selected by the province via competitive bid and typically have significant marketing experience and no down-stream (pipeline, refining) integration. Oil is tracked from the wellhead over pipelines to the marketer, where the Crown account is credited. Agents are subject to performance reviews according to a price performance plan. Agents may be required to post a letter of credit as a guarantee. Applying this model in the United States may require additional oversight, to the extent that marketers are integrated with downstream activities.
- Establishing a government-owned corporation. A number of models exist. A government corporation is typically an agency of government, established by Congress to provide a market-oriented public service and intended to produce revenues that meet or approximate its expenditures.¹²⁷ Corporations cover the spectrum in size and function from large, well-known entities, such as the U.S. Postal Service and the Federal Deposit Insurance Corporation, to small, low-visibility corporate bodies, such as the Federal Financing Bank in the Department of the Treasury and Federal Prison Industries (UNICOR) in the Department of Justice¹²⁸. A common characteristic is usually the freedom to contract and make personnel decisions unconstrained by Federal regulations. However, accountability and oversight of these corporations has proven difficult.
- Federally Funded Research and Development Center Model (FFRDC). This model has been developed to address long-term research or development needs which cannot be met as effectively by existing in-house or contractor resources. The model enables agencies to use private-sector resources to accomplish tasks that are integral to the mission and operation of the sponsoring agency. A relevant point for royalty management activities is that the organization is managed, administered, monitored and funded by an executive “sponsor” agency.¹²⁹ Accordingly, this model, if implemented with structured and systematic oversight mechanisms, enables the sponsor agency to retain far more control in comparison to other government-owned corporations and hence provides greater accountability.

¹²⁶ These include various types of congressionally chartered entities: non-profit corporations, government corporations, and government sponsored enterprises.

¹²⁷ RIK revenues far exceed the cost of administering the program.

¹²⁸ Moe, Ronald C. and Kosar, Kevin R. March 23, 2006. Federal Government Corporations: An Overview. CRS Report for Congress.

¹²⁹ FFRDCs include National Laboratories, and a variety of other entities sponsored by various Federal agencies. A list of current FFRDCs is available on-line at <http://www.nsf.gov/statistics/nsf05306/#Topic9>.

- Service contracts and personnel practices. Establishing a set of best practices would enable the program to operate using contracting and personnel procedures more akin to what is typically found in the private sector.
- Legislative authority. Legislative authority could provide the RIK program with necessary flexibility in contracting and personnel matters. Legislative authority would also be needed to adopt an alternative governance model, as well as express exemption from the FAR and many Federal personnel rules. However, success will require balancing these increased flexibilities with increased accountability, in the form of greater transparency and intense, independent oversight.

Recommendations

The recommendations below are intended to allow MMS the flexibility to operate a commercial activity and strengthen accountability mechanisms.

Recommendation 6-7 By the end of FY 2008, MMS should clarify the extent to which Federal Acquisition Regulations (FAR) apply. If the FAR is found to apply, MMS should place a high priority on identifying contracting arrangements least likely to impair the program.

The following recommendations should be implemented within the next two years:

Recommendation 6-8 MMS should explicitly recognize (e.g., in a charter or mission statement) that the RIK program is a commercial activity, and should treat the program accordingly. Consistent with this, MMS should seek to operate the program as close to how a private business would operate as possible, including establishing a sole objective to maximize net revenue within risk parameters established by program executives. A business model should apply to all aspects of the RIK program, including identifying potential properties where royalties might be taken in kind, pre-sale bidder qualification procedures, the sales themselves, and performance measurement.

Articulating an unambiguous objective for the program (namely maximizing net revenue) is important because introducing other objectives (such as being directed to provide oil to the SPR) compromises the ability of program managers to maximize revenue.

Recommendation 6-9 MMS should conduct a cost-benefit analysis of various governance arrangements for the RIK program to determine the organizational structure that will best and most cost effectively align incentives with programmatic goals and provide the institutional flexibility necessary to function in a commercial environment. Alternatives should include but not be limited to: the status quo; contracting out marketing functions; an FFRDC model or some variation thereof; and the status quo with some legislative exemptions from the FAR and personnel regulations. Any such arrangement should maintain institutional oversight by the

Department of the Interior and MMS, and also provide the additional oversight mechanism suggested in Recommendation 6-10.

Recommendation 6-10 If an alternative governance structure is established for the RIK program, an independent oversight board should be established. This board should include experts in marketing and management, and representatives of the public interest. The board should periodically evaluate the RIK program, to assess balance sheets and other “business-like” performance measures. The board should have the ability to recommend program expansion or contraction (onshore or offshore and by commodity) based on market trends and other concerns, and to address specific concerns such as the small refiner program. Furthermore, the Secretary could respond to the Board’s recommendations with on-the-record findings.

This approach would provide for oversight at three levels: MMS, the Royalty Policy Committee and the Board. Program administration and implementation would remain within the Department of the Interior and MMS. The Board’s recommendations should be provided to the Secretary who, in turn, should be required to respond to them with a published finding that accepts, modifies or rejects them and documents the reasons for such action(s). Until such time as an independent oversight board is established, the proposed RIK Subcommittee should provide these recommendations (through the proposed RPC Subcommittee).

C. Crude Oil Program

The crude oil RIK program faces several challenges: (a) maintaining sufficient volumes for a viable onshore RIK program; (b) low participation in the small refiner program; and (c) recognizing the requirement to fill the Strategic Petroleum Reserve (SPR) as a commercial transaction within the RIK program. While the natural gas side of the RIK program is expected to be a growth area, RIK oil issues are also important, considering the significant royalty revenue generated by oil sales.

1. Onshore RIK Oil

Background

Figure 7 shows the actual and estimated disposition of RIK oil (both onshore and offshore) from FY 2004 to FY 2010. The data for 2007 onward are MMS forecasts. Obligations for providing oil for the Strategic Petroleum Reserve (SPR) are scheduled to be completed in fiscal year 2009. Barring a requirement to recommence filling the SPR, completion of the SPR fill requirement in FY 2009 implies that additional RIK oil will be available for the Unrestricted Program (and perhaps the Small Refiner program also).

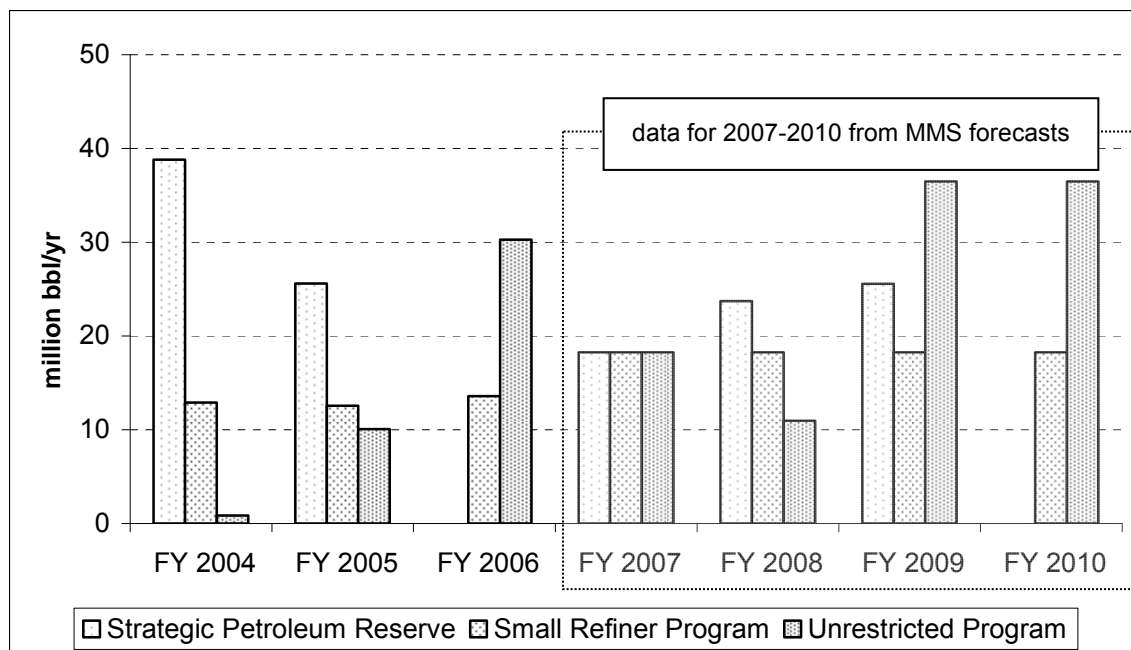


Figure 7 Disposition of RIK Crude Oil

Source: MMS data.

In 2006, the offshore RIK royalties comprised the following volumes:

Table 23 RIK Royalty Volumes, FY 2006

Location/Program	Daily Volume (bbl/day)	Annual Volume (bbl/yr)
Gulf of Mexico: Small Refiner	37,225	13,587,125
Gulf of Mexico: "Unrestricted"	76,343	27,865,195
Pacific: "Unrestricted"	6,642	2,424,330
Total	120,210	43,876,610

Source: Minerals Management Service, *Royalty in Kind Operation for Fiscal Year 2006*.

The onshore oil RIK program in FY 2006 was considerably smaller than the offshore program. Onshore RIK oil was taken from Federal leases in Wyoming via a pilot program with the State. RIK oil from Federal leases in Wyoming averaged 6,000 barrels per day in 1998, declining to about 1,800 barrels per day when the pilot program was terminated in May 2006. Changing market conditions (including a shift in the interest of purchasers away from six-month agreements to monthly agreements), reduced production, and increased administrative costs led to the decision to end the program.

Findings

The onshore RIK oil program is more challenging than the offshore program, as volumes from individual wells are typically significantly smaller and marketing

opportunities are more limited.¹³⁰ Importantly, existing onshore oil infrastructure limits transportation and marketing opportunities relative to those potentially available for natural gas. Smaller volumes and limited infrastructure make it more difficult to aggregate sufficient quantities for an RIK oil sale. These same aspects of the oil market make it difficult to achieve large revenue gains relative to the performance measure benchmark. Furthermore, the onshore program requires the cooperation of the State in which the Federal leases are located. The Wyoming pilot program (which had the full cooperation of the State) was relatively successful until market conditions changed and volumes began to decline.¹³¹

MMS has not published information on administrative costs associated with the onshore oil RIK program. Available administrative cost information relates only to the offshore program.

2. Small Refiner Program

Background

MMS established its program to sell royalty oil to small refiners in 1976 to provide small refiners with access to adequate supplies of crude oil at equitable prices. The program is authorized by the Mineral Leasing Act of 1920 (MLA) and the Outer Continental Shelf Lands Act of 1953 (OCSLA). Under the small refiner program, based on a secretarial “determination of need,” MMS takes its royalty portion of production from one or more Federal leases in kind and sells it to qualifying small refiners under RIK contracts. This is accomplished through competitive, sealed bid auctions.

Small refiner eligibility requirements for onshore leases are defined in 30 CFR part 208 and are based on the Emergency Petroleum Allocation Act. For the purchase of royalty oil from leases on the OCS, a refiner must qualify as a small business enterprise under the rules of the Small Business Administration. Small petroleum refiners are defined by the Small Business Administration as entities with 1,500 employees or less and refinery capacity less than 125,000 bbl/day.¹³²

30 CFR Section 208.4(a) states the following:

Royalty oil sales to eligible refiners.

- (a) *Determination to take royalty oil in kind.* The Secretary may evaluate crude oil market conditions from time to time. The evaluation will include, among other things, the availability of crude oil and the crude oil requirements of the Federal Government, primarily those requirements concerning matters

¹³⁰ As an example, in FY 2006, on average Federal leases in Wyoming produced 4,082 bbl/lease; Gulf of Mexico leases produced on average 169,412 bbl/lease.

¹³¹ Volumes declined because potential purchasers of RIK oil were no longer interested in bidding on a 12-or 6-month basis for RIK oil. Purchasers were interested in RIK volumes on a monthly basis and administering RIK sales on a monthly basis was not feasible for MMS.

¹³² Source: Small Business Administration web site: www.sba.gov.

of national interest and defense. The Secretary will review these items and will determine whether eligible refiners have access to adequate supplies of crude oil and whether such oil is available to eligible refiners at equitable prices. Such determinations may be made on a regional basis. The determination by the Secretary shall be published in the *Federal Register* concurrent with or included in the "Notice of Availability of Royalty Oil" required by 30 CFR 208.5. (c) Upon a determination by the Secretary under paragraph (a) of this section that eligible refiners do have access to adequate supplies of crude oil at equitable prices, MMS will not take royalties in kind from oil and gas leases for exclusive sale to such refiners.

MMS prepared a draft Determination of Need in 2004, but it is unclear whether the draft was finalized. The draft 2004 Determination of Need recommended continuing the sale of royalty oil from offshore leases to eligible small refiners. The conclusion to continue RIK sales to small refiners was based on:

- Ensuring stability of crude oil supply for small refiners at market prices;
- Assisting small businesses that disproportionately bear the costs associated with regulatory compliance; and
- Assisting small businesses that contribute to meeting national security needs.¹³³

¹³³ *Draft Small Refiner Royalty in Kind Program 2004 Determination of Need*, MMS, 2004.

Table 24 Small Refiner RIK Sales, 2001-2007

Sale Date	Location	Volume sold (bbl/day)	Total Volume Sold (million bbl)
October 2001	GOM	56,070	20.47
January 2002	Pacific	9,725	3.55
* October 2002	GOM	50,155	27.44
January 2003	Pacific	10,725	4.88
April 2004	GOM and Pacific	57,480	20.98
April 2005	GOM and Pacific	57,790	10.39
October 2005	GOM and Pacific	57,010	20.81
October 2006	GOM and Pacific	44,835	16.27
October 2007	GOM and Pacific	36,310	13.25

* 18-month period
Source: MMS data.

Small Refiner RIK sales figures are shown in Table 24. Since 2001, annual RIK sales to small refiners have ranged from about 11 million barrels to about 21 million barrels.

Energy Information Administration data indicate that the number of domestic refineries has fallen from 205 in 1990 to 149 as of January 1, 2007.¹³⁴ According to MMS, the number of refiners meeting the Small Business Administration criteria fell from 52 in 1998 to 37 as of September 2007.

Recent RIK Small Refiner oil sales have attracted a limited numbers of bidders and have provided less of a “revenue uplift” compared to other RIK sales. For example, the Small Refiner crude oil sale conducted in August 2007 attracted only two bidders. The 2006 RIK annual report identified a loss of \$1.4 million for the Small Refiner program relative to what would have been expected to be received under RIV.¹³⁵

Findings

The RIK Small Refiner Program is best considered as a set-aside program for a specific class of refineries. In a general sense, since the crude oil sold to small refiners is sold via auction to the highest bidder, the returns to the RIK program should be similar to what might be expected if the oil was sold in the “unrestricted”

¹³⁴ See EIA web site: http://tonto.eia.DOE.gov/dnav/pet/pet_pnp_cap1_dcu_nus_a.htm.

¹³⁵ In spite of the Minimum Acceptable Bid (MAB), any of the RIK programs could report a negative revenue gain compared to the RIV benchmark. The MAB is constructed based on forecasts of prices and tariffs, while the benchmark is an average of prices recorded over the past year.

RIK crude oil program. In addition, since all RIK oil sales are required to equal or exceed an MMS-established minimum acceptable bid (which is proprietary information and not disclosed by MMS), MMS has the discretion to reject bids from small refiners and shift the oil to the “unrestricted” program or shift the oil to RIV status. The limited number of bidders suggests a lower level of competition for these volumes, raising the possibility of lower returns to the Federal government. The Subcommittee finds no strong justification for the small refiners’ set-aside, and recommends discontinuing the program as soon as possible.

3. Strategic Petroleum Reserve

Background

The Outer Continental Shelf Lands Act and the Energy Policy and Conservation Act authorized the use of royalty oil to fill the Strategic Petroleum Reserve (SPR). Filling the SPR involves pumping crude oil into excavated subterranean “salt dome” caverns located near the Gulf of Mexico. This oil supply is intended to serve as a hedge against future supply disruptions. The Department of Energy (DOE) and MMS have a Memorandum of Understanding (MoU) for transfer of royalty oil between the two agencies, whereby DOE specifies the amount of royalty crude oil they require for the SPR. MMS delivers the royalty oil to an agreed-upon market center. DOE solicits competitive bids from companies willing to exchange the royalty oil for higher quality or better-placed volumes, and to deliver these volumes to the SPR. The current MOU does not provide for reimbursement to MMS for the administrative or contract costs incurred with transporting royalty oil, although in the past DOE has reimbursed some of these costs. Table 25 lists MMS costs related to fulfilling SPR obligations from 2002-2006.

Table 25 MMS costs related to SPR Obligations, (\$ millions)

Fiscal year	Transportation & Quality Bank Charges	Administrative Costs	Total Costs
FY 2002	\$4.0	\$1.0	\$5.0
FY 2003	\$8.8	\$2.1	\$10.9
FY 2004	\$14.8	\$3.2	\$18.0
FY 2005	\$6.7	\$3.2	\$9.9
FY 2006	\$0.0	\$0.1	\$0.1
FY 2007	\$0.0	\$0.4	\$0.4

Source: MMS data.

The Bush Administration’s National Energy Policy endorsed adding oil to the Strategic Petroleum Reserve using the RIK program, and in November 2001, President Bush announced his intent to fill the Reserve to 700 million barrels. The SPR currently has the capacity to hold 727 million barrels. As of October 3, 2007 the inventory of the SPR was 692.7 million barrels.¹³⁶ RIK Annual Reports for FY 2004 and FY 2005 report that during these two years MMS transferred 64.4 million

¹³⁶ See <http://www.fossil.energy.gov/programs/reserves/index.html> for additional information on the SPR.

barrels to the SPR. No oil was sent to the SPR during FY 2006. The current agreement with DOE is for MMS to provide volumes sufficient to add 27 million barrels to the SPR.¹³⁷ This current effort began in July 2007 with deliveries of 50,000 bbl/day. The process is expected to be completed in 2008, with MMS delivering 70,000 bbl/day until 27 million barrels have been added to the SPR.

While the current targeted SPR capacity of 727 million barrels is expected to be reached (or nearly reached) in 2009, SPR capacity is planned to be expanded to 1 billion barrels. Further, the President has stated his support for a 1.5 billion barrel SPR. Therefore, significant amounts of RIK oil could be required to fill the SPR for many years beyond 2009.

The Energy Policy Act of 2005 directed the selection of sites and acquisition of oil necessary to fill the SPR to 1 billion barrels. Three sites have been selected and have completed the environmental screening process. Pending funding for the expansion, the first of these sites is projected to be available for filling in 2010, at which point MMS would again begin delivering oil to DOE. The goal of 1 billion barrels is projected to be reached by 2020.

Transferring oil to the SPR has an opportunity cost reflected in the market price of the oil. Absent the requirement to transfer oil to the SPR, MMS would sell this oil on a competitive basis through its “unrestricted” RIK oil sales program.

Findings

One issue that will require attention is the timing of SPR capacity expansion and the impact of that expansion on the RIK program (especially, the extent to which RIK oil will be needed intermittently for many years into the future).

Given the opportunity costs associated with transferring Federal royalty oil to the SPR, alternatives to potentially reduce the costs of the SPR fill should be investigated. One example would be for MMS to sell royalty oil and transfer the funds realized from the sale to DOE for oil purchases.

The Subcommittee finds that the opportunity costs associated with the oil transferred to the SPR are costs that the RIK program should recognize in its performance measurement efforts.

Recommendations

Onshore oil RIK program

Recommendation 6-11 MMS should discontinue its onshore RIK crude oil program until it can be determined to be in the best financial interest of the government. While MMS has realized sizable revenue gains relative to RIK on crude oil sales in the past, there has been no systematic evaluation of

¹³⁷ As the relatively low quality crude provided by the RIK program must be exchanged by DOE for higher quality crude for the SPR, deliveries from MMS may not equal the volumes added to the SPR.

onshore crude oil costs. Any decision to restart the onshore program should consider administrative cost implications. This will ensure that the government is collecting onshore royalties in the most beneficial manner.

Recommendation 6-12 MMS should prepare a decision document for RIK program executives, evaluating the conditions under which onshore oil sales should be undertaken. This effort should be completed prior to the next scheduled RIK crude oil sale. The document should include an assessment of the factors that would facilitate the participation of States and potential purchasers in a wider onshore RIK program, allowing increased marketing options for the onshore RIK program.

Small Refiner Program

Recommendation 6-13 The Subcommittee finds no strong justification for the small refiners' set-aside, and recommends discontinuing the program as soon as possible. The program should not be resumed until the Secretary makes a new determination of need.

Strategic Petroleum Reserve

Recommendation 6-14 MMS should amend the Memorandum of Understanding with the Department of Energy to include reimbursement for administrative and contract costs incurred in transferring RIK oil to the Strategic Petroleum Reserve. Additional reimbursement should not result in a reduction in MMS's base budget.

Recommendation 6-15 MMS should recognize, and annually report on, the opportunity costs associated with transfers of oil to the SPR using the performance measures established for the RIK program.

D. RIK Personnel Breadth and Depth

Issue

The RIK program faces challenges in attracting and retaining sufficient personnel with the necessary skill sets. These skills are typically related to experience in the oil and gas industry. As the program increases in size, increased personnel needs, including the need to recruit and retain personnel with industry experience, should also be anticipated.

Background

The RIK program operates with a small and increasing workforce of capable personnel. As of September 2006, Minerals Revenue Management (MRM) employed 536 full-time employees (FTEs), of which 52 FTEs were allocated to the RIK program. Thus, RIK FTEs currently represent 9.7% of the MRM total. The

number of FTEs assigned to the RIK program has increased significantly in recent years. Figure 8 shows RIK FTEs increasing from 20 in FY 2001 to 50 in FY 2006, even as MRM overall shed a total of 48 FTEs (an 8% reduction from MRM's total FTEs in FY 2001).

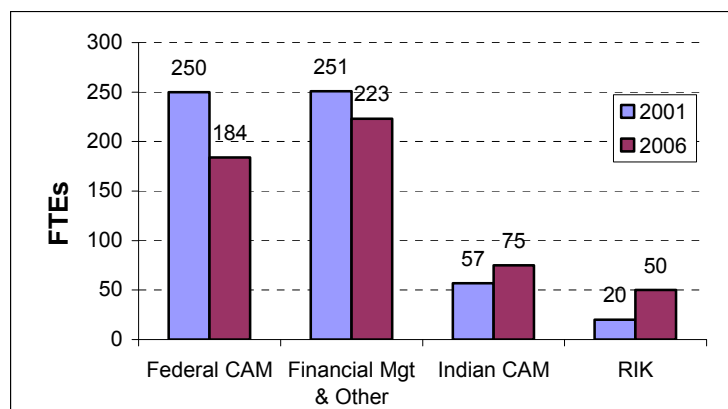


Figure 8 Minerals Revenue Management FTEs, FY 2001 Compared to FY 2006
Source: MRM FTE and Payroll Summary FY 2001-2006

From FY 2004 to FY 2006 the RIK program reported fairly steady levels of staff billing to RIK accounting codes, as shown in Table 26. Over this period, RIK personnel handled increasing RIK sales volumes. These trends are shown Table 26 as a comparison of millions of barrels of RIK oil equivalent (BOE) per FTE.

Table 26 Change in BOEs per FTE 2004-2006

	FY 2004	FY 2005	FY 2006
RIK Sales Volumes (Oil and Gas) (million BOE)	46.6	57.8	75.3
SPR Exchanges (million bbl)	38.8	25.6	0
Total RIK Volumes (million BOE)	85.4	83.4	75.3
RIK FTEs ¹	57.4	58.2	57.6
Million BOE Sold per FTE	0.8	1.0	1.3
Million BOE Collected per FTE	1.5	1.4	1.3

¹ FTE numbers were tallied from the hours charged to RIK activities by MMS employees. These totals differ from those shown in Figure 8, which reports FTEs allocated only to the RIK program.
Source: MMS data.

By FY 2009, RIK oil and gas sales are projected to grow by 41% above FY 2006 levels. This increase in volumes implies an increase in the activities associated with marketing and selling the oil and gas. As the RIK program grows over time, it will be

necessary to increase the FTEs allocated to the program commensurate with the increasing workload.

Findings

The RIK program is a business operating within the confines of the public sector. This business can only function in an efficient manner if it employs the correct mix of skills, with sufficient depth in personnel to ensure that losing key personnel would not unduly jeopardize its activities. Given the nature of the RIK program and the frequent interaction with industry, RIK personnel also need a solid understanding of existing ethics guidelines.

The RIK staff has accumulated a substantial amount human capital. The necessary skills required to administer the RIK program are not typically those found in a government agency. These skills parallel those found in private-sector oil and natural gas trading operations.¹³⁸ Thus, for the purposes of hiring and retaining the personnel required to operate a commercial program, MMS must compete with the private sector for qualified staff expertise. MMS is often at a disadvantage in this respect because it cannot offer compensation equivalent to what is offered in the private sector. Given expected fluctuations in future RIK oil volumes, (due to conversions from RIV to RIK, changing SPR obligations, etc.) MMS should ensure that core oil and gas marketing expertise is not eroded. Increased flexibility with respect to personnel needs, as is proposed above, would assist in this regard.

While the RIK program has a small staff dedicated to economic analysis, it does not have a dedicated legal staff. Given the timeliness requirements associated with many transactions, legal support is not always available when the RIK program needs it. Additional legal support would allow the timely review of contracts and other relevant guidance documents, as well as allowing MMS to have a higher level of confidence in any negotiations regarding RIK contractual matters.

The Subcommittee also notes that certain key positions are currently vacant, including the positions for oil and gas asset managers. Filling these positions is critical to program continuity.

¹³⁸ Marketing oil requires different sets of skills and knowledge than marketing natural gas. These requirements are driven by differences in how these commodities are marketed, as well as infrastructure requirements and marketing possibilities.

Recommendations

Recommendation 6-16 MMS should immediately take steps to ensure that the RIK program has sufficient personnel depth to maintain an expanding trading operation and to ensure that RIK personnel have a solid understanding of existing ethics guidelines. MMS should develop and implement a Personnel Plan by June 2008 to strengthen those areas requiring additional personnel with industry expertise.

Maintaining adequate depth of personnel ensures that the RIK program can continue to perform well when faced with changes in staffing or supply (e.g., changes in volumes exchanged for the Strategic Petroleum Reserve). The Personnel Plan should address the following:

- The extent to which MMS needs additional authority to provide flexibility for hiring in a timely manner and retaining necessary expertise.
- A comparison of compensation packages in government and industry for critical job descriptions. This comparison should be used to evaluate whether the current compensation arrangements are sufficient to continue attracting and retaining personnel. Providing competitive compensation for key personnel ensures that the program can continue to attract and retain staff with the necessary skill set, much of which can only be developed through experience in the industry.
- In addition to ethics training provided to other royalty management staff, develop special and appropriately targeted ethics training for the RIK staff, which addresses issues that may arise from their frequent interaction with industry.

Recommendation 6-17 Given the documented capability of the RIK workforce, MMS should consider incorporating these employees into any alternative institutional structure created.

Recommendation 6-18 MMS should streamline the process for announcing and filling vacancies. Priority should be given to filling the asset manager vacancies for oil and gas.

Recommendation 6-19 MMS should secure dedicated legal support for the RIK program, ideally stationed within the program in Denver, Colorado, or otherwise in the Regional or Washington, DC Office of the Solicitor. Securing dedicated legal support should improve the ability of RIK personnel to interact with their industry counterparts and with industry lawyers.

Recommendation 6-20 MMS should ensure that RIK personnel maintain their market expertise. This will allow the program to make the most of marketing opportunities that can be developed. Allowing the RIK program personnel to remain actively involved in the market should allow the program to continue

performing well, even as changes in infrastructure and demand impact the marketing landscape.

E. Performance Measures

Issue

Evaluating the performance of the RIK program relative to an industry average does not necessarily provide a comprehensive description of the program's performance. Furthermore, the complex nature of the benchmarking process makes it difficult for outsiders to understand the basis for RIK performance metrics.

Background

The RIK program recognized early on the importance of establishing a set of performance measures. In general these measures include:

- Net revenue/unit volume;
- Revenue collection time;
- Bad debt expense/revenue;
- Administrative expense/volume; and
- Transaction cycle time.

Net revenue is perhaps the most important metric for measuring performance. For royalty collections, net revenue is the realized market price for oil and gas sales plus or minus adjustments to account for transportation, processing, product quality, and MMS's administrative costs.¹³⁹

The net revenue benchmark is intended to represent a range of market values against which to compare RIK sales prices. The benchmark is developed as an annual mean and a range or band above and below the mean. The mean is based on an established market index (e.g., NYMEX) adjusted to account for transportation, processing, and quality. In effect, the benchmark represents the quality- and transportation-adjusted value that a third-party would receive if they sold a similar product at the same point. The band reflects the volatility in prices and adjustments over the course of the year. The wider the band, the more volatility there is over the course of the year.

Findings

MMS currently reports performance relative to the benchmark mean, without reference to the band. For a crude oil RIK package, the upper and lower bounds of the benchmark may be separated by as much as \$2 to \$3 per barrel. If performance reporting incorporated the band as well as the mean, the results would also be a range, potentially covering negative numbers at the low end. Reporting the performance range would give a better sense of the certainty associated with the mean.

¹³⁹ Measures of quality include heat content for gas, specific gravity and sulfur content for oil.

Market fluctuations within a single month tend to be much smaller than fluctuations over the entire year. This means that the band associated with a monthly benchmark would tend to be smaller than the band for an annual benchmark. This in turns implies that a monthly benchmark would be more accurate, and allow the results to be reported with greater certainty.

- Gas contracts start in November or April, so they do not line up with the fiscal calendar.
- Refinery shut-downs can result in “stranded” oil barrels being sold at a considerable discount, pulling down the annual average.
- Indices are subject to seasonal fluctuations, complicating analysis of bids and contract prices based on these indices.¹⁴⁰

The RIK program also develops administrative cost figures for comparison to RIV program costs. However, this comparison is only developed for the offshore program, given the relatively smaller onshore volumes, and the large number of leases. On this basis, every BOE redirected from the RIV program and sold by the RIK program represents a \$0.032 savings to MMS.

The calculation of performance measures is not centralized in one MMS office. The Economic Analysis Office (EAO) is responsible for developing the benchmarks and making the RIK-RIV comparison. The EAO relies on other offices for cost accounting analysis, administrative savings analysis, and time-value of money/interest savings analysis.

RIK performance relative to the RIV program is based on past data. These figures are based on the fluctuations of the market over the year, and are at best an estimate of the program’s revenue “uplift” relative to the RIV program. As such, performance measures cannot give a full picture of the health of the program. This requires a full analysis of the costs associated with running the program, both onshore and offshore. Performance measurement should emphasize a more comprehensive approach that incorporates a variety of indicators of financial health.

Data on sale participation is important and is being collected. Compiling and analyzing these data will allow the RIK program to improve its marketing, by identifying which companies, and which types of company, bid on which packets.

Recommendations

Short-Term

Recommendation 6-21 MMS should report monthly performance measures, in addition to the current annual measures. Monthly performance metrics will allow a finer and more accurate view of exceptional periods (of high or low

¹⁴⁰ Bid and contract prices may be based on one or more indices, including “maximum of,” “average of,” or seasonal switching arrangements.

performance), and provide insight into cyclical performance patterns (e.g., demand for natural gas in the Northeast during the winter).

Recommendation 6-22 MMS should develop a presentation of the benchmarking process that makes it easier for outsiders to quickly understand the basics of how the benchmarks are assembled and applied.

A clearer presentation of the benchmarking process will make it easier for an outsider to understand how the RIK program is a good deal for the American public. This should make it easier for the program to continue developing along the lines laid out in the 5-year plan. As the program's contributions and importance invite increased scrutiny, a concise and easily-grasped presentation of (at least) the basics of the benchmarking process will ease the process of responding to inquiries.

Medium-Term

Recommendation 6-23 MMS should carry the range-of-values methodology associated with benchmarks through to the reporting of performance measures based on those benchmarks.

Reporting performance measures as a range of probable values reflects the notion that these measures are based on estimates, which incorporate a certain degree of uncertainty. This will give decision-makers a more accurate sense of the program's performance than reporting measures based solely on the mean value.

Recommendation 6-24 The RIK program should produce a document explaining how performance data can be used to improve marketing strategies based on predictable fluctuations in the market (e.g., determining which indices produce the best contracts at different times of the year).

Recommendation 6-25 Performance measure calculations should be centralized in the Economic Analysis Office (including cost accounting, administrative savings, and time-value of money/interest savings).

Recommendation 6-26 MMS should develop a strategy for using data compiled from oil and gas sales over the past three years to direct marketing efforts, including identifying which type of companies tend to bid on which products. Using past sales data to target future marketing efforts can potentially reduce the effort and cost involved in finding interested customers for in-kind royalties.

Recommendation 6-27 MMS should evaluate whether performance measures could be enhanced following standard business practices (e.g., balance sheet, cash flow statement, financial ratios).

Recommendation 6-28 MMS should publish a program cost comparison, comparing the RIK program to other public- and private-sector efforts toward

marketing in-kind royalties (e.g., the Province of Alberta, Texas General Land Office, industry).

Enhancing existing performance measurement with some indication of the program's overall (financial) well-being should provide a more accurate assessment of RIK's strengths and weaknesses. Comparing the program's costs against other entities pursuing similar goals could complement information gained by the current revenue comparisons.

F. RIK Auction Procedures

Issue

An auction's return to the seller depends on the parameters of the auction.

Background

The RIK program uses a relatively straightforward format for the auctions conducted to sell royalty oil and gas. Single sealed-bid auctions are held five times a year for gas, and seven times a year for oil. Each sale is focused on a different segment of the market, with gas sales held for Gulf of Mexico gas, Wyoming gas, and gas from BLM's helium reserve.¹⁴¹ Oil sales are held for small refiner oil, unrestricted oil, and SPR service contracts.

Bidders are pre-qualified based on creditworthiness and market experience¹⁴², and issued a line of credit against which they may bid. Bids take the form of a differential from an index price per barrel of oil or mmBTU of gas. This differential represents the costs of transportation and/or processing that the buyer expects to incur in ultimately bringing the product to market. "Sealed" bids are submitted by facsimile

¹⁴¹ This gas is a byproduct of processing helium-bearing natural gas at the BLM's crude helium enrichment unit (CHEU) at the Cliffside Gas Field, in Amarillo, Texas. The CHEU has capacity to produce 24,000 mcf of gas per day, less than ½ of a percent of MMS's onshore gas operations. The RIK program oversees the marketing and sale of this gas under a cost-recovery MOU with BLM. All revenues of the sale are returned to BLM to partially fund the operation of the CHEU.

¹⁴² See Appendix 5 for a more complete description of the credit scoring model used by MMS. Criteria considered for pre-qualification include the company's reputation, operational capability and financial viability, based on S&P credit rating, working capital, free cash flow, debt structure, maturing obligations, off-balance sheet debt, etc. MMS employs an off-the-shelf credit scoring model to assist in their analysis of creditworthiness. The primary credit scoring model used by the Mid Office is the RMG Financial Credit Scoring Model, an Excel-based spreadsheet that incorporates key financial information from a company's audited financial statements into an objective numeric scoring process. The Subcommittee has not evaluated this model, but simply notes that it is an "off-the-shelf" application that appears to be widely used in the private sector (e.g., Exelon Corp, New York Power Authority). The Mid Office assigns an unsecured credit limit based first on 10% of a company's tangible net worth, which is reduced by weights based on key financial ratios, earnings, cash flows, and profitability. This lower limit is referred to as the "credit security threshold" and it forms the basis for establishing and approving a specific line of unsecured credit. A secondary scoring model obtained from AEP employs objective financial ratio and performance data, but provides a more subjective evaluation outcome. The model uses weighting factors in the areas of short-term liquidity, debt management, asset management, and profitability and provides an overall weighted score using four ratings: Poor, Below Average, Above Average, and Good. See *Process Level Internal Control Assessment; Royalty in Kind Business Process*, Minerals Management Service, June 30, 2007.

or email in a single round of bidding; the winner is the bidder with the highest-value bid (i.e., the smallest differential below the index price).

Since the winner simply pays the price that they bid, this is an example of a first-price auction, where the price is set as the highest bid received. However, the RIK program has adopted a certain degree of flexibility regarding which bids it will consider. For example, the auction sometimes receives unsolicited bids, or bids by companies that have not completed the pre-qualification process. MMS has the discretion to consider these bids, for example, if the company is a new entrant to the market. In the event of a tie for the best bid or a change in the indices underlying bids, an additional round of bidding is held, in which bidders are asked to “refresh” their bids.

In practice, all bidders are not necessarily included in a subsequent round (i.e., asked for a refreshed bid). Procedures for refreshing bids have varied in past auctions, with additional rounds of bidding restricted to:

- The top five bidders
- Those bidders originally using MMS’s preferred index.

Findings

Auction procedures are used in other contexts and include variations such as multiple rounds of bidding and alternative price setting rules. For example, Treasury securities, are auctioned using a “uniform price” format; broadcasting bandwidth auctions typically involve multiple rounds of bidding.¹⁴³

Prequalification of bidders essentially shields MMS from risk, but also constitutes a barrier to entry because only companies with a certain level of assets or experience are able to participate in the auctions.¹⁴⁴ MMS has set these requirements to limit risks to the RIK program and, to date, has been successful in this aim. There have been only four instances where gas sold at auction had to be remarketed after the sale:

- PS Energy (2000): MMS terminated the contract citing nonpayment;
- Enron (2001): MMS terminated the contract citing bankruptcy;
- Total (2003): the company requested that MMS remarket the gas, given high scheduling needs on the pipeline; and
- Trammo (2006): the company requested that MMS remarket the gas following Trammo’s corporate decision to exit the gas trading business.

In cases where MMS has had to re-market gas after the sale, the “Liquidated Damages Provision” of the contract’s Invitation for Offer (IFO) stipulates that the company will be charged for any shortfall between the originally contracted price and the re-sale price.

¹⁴³ In the Treasury auctions all bidders are allowed to purchase at the market clearing price. This is a variation on what is known as a Vickery auction in which the winner is the bidder submitting the highest-value bid, but the price paid is the second-highest-value bid received.

¹⁴⁴ The requirements of pre-qualification essentially constitute a “barrier to entry.”

Recommendations

Short-Term

Recommendation 6-29 MMS should codify the currently ad hoc approach of considering un-solicited bids in auctions. This will provide certainty for bidders and the RIK program about the auction procedures to be followed.

Medium-Term

Recommendation 6-30 MMS should implement a systematic and detailed procedure for handling bid documents (including both bids and notices of acceptance) to ensure security and integrity. In particular, the procedures should address “refreshing.” In that regard, the procedures and associated documents used to announce sales and associated procedures should explicitly lay out the procedures for determining when and if additional bidding rounds will be held.

If additional bidding rounds are held, any “refreshment” process should be formally structured and documented in detail.

Recommendation 6-31 MMS should evaluate the benefits and costs of alternative auction types, including changes in expected revenues, costs, and complexity of administration. MMS should develop a pilot program to test alternatives that may improve net returns.

Chapter 7
OCS Royalty Relief: Lack of Price
Thresholds in Offshore Oil and Gas
Leases – 1998 and 1999 Lease Sales in
the Gulf of Mexico

Chapter 7 OCS Royalty Relief: Lack of Price Thresholds in Offshore Oil and Gas Leases – 1998 and 1999 Lease Sales in the Gulf of Mexico

Summary of Major Recommendations in Chapter 7

(A complete list of all recommendations is provided in Appendix 1)

- The Department of the Interior should continue its efforts to pursue voluntary royalty payment agreements with holders of the 1998 and 1999 leases without price thresholds. (see Recommendation 7-1 on page 138)
- Congress and the Secretary of the Interior should continue to explore legislative options, which could address the loss of royalties without violating legitimately signed contracts. (see Recommendation 7-2 on page 138)
- MMS and the Office of the Solicitor should coordinate to develop new procedures and guidelines, or revise any existing procedures and guidelines to ensure that the Secretary's February 15, 2007 memorandum is effectively implemented. The revised procedures and guidelines should clearly delineate what constitutes a thorough review; how MMS will coordinate its clearance procedures internally, how the Office of the Solicitor will coordinate with MMS. The new procedures and guidelines should be reviewed by the Inspector General, and they should be put in place within 60 days of the submittal of the Subcommittee's report to the Department. (see Recommendation 7-3 on page 138)
- MMS and the Department should establish periodic, comprehensive and formally structured reviews of the procedures and guidelines to ensure they are being implemented correctly and successfully. Any necessary remedial actions should be defined and implemented promptly. (see Recommendation 7-4 on page 138)
- Effective implementation of the procedures and guidelines should be incorporated in the performance standards for key staff, supervisors, and managers in MMS and the Office of the Solicitor. (see Recommendation 7-5 on page 138)
- In addition to the standard training provided to all Departmental employees, the Department and MMS should require additional annual ethics training for staff involved in royalty management (this includes staff in the Office of the Solicitor). This training should include guidance on public-private-sector interactions, use of official and/or proprietary data, and prohibitions on the use of public office for private gain. (see Recommendation 7-6 on page 138)

Chapter 7 OCS Royalty Relief: Lack of Price Thresholds in Offshore Oil and Gas Leases – 1998 and 1999 Lease Sales in the Gulf of Mexico

I. Introduction

There has been considerable controversy over the issue of oil and gas leases from 1998 and 1999 sales in the Gulf of Mexico, which were granted royalty relief without price thresholds. This issue was not included as a review topic in the Subcommittee's charter because the Department of the Interior considers it a leasing management issue, rather than a royalty management issue.

Recently, the Assistant Secretary-Land and Minerals Management (hereinafter "Assistant Secretary") asked the Subcommittee to comment on the offshore lease issuance procedures outlined in a February 15, 2007 memorandum from the Secretary of the Interior to the Assistant Secretary. Those procedures include eight enumerated items that the Office of the Solicitor must review for future lease sales (see Exhibit A on page 139).

II. Background

In 1995, the Outer Continental Shelf Deep Water Royalty Relief Act ("the Act"), Public Law 104-58, granted royalty relief for existing offshore oil and gas leases in deep water, and MMS subsequently provided royalty relief for certain existing deepwater leases in the Gulf of Mexico. That relief includes:

- Production volumes that may not be subject to the payment of royalties (known as "suspension volumes"); and
- Price thresholds that determine how high the market price can rise before royalty relief is suspended. When the market price exceeds the threshold, companies are required to resume paying royalties to the government. When the market price drops below the price threshold, royalty relief is reinstated until the suspension volume in the lease is reached.

The Act does not specifically mandate price thresholds for new leases. However, no party questioned MMS's authority to impose price thresholds for post-2000 leases in the Outer Continental Shelf. Moreover, MMS has routinely included them in all post-2000 leases, and the Energy Policy Act of 2005 plainly authorizes price thresholds for post-2005 leases.

In March 2006, the Department of the Interior's Office of Inspector General (IG) began an investigation into the omission of price thresholds in certain deepwater oil and gas leases issued in 1998 and 1999.¹⁴⁵ Because these leases do not contain price thresholds, payment of royalties for production under the leases is not required until the suspension volumes are achieved (regardless of the market price for oil and

¹⁴⁵ U.S. Department of the Interior, Office of Inspector General, Investigative Report on the Lack of Price Thresholds in Gulf of Mexico Oil and Gas Leases (2007).

gas). Estimates of the potential loss in royalty payments from these 1998 and 1999 leases vary. Early in 2007, MMS estimated that the loss of royalties will be in the \$6.4 billion to \$9.8 billion range. The Government Accountability Office (GAO) found this to be a reasonable estimate, but noted that actual losses will depend on factors such as the growth of reserves and price trends.¹⁴⁶ The total loss will not be known until each of these leases have either been relinquished or have exceeded their suspension volumes (which could be a number of years from now). Market forces and the extent to which producible oil and gas are discovered on these leases will largely determine actual production volumes from those leases.

The IG investigative report contains a detailed examination of the factors that contributed to the release of the 1998 and 1999 leases without price thresholds, but does not include specific recommendations for addressing the problem. Nonetheless, the report speaks for itself and the Subcommittee finds it compelling. The report was referred by the IG to the Assistant Secretary for “whatever action he deems appropriate.”

Some of the producers holding the 1998 and 1999 leases without price thresholds have been willing to renegotiate royalty payments (on a voluntary basis) with the Assistant Secretary. The GAO reported that as of April 2007, six of the 45 companies involved have agreed to terms; others have agreed to negotiate but have not yet come to terms; and some companies have, to date, not agree to negotiate.

III. Findings and Recommendations

A. Findings

The issuance of the 1998 and 1999 leases without price thresholds has undermined taxpayer confidence in the MMS offshore leasing program.

The 1998 and 1999 leases without price thresholds cannot be “fixed” by retroactively mandating the payment of royalties. These leases are contracts that were signed by both parties – the government and the lease holders – and efforts to change the terms of legitimately signed contracts without mutual agreement would be a violation of contract law.¹⁴⁷

¹⁴⁶ Government Accountability Office, *Oil and Gas Royalties: Royalty Relief Will Cost the Government Billions of Dollars but Uncertainty Over Future Energy Prices and Production Levels Make Precise Estimate Impossible at this Time* (April 12, 2007).

¹⁴⁷ In *Santa Fe Snyder*, 383 F.3d 884 (5th Cir.2004), the Fifth Circuit held that the “plain meaning” of the Deep Water Royalty Relief Act left MMS with no authority to limit royalty relief to OCS leases issued in the period 1996-2000 through imposition of a “new production” requirement and applying royalty relief on a field basis. Using a similar plain meaning rationale, in *Kerr-McGee Oil and Gas Corp. v. Allred*, No. 2:06-CV-0439LC (W.D. La.)(Mem. Ruling Oct. 30, 2007), the district court held that the Secretary had no authority to impose price thresholds on OCS leases for the same 1996-2000 period. Inasmuch as neither the *Santa Fe Snyder* decision nor the pending *Kerr McGee* litigation has any impact on post-2000 OCS leasing, the Subcommittee’s recommendations for stringent review of OCS leasing documents are both pertinent and critical to ensure effective future program management and stewardship of taxpayer resources.

It is unlikely that the specific problems associated with the 1998 and 1999 leases will be repeated, given the attention focused on this issue and the strong public and political concern it has generated. Nevertheless, reforms must be put in place to ensure that other significant problems, particularly those with revenue implications, do not occur in the future. It has taken far too long to address the needed reforms.

The IG investigative report identifies a number of management problems in the Office of the Solicitor and in MMS with respect to the issuance of the 1998 and 1999 leases without price thresholds. It provides a strong basis for identifying corrective actions that should be put in place to preclude future mistakes. In particular, it identifies issues related to document handling, records retention, the substantive review of lease-related materials, and documentation of reviews by the Office of the Solicitor.

As noted above, the February 15, 2007 memorandum from the Secretary to the Assistant Secretary addresses the issue of what should be reviewed by the Office of the Solicitor. As requested, Subcommittee has reviewed this document.

Without considerable additional information gathering and analysis, the Subcommittee cannot state that the items enumerated in the February memorandum constitute a definitive list of items for the Solicitor's review. Nonetheless, the enumerated items do appear to be sensible policy guidance. This policy is likely to succeed only if it is supported by documented, detailed, and rigorous procedures and guidelines.

B. Recommendations

Recommendation 7-1 The Department of the Interior should continue its efforts to pursue voluntary royalty payment agreements with holders of the 1998 and 1999 leases without price thresholds.

Recommendation 7-2 Congress and the Secretary of the Interior should continue to explore legislative options, which could address the loss of royalties without violating legitimately signed contracts.

Recommendation 7-3 MMS and the Office of the Solicitor should coordinate to develop new procedures and guidelines, or revise any existing procedures and guidelines to ensure that the Secretary's February 15, 2007 memorandum is effectively implemented. The revised procedures and guidelines should clearly delineate what constitutes a thorough review; how MMS will coordinate its clearance procedures internally, how the Office of the Solicitor will coordinate with MMS. The new procedures and guidelines should be reviewed by the Inspector General, and they should be put in place within 60 days of the submittal of the Subcommittee's report to the Department. MMS and the Office of the Solicitor should consider establishing a single point of contact to assist in coordinating the reviews.

Recommendation 7-4 MMS and the Department should establish periodic, comprehensive and formally structured reviews of the procedures and guidelines to ensure they are being implemented correctly and successfully. Any necessary remedial actions should be defined and implemented promptly.

Recommendation 7-5 Effective implementation of the procedures and guidelines should be incorporated in the performance standards for key staff, supervisors, and managers in MMS and the Office of the Solicitor.

Recommendation 7-6 In addition to the standard training provided to all Departmental employees, the Department and MMS should require additional annual ethics training for staff involved in royalty management (this includes staff in the Office of the Solicitor). This training should include guidance on public-private-sector interactions, use of official and/or proprietary data, and prohibitions on the use of public office for private gain.

Exhibit A: Memorandum from the Secretary to the Assistant Secretary



THE SECRETARY OF THE INTERIOR
WASHINGTON

FEB 15 2007

MEMORANDUM

To: Stephen Allred, Assistant Secretary, Land and Minerals Management

From: Secretary *Steve Largent*

Subject: Review of Offshore Lease Issuance

In light of the findings made by the Office of the Inspector General regarding the lack of price thresholds in Gulf of Mexico oil and gas leases from 1998 and 1999 sales, it is important that we make use of available resources to ensure that future offshore leases are consistent with the law and policies of this Department. Please assure that the Solicitor's Office reviews the following items related to offshore lease sales before they are presented to you for decision or finalized or utilized by Minerals Management Service.

1. Recommendation memos from the Director to the Assistant Secretary concerning proposed and final notices of sale and any associated transmittal memoranda.
2. Sample lease forms, including stipulations and addenda, including those relating to royalty suspension volumes pursuant to the Outer Continental Shelf Deep Water Royalty Relief Act and the regulations at 30 CFR Part 260.
3. Consistency determinations and transmittal letters to governors.
4. Responses to governors and agency heads pursuant to Section 19 of the Outer Continental Shelf Lands Act.
5. Information to Lessees.
6. Draft and final environmental impact statements or assessments.
7. All contents of the "Notice of Sale package" or "bidder's package" intended to be furnished to prospective bidders.
8. Final lease contracts, including all stipulations and addenda.

The Solicitor's review shall consider compliance with the Final Notice of Sale and the policies of this Department as well as issues of legal sufficiency.

cc: Johnnie Burton, Director, Minerals Management Service
David L. Bernhardt, Solicitor

Appendices

Appendix 1 Complete List of Recommendations

Recommendation 3-1 MMS and BLM should develop a procedure to determine the potential BTU variability of produced natural gas on a by-reservoir or by-lease basis, and estimate the implications for royalty payments. 22

Recommendation 3-2 MMS and BLM should adjust BTU frequency requirements for sampling and reporting on a case-by-case basis, or consider other regulatory requirements..... 22

Recommendation 3-3 MMS and BLM should establish consistent guidelines for requesting BTU information from gas producers, and should systematically examine the validity of that information. 22

Recommendation 3-4 MMS and BLM should establish procedures to systematically compare the BTU values reported on the Oil and Gas Operations Reports (OGORs) with gas analysis reports (GARs) to determine whether BTU reporting is accurate. 22

Recommendation 3-5 MMS should revise 30 CFR 250.1203(b)(5) (“Oil and Gas and Sulfur Operations in the Outer Continental Shelf—Gas Measurement.” Similarly, BLM should revise BLM Onshore Order Number 5. Both revisions should reflect BTU sampling requirements deemed necessary by the agency to ensure accurate BTU sampling frequency, methodology, and reporting. Revisions on methodology should include requirements for sampling location (e.g., immediately upstream or downstream of natural gas sales meters). MMS’s Offshore Minerals Management (OMM) office and BLM should consider adopting the gas sampling standard of the American Petroleum Institute, Chapter 14, Section 1, Collecting and Handling of Natural Gas Samples for Custody Transfer, February 2006, or a similar standard. Both agencies should consider requiring certified (ISO) lab testing of natural gas samples. 22

Recommendation 3-6 MMS should amend Form MMS-2014 to record natural gas BTU values, which form the basis for required royalty payments. This will require adding a second column to the form: the new column will report BTU value, and the original column will still report volume times BTU value (total mmBTU). 22

Recommendation 3-7	MMS should modify the Gas and Liquid Verification Systems (GVS and LVS), or develop an equivalent, automated system to compare BTU values and oil quality data in submitted product quality statements to information in Oil and Gas Operations Reports (OGORs) (see <i>also</i> recommendations under Electronic Data Submittals, Data Exchange, and Accounting Tools, beginning on page 27).	23
Recommendation 3-8	The Department of the Interior should support amending the Royalty Simplification and Fairness Act (RSFA). The Energy Policy Reform and Revitalization Act of 2007 (HR 2337) introduced in the 110 th Congress contains language in Section 215 (“Liability for Royalty Payments”) simplifying the RSFA collection requirements by restoring MMS’s ability to pursue the “payor” for debts, as was done prior to the enactment of RSFA. The Subcommittee recommends separating Section 215 from HR 2337, if necessary, for passage as a stand-alone piece of legislation. This RSFA amendment would allow for more timely and less costly collection of MMS’s unsettled royalty debts.	23
Recommendation 3-9	BLM should work with MMS’s Minerals Revenue Management (MRM) division to develop and implement a system that electronically transmits information on lease establishment and any follow-up leasing actions affecting lease status.	27
Recommendation 3-10	MMS and BLM should require gas analysis reports from all operators, at a frequency to be determined by the agencies.	27
Recommendation 3-11	MMS’s Offshore Minerals Management division (OMM) should phase in a requirement for offshore lease operators to submit all oil and gas volume and quality statements electronically, in an automated file format. Once electronic reporting of quality information is established, MMS should modify the Gas and Liquid Verification Systems (GVS and LVS) to compare information submitted via GVS/LVS to information submitted via Oil and Gas Operations Reports (OGORs).	27
Recommendation 3-12	BLM should complete the pilot effort on Remote Data Acquisition for Well Production, and determine whether the system can be implemented for all Federal and Indian onshore oil and gas production.	27

Recommendation 3-13	MMS’s Minerals Revenue Management division (MRM) should phase in a requirement that all payors submit their payments electronically, with a goal of full implementation in five years.....	27
Recommendation 3-14	As outlined in the Minerals Revenue Management (MRM) Strategic Business Plan 2007–2012, MMS’s MRM division should complete the process of adding up-front error correction to the electronic interface for Form MMS-2014. This will reduce errors received by MRM, by up-front checks to a payor’s entry to the electronic royalty payment system.....	27
Recommendation 3-15	MMS’s Minerals Revenue Management division (MRM) should develop and implement software to perform the function of the Accounting and Financial System/Production Auditing and Reporting System in automatically generating exception reports. This system should work in conjunction with MMS’s Compliance Program Tools to automatically generate exception reports requiring follow-up gas plant compliance reviews or audits. MRM would need to establish a system to prioritize cases for follow-up, to ensure proper royalties are being paid.	28
Recommendation 3-16	MMS should reinstate periodic reporting of gas plant efficiency data by plant operators, similar to Gas Plant Operations Reports (GPORs). The reporting period should be consistent with established audit schedules.	30
Recommendation 3-17	MMS should establish a prioritized gas-plant compliance review or audit schedule to examine gas-plant efficiency. This schedule could be based on factors such as plant processing capacity, age of the plant and age of the efficiency data.	30
Recommendation 3-18	BLM should update all policy and guidance on production accountability, including any expired and current instruction memoranda, the “Redbook,” and any relevant pre-1983 USGS guidance. The updated material should be incorporated into the BLM Manual System.	32
Recommendation 3-19	BLM and MMS should develop timelines and standards for communicating and providing feedback to each other on production accountability issues.	32

Recommendation 3-20	MMS should provide BLM an updated MMS personnel contact list for production accountability issues, by operator.	32
Recommendation 3-21	MMS should update production accountability guidance and handbooks. This guidance should be used instead of on-the-job training.	32
Recommendation 3-22	BLM should establish a workgroup to evaluate Onshore Orders 2, 3, 4, and 5 to ensure that they include sufficient guidance for checking that sufficient royalties are paid on oil and gas. This workgroup should be established as soon as possible and complete its work by June 2008. In particular, Onshore Order #5 (involving gas measurement) should be evaluated for its treatment of electric flow computers, gas sampling and analysis, point of measurements, alternate measurement devices and BTU determination. Furthermore BLM should clarify standards when it comes to meters that record less than 100 mcf per day, address overall uncertainty and bias, and finally address minimum distances that compression must be placed from a meter.	32
Recommendation 3-23	BLM should establish and maintain a gas measurement team of specialists to assess new gas measurement technologies. This team should provide recommendations to BLM by June 2008. Following the development of an initial set of recommendations, the team should meet on an annual basis to evaluate the extent to which new technologies should be considered in BLM's guidance.....	33
Recommendation 3-24	BLM should add an action code in its LR2000 records tracking system to allow each production accountability review to be tracked for management and performance monitoring purpose.	36
Recommendation 3-25	BLM should develop estimates of the number of hours required to complete simple and complex reviews. These estimates should be used to help determine appropriate staffing levels, closely corresponding to oil or gas activity in a given field office. In the interim, BLM should reallocate its FY 2008 funding for oil and gas activities to place greater emphasis on the timely hiring of additional	

	Production Accountability Technicians (PATs) sufficient to meet current and expected workloads.	36
Recommendation 3-26	BLM should ensure that current Production Accountability Technicians (PATs) are fully utilized for production accountability needs, whether for the home office or adjacent offices. PATs should typically not be used for non-production-accountability-related duties.	36
Recommendation 3-27	MMS should prioritize resolving Oil and Gas Operations Report errors and enforcing compliance via written orders and civil penalties.	38
Recommendation 3-28	MMS should replace retirees with qualified contractors or trained non-permanent or seasonal employees. Potential sources of employees include other Federal agencies (such as the Defense Financial Accounting Service) the Financial Management Internship Program, and other professional internship programs.	38
Recommendation 3-29	MMS should ensure that Offshore Minerals Management (OMM) division staffing levels are adequate for sufficient review of discrepancies in the Gas Verification System (GVS).	38
Recommendation 3-30	MMS and BLM should establish standardized position descriptions for Production Accountability Technicians in order to consistently define the roles and responsibilities of these individuals.	40
Recommendation 3-31	The BLM National Training Center should work with the BLM Washington Office and states to project the training demands for Petroleum Engineering Technicians (PETs) and certification requirements, and should offer such courses on a schedule that would meet these demands. In doing so, BLM should weigh the costs of waiting to offer a certification class until it is fully enrolled, against potential lost royalty revenues due to delays in PET certifications.	40
Recommendation 3-32	BLM should assess the training needs for Petroleum Engineering Technicians and Production Accountability Technicians This needs assessment should include the development of a national training program for Production Accountability Technicians, that would provide training related to fundamental production accountability tasks, as well	

	as more detailed instruction on topics such as oil and gas agreements (unit agreements, communitization agreements, commingling, allocation, and off-lease measurement, and gas storage agreements). In addition, BLM should ensure that PETs are adequately trained in use of the Automated Fluid Minerals Support System (AFMSS) and other information systems necessary for performing production accountability tasks. Updating formal guidance on the items identified above is essential to developing the necessary training materials.	40
Recommendation 3-33	MMS and BLM should convene an annual workshop for BLM Petroleum Engineering Technicians and Petroleum Accountability Technicians and equivalent MMS Offshore Minerals Management (OMM) personnel to share applicable best practices and identify and propose resolutions to common production accountability concerns.....	40
Recommendation 3-34	BLM should establish a formal procedure to certify mine inspectors, including appropriate education and experience criteria.	40
Recommendation 3-35	BLM should ensure that offices involved with surface mines are equipped with appropriate technology to accurately measure removed minerals materials.	41
Recommendation 3-36	BLM should conduct periodic National and Statewide Production Accountability Technician/Petroleum Engineering Technician meetings to discuss production accountability procedures. Such meetings could provide supplemental training regarding new policies and procedures, as well as serve as a forum for identifying on-the-ground production accountability issues.	41
Recommendation 4-1	MMS should establish a “Compliance Strategy Council” to identify an MMS-wide compliance strategy. The Council should be established by June 2008. Membership of the Council should include senior MMS compliance managers. Outside membership, such as senior IRS staff experienced in risk-based compliance processes, should also be considered.....	61

Recommendation 4-2	MMS should systematically review staffing and budgetary needs required to implement the August 2007 consultant’s report on compliance strategies. MMS should prepare a plan for tracking costs and benefits by audit/review type and by compliance office.....	62
Recommendation 4-3	MMS should systematically review the allocation of compliance resources across States and Tribes. This review should include an examination of the staffing and budgets for other Federal agencies engaged in similar activities.....	62
Recommendation 4-4	MMS should commit to an ongoing effort to evaluate the relative benefits and costs associated with different compliance tools. This effort should include appropriate investments in data gathering and analysis. As a starting point, MMS should evaluate the results from the audit and compliance program cost-benefit study and implement its recommendations as appropriate. During the next fiscal year, MMS should develop a plan to ensure that the appropriate compliance data will be collected and analyzed on an ongoing basis to assist in ensuring that the best mix of compliance tools is being applied. MMS should consider consulting with the IG and GAO regarding the sufficiency of these Plans.	62
Recommendation 4-5	MMS should assess the use of more targeted audits/reviews that focus on high-risk issues, and determine the extent to which a more flexible approach to audits is feasible (along the lines of the IRS model). In particular, the IRS employs a suite of enforcement approaches ranging from compliance checks to limited- or full-scope field audits.....	62
Recommendation 4-6	MMS should initial a pilot test of a royalty non-compliance “whistleblower” program, similar to the program administered by the IRS, as authorized under Section 7623 of the Internal Revenue Code. A short-term step could be setting up a “hot line,” and posting signs at Federal and Indian facilities listing a telephone number for reporting theft of Federal minerals to MMS. A longer-term effort would require authorization by Congress and could permit MMS to pay a reward from additional non-interest royalties collected. The reward would be a	

	portion of the additional revenues collected as a result of receiving information leading to the identification of Federal or Indian mineral royalty non-compliance.....	62
Recommendation 4-7	MMS should evaluate the extent to which additional flexibility with accounting standards and requirements might reduce costs without compromising the integrity of the compliance process. MMS should consult with the IRS in this evaluation.....	63
Recommendation 4-8	MMS should require electronic submission of all relevant information.....	63
Recommendation 4-9	MMS should complete its risk-based compliance pilot project and develop a plan for implementing a risk-based compliance strategy on an MMS-wide basis, using an incremental approach to ensure that essential data and related management information systems are validated and ready for wider application. The first phase of this effort should be completed by the end of FY 2008 and should address the offshore program.	65
Recommendation 4-10	MMS should enhance its tracking system to include the following information for every audit and compliance review: identification of the company/property/location; who performed work (staff, office, etc.); the type of work that was done (type of audit/review, information collected, reviewed, analyzed, etc.); why the work was initiated (mandate, risk factors, random sample, etc.); results (royalties recovered, penalties, etc.); and time and resources spent.....	66
Recommendation 4-11	MMS should keep GAO and the IG informed on the progress of the pilot project and resultant proposals.....	66
Recommendation 4-12	The Royalty Policy Committee should continue to monitor the pilot, resultant proposals, implementation of improvements, and impacts on the compliance program.....	66
Recommendation 4-13	MMS should develop a new set of Government Performance and Results Act goals and measures based on the recently completed analysis of the benefits and costs of different compliance tools and the risk-based compliance process pilot (a risk-based pilot is scheduled for completion in February	

	2008). MMS should establish final goals and measures by the end of February 2008.....	67
Recommendation 4-14	MMS should automate the data entry process for all compliance management information systems and establish a schedule for completing this effort, with a completion date of not later than June 2009. This will keep data current, improve data quality and consistency, and improve the reliability of the information used in decision-making and performance tracking and evaluation.....	67
Recommendation 4-15	MMS should evaluate the performance measures used by other entities. In particular, MMS should review the IRS “Balanced Measures” performance system.	67
Recommendation 4-16	MMS should place a high priority on improving the processes and procedures associated with calculating interest on royalty payments. These issues should be addressed as soon as possible.....	69
Recommendation 4-17	MMS should eliminate duplicate data by consolidating several databases, including databases for the Compliance Information Management system (CIM), the Performance Tracking Tool (PTT), and the Government Performance and Results Act (GPRA).	69
Recommendation 4-18	MMS should implement automatic updates by integrating the Compliance Information Management System (CIM) and the Performance Tracking Tool information system (PTT) rather than depending on manual data entry.	70
Recommendation 4-19	MMS should define and use consistent procedures for all compliance reviews.	70
Recommendation 4-20	MMS should seek consult with the Inspector General on the draft procedures in the updated manuals.....	70
Recommendation 4-21	MMS should require electronic submission of all offshore run tickets for input to Liquid Verification System and Gas Verification System.	70
Recommendation 4-22	BLM should evaluate implementing equivalent systems onshore for electronic submission of run tickets. BLM can accept electronic run tickets now, but the many small operators onshore may render a requirement for electronic submission impractical.	

	Adapting LVS and GVS to onshore production may supplement existing systems.	70
Recommendation 4-23	BLM should integrate business process improvements and information management planning via improved coordination with MMS.	70
Recommendation 4-24	MMS should finalize the “technical changes” Indian oil valuation rule immediately, and forward it to the Office of Management and Budget. The rulemaking process to change to Indian oil valuation methodology to provide greater certainty for all parties and address a long standing concern of Indian tribes should commence as soon as possible once the proposed rule has been forwarded to OMB.	72
Recommendation 4-25	By June FY 2008 MMS should propose an Indian oil rule to change the methodology for valuing Indian oil from a posted price method to a market index methodology, as was done for production from Federal oil and Indian gas leases.	73
Recommendation 4-26	By the end of FY 2008, MMS should publish proposed revisions to the gas valuation regulations and guidelines to address the cost-bundling issue, and to facilitate the calculation of gas transportation and gas processing deductions. MMS should consider incorporating into the proposed revisions the use of market indices for gas valuation in the context of non-arm’s length transactions in lieu of the benchmarks that have been employed since 1988.	73
Recommendation 4-27	By the end of FY 2008 MMS should review, and (as appropriate) revise and implement the regulations and guidance for calculating prices used in checking royalty compliance for solid minerals, with particular attention to non-arms-length transactions.	73
Recommendation 5-1	BLM should collaborate with BIA, MMS, and the Office of Indian Energy and Economic Development to ensure there is an understanding on the issuance of “permits” and the role the respective agencies play, in order that Trust responsibilities are met. Additionally, a renewed agreement on joint inspections should be initiated.	81
Recommendation 5-2	MMS and BLM should secure appropriate access to the Indian lease system. This is necessary to	

	prevent delays in approving lease activity and to ensure MMS has the correct information for managing revenue from Indian leases.....	84
Recommendation 5-3	DOI should work to reconnect the systems containing Indian data after appropriate security measures are in place. The Indian Automated Fluid Mineral Support System (IAFMSS) and the Indian Well Information System (IWIS) should be restarted appropriate access to IAFMSS for MMS and Indian contract inspectors should be provided. In addition, once appropriate security measures are in place, MMS should provide BLM users with the ability to query these systems by any parameter (e.g., lease number).....	84
Recommendation 5-4	MMS should revise the database management software password requirements to make passwords good for 90 days rather than 60, and to remind users to change passwords before the 90 days expire.....	84
Recommendation 5-5	Until more integrated processes can be developed, BLM should issue guidance to field personnel, to address known coordination problems. One example is the errors introduced when BLM manually sends MRM “first production” notices.....	84
Recommendation 5-6	BLM should report to MMS on a quarterly basis for each mine, Indian and Federal, whether production has or has not been verified for that quarter.....	84
Recommendation 5-7	DOI should establish standards for geospatial data regarding Indian leases that facilitate management of Indian resources while still meeting DOI’s Trust responsibilities.....	84
Recommendation 5-8	DOI should seek a review of the decision classifying boundary information for Indian allotments, leases, and agreements as Trust information. Any solution should satisfy Trust responsibilities and allow the DOI bureaus to carry out their management responsibilities efficiently.....	85
Recommendation 5-9	By June 2008, the Department should establish a Coordinating Committee with representatives from the senior management level in MMS, BLM, and BIA. Bureau representatives should have the authority to ensure decisions and recommendations are implemented in their respective bureaus.....	85

Recommendation 5-10	To support the Departmental Coordinating Committee described in Recommendation 5-9, each Bureau should establish procedures for strengthening intra-Bureau coordination.	86
Recommendation 6-1	MMS should establish an RIK Subcommittee to the Royalty Policy Committee (RPC). Issues that should be addressed include performance benchmarks, volume verification and market positioning.	108
Recommendation 6-2	Providing appropriate and visible oversight for the program is a preemptive measure to address concerns about MMS operations. The new Subcommittee recommended above should conduct periodic reviews of the RIK program, both comprehensive and targeted, according to a fixed schedule. These reviews should result in specific recommendations for consideration by the RPC and as appropriate their transmittal to the Department.	108
Recommendation 6-3	MMS should issue new or revised regulations and/or guidelines that would offer MMS, the public, and potential RIK purchasers or providers of transportation/processing services additional certainty concerning program administration. Additional certainty for these parties may assist in providing greater transparency for MMS business practices.	108
Recommendation 6-4	MMS should compile and publish a guidebook of RIK procedures and policies, which should be made available to the public. This will reduce uncertainty regarding MMS procedures by offering a definitive source of information for RIK staff, affected industry personnel and other stakeholders.	108
Recommendation 6-5	MMS should undertake a concerted effort to provide outreach to States, Industry, and the public to assist in communicating RIK's inner workings (e.g., seminar courses, workshops). This will clarify MMS's role in administering royalties, and facilitate understanding and confidence for clients and partners of MMS.	108
Recommendation 6-6	MMS should explore the feasibility of establishing a "trust fund" within Treasury, the interest from which could be used to fund DOI activities, particularly those related to royalty management. Priority for funding should be given to activities required for	

	addressing the Subcommittee’s recommendations related to production accountability, audit, collections and enforcement (as noted above, RIK administrative costs are already funded by a share of RIK revenues). Legislation would be required to establish this fund. If this option is pursued, it is essential that these funds should be available without subsequent appropriation. It is important to “hold harmless” the base budgets for fund-supported activities to ensure net increases in support for them; otherwise there will be no net increase in program support.	108
Recommendation 6-7	By the end of FY 2008, MMS should clarify the extent to which Federal Acquisition Regulations (FAR) apply. If the FAR is found to apply, MMS should place a high priority on identifying contracting arrangements least likely to impair the program.	114
Recommendation 6-8	MMS should explicitly recognize (e.g., in a charter or mission statement) that the RIK program is a commercial activity, and should treat the program accordingly. Consistent with this, MMS should seek to operate the program as close to how a private business would operate as possible, including establishing a sole objective to maximize net revenue within risk parameters established by program executives. A business model should apply to all aspects of the RIK program, including identifying potential properties where royalties might be taken in kind, pre-sale bidder qualification procedures, the sales themselves, and performance measurement.....	114
Recommendation 6-9	MMS should conduct a cost-benefit analysis of various governance arrangements for the RIK program to determine the organizational structure that will best and most cost effectively align incentives with programmatic goals and provide the institutional flexibility necessary to function in a commercial environment. Alternatives should include but not be limited to: the status quo; contracting out marketing functions; an FFRDC model or some variation thereof; and the status quo with some legislative exemptions from the FAR and personnel regulations. Any such arrangement should maintain institutional oversight by the	

	Department of the Interior and MMS, and also provide the additional oversight mechanism suggested in Recommendation 6-10.....	114
Recommendation 6-10	If an alternative governance structure is established for the RIK program, an independent oversight board should be established. This board should include experts in marketing and management, and representatives of the public interest. The board should periodically evaluate the RIK program, to assess balance sheets and other “business-like” performance measures. The board should have the ability to recommend program expansion or contraction (onshore or offshore and by commodity) based on market trends and other concerns, and to address specific concerns such as the small refiner program. Furthermore, the Secretary could respond to the Board’s recommendations with on-the-record findings.	115
Recommendation 6-11	MMS should discontinue its onshore RIK crude oil program until it can be determined to be in the best financial interest of the government. While MMS has realized sizable revenue gains relative to RIK on crude oil sales in the past, there has been no systematic evaluation of onshore crude oil costs. Any decision to restart the onshore program should consider administrative cost implications. This will ensure that the government is collecting onshore royalties in the most beneficial manner.	121
Recommendation 6-12	MMS should prepare a decision document for RIK program executives, evaluating the conditions under which onshore oil sales should be undertaken. This effort should be completed prior to the next scheduled RIK crude oil sale. The document should include an assessment of the factors that would facilitate the participation of states and potential purchasers in a wider onshore RIK program, allowing increased marketing options for the onshore RIK program.....	122
Recommendation 6-13	The Subcommittee finds no strong justification for the small refiners’ set-aside, and recommends discontinuing the program as soon as possible. The program should not be resumed until the Secretary makes a new determination of need.	122

Recommendation 6-14	MMS should amend the Memorandum of Understanding with the Department of Energy to include reimbursement for administrative and contract costs incurred in transferring RIK oil to the Strategic Petroleum Reserve. Additional reimbursement should not result in a reduction in MMS's base budget.	122
Recommendation 6-15	MMS should recognize, and annually report on, the opportunity costs associated with transfers of oil to the SPR using the performance measures established for the RIK program.	122
Recommendation 6-16	MMS should immediately take steps to ensure that the RIK program has sufficient personnel depth to maintain an expanding trading operation and to ensure that RIK personnel have a solid understanding of existing ethics guidelines. MMS should develop and implement a Personnel Plan by June 2008 to strengthen those areas requiring additional personnel with industry expertise.	125
Recommendation 6-17	Given the documented capability of the RIK workforce, MMS should consider incorporating these employees into any alternative institutional structure created.....	125
Recommendation 6-18	MMS should streamline the process for announcing and filling vacancies. Priority should be given to filling the asset manager vacancies for oil and gas.	125
Recommendation 6-19	MMS should secure dedicated legal support for the RIK program, ideally stationed within the program in Denver, Colorado, or otherwise in the Regional or Washington, DC Office of the Solicitor. Securing dedicated legal support should improve the ability of RIK personnel to interact with their industry counterparts and with industry lawyers.....	125
Recommendation 6-20	MMS should ensure that RIK personnel maintain their market expertise. This will allow the program to make the most of marketing opportunities that can be developed. Allowing the RIK program personnel to remain actively involved in the market should allow the program to continue performing well, even as changes in infrastructure and demand impact the marketing landscape.	125
Recommendation 6-21	MMS should report monthly performance measures, in addition to the current annual measures. Monthly	

	performance metrics will allow a finer and more accurate view of exceptional periods (of high or low performance), and provide insight into cyclical performance patterns (e.g., demand for natural gas in the Northeast during the winter).	127
Recommendation 6-22	MMS should develop a presentation of the benchmarking process that makes it easier for outsiders to quickly understand the basics of how the benchmarks are assembled and applied.....	128
Recommendation 6-23	MMS should carry the range-of-values methodology associated with benchmarks through to the reporting of performance measures based on those benchmarks.....	128
Recommendation 6-24	The RIK program should produce a document explaining how performance data can be used to improve marketing strategies based on predictable fluctuations in the market (e.g., determining which indices produce the best contracts at different times of the year).....	128
Recommendation 6-25	Performance measure calculations should be centralized in the Economic Analysis Office (including cost accounting, administrative savings, and time-value of money/interest savings).....	128
Recommendation 6-26	MMS should develop a strategy for using data compiled from oil and gas sales over the past three years to direct marketing efforts, including identifying which type of companies tend to bid on which products. Using past sales data to target future marketing efforts can potentially reduce the effort and cost involved in finding interested customers for in-kind royalties.....	128
Recommendation 6-27	MMS should evaluate whether performance measures could be enhanced following standard business practices (e.g., balance sheet, cash flow statement, financial ratios).	128
Recommendation 6-28	MMS should publish a program cost comparison, comparing the RIK program to other public- and private-sector efforts toward marketing in-kind royalties (e.g., the Province of Alberta, Texas General Land Office, industry).	128
Recommendation 6-29	MMS should codify the currently ad hoc approach of considering un-solicited bids in auctions. This will	

	provide certainty for bidders and the RIK program about the auction procedures to be followed.	131
Recommendation 6-30	MMS should implement a systematic and detailed procedure for handling bid documents (including both bids and notices of acceptance) to ensure security and integrity. In particular, the procedures should address “refreshing.” In that regard, the procedures and associated documents used to announce sales and associated procedures should explicitly lay out the procedures for determining when and if additional bidding rounds will be held.....	131
Recommendation 6-31	MMS should evaluate the benefits and costs of alternative auction types, including changes in expected revenues, costs, and complexity of administration. MMS should develop a pilot program to test alternatives that may improve net returns.	131
Recommendation 7-1	The Department of the Interior should continue its efforts to pursue voluntary royalty payment agreements with holders of the 1998 and 1999 leases without price thresholds.....	138
Recommendation 7-2	Congress and the Secretary of the Interior should continue to explore legislative options, which could address the loss of royalties without violating legitimately signed contracts.....	138
Recommendation 7-3	MMS and the Office of the Solicitor should coordinate to develop new procedures and guidelines, or revise any existing procedures and guidelines to ensure that the Secretary’s February 15, 2007 memorandum is effectively implemented. The revised procedures and guidelines should clearly delineate what constitutes a thorough review; how MMS will coordinate its clearance procedures internally, how the Office of the Solicitor will coordinate with MMS. The new procedures and guidelines should be reviewed by the Inspector General, and they should be put in place within 60 days of the submittal of the Subcommittee’s report to the Department. MMS and the Office of the Solicitor should consider establishing a single point of contact to assist in coordinating the reviews.....	138
Recommendation 7-4	MMS and the Department should establish periodic, comprehensive and formally structured reviews of the procedures and guidelines to ensure they are	

	being implemented correctly and successfully. Any necessary remedial actions should be defined and implemented promptly.....	138
Recommendation 7-5	Effective implementation of the procedures and guidelines should be incorporated in the performance standards for key staff, supervisors, and managers in MMS and the Office of the Solicitor.	138
Recommendation 7-6	In addition to the standard training provided to all Departmental employees, the Department and MMS should require additional annual ethics training for staff involved in royalty management (this includes staff in the Office of the Solicitor). This training should include guidance on public-private-sector interactions, use of official and/or proprietary data, and prohibitions on the use of public office for private gain.....	138

Appendix 2 Risks Facing the RIK Program

Table 27 Risks facing the RIK Program

Risk	Description
Fair market value risk	Market price and basis volatility create risk exposure that RIK performance could be below the FMV benchmark due to the difference between the pricing mix used by RIK for selling the commodity and the pricing mix used in the FMV benchmark.
Credit Risk	1) Default in payment, and (2) late payment.
Operative Risk	The risk of direct or indirect loss resulting from inadequate or failed planning, internal processes, people, or systems.
Production (volume) risk	The risk of not meeting contractual obligations due to variances in production volume
Transportation cost risk	The risk of not having access to transportation capacity. Another aspect of transportation risk is that producers may be able to obtain cheaper transportation costs than RIK
Transportation imbalance risk	The risk of losing contractual volume if imbalances are not resolved in a timely manner. Additionally, there can be a significant price risk depending on the pipeline's provisions for imbalance resolution and for penalties on excessive imbalances.
Processing risk	Processing risk represents the exposure that RIK pays higher than market costs for the natural gas processing contracts that are generally available to other producers and commercial entities
Oversight risk	The risk that the RIK program's decisions, processes, marketing strategies, performance, and procedures would not meet the expectations of its external stakeholders, including the statutory authorities to take royalties in kind.
Source: Minerals Management Service, Royalty in Kind Risk Management Policy, August, 2005.	

Appendix 3 Price Trends for Oil and Natural Gas, 1990-2006.

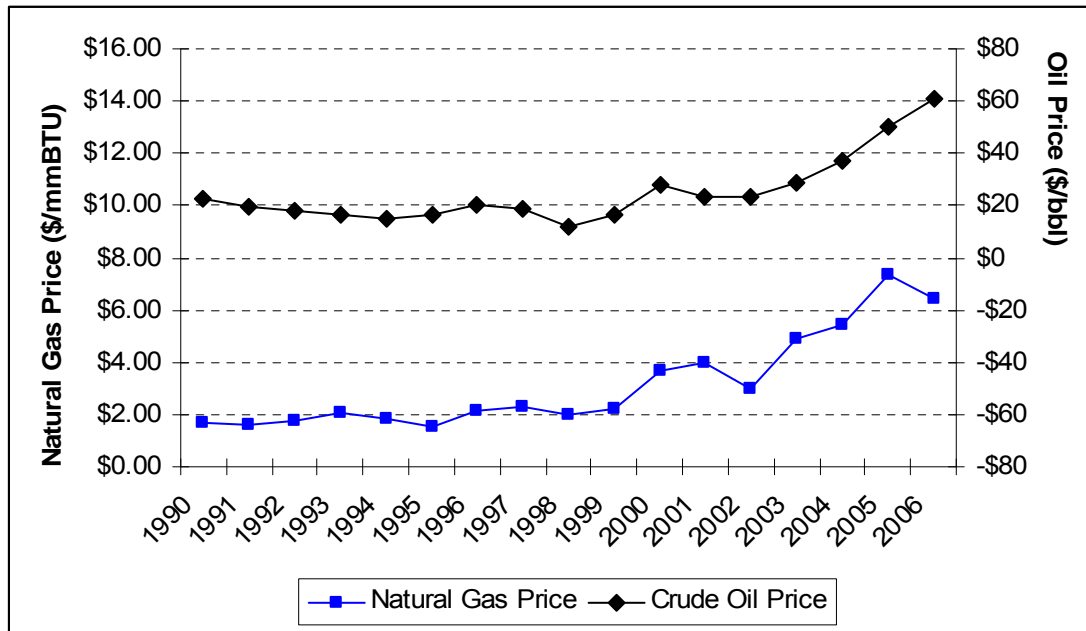


Figure 9 U.S. Natural Gas Wellhead Price; Federal Offshore U.S. Gulf Coast Crude Oil Wellhead Acquisition Price by First Purchasers

(Source: EIA's Petroleum and Natural Gas Navigators).

Appendix 4 RIK Volume Data, FY 2004-FY2010 (historical and estimated)
Crude Oil Volumes (bbl/day)

Year	Historic Sales Volumes			Estimated Sales Volumes			
	2004	2005	2006	2007	2008	2009	2010
Small Refiner Program (GOM)	35,361	34,400	37,225	50,000	50,000	50,000	50,000
Small Refiner Program (Pacific)	8,388	7,586					
Unrestricted Program (Pacific)			6,642				
Unrestricted Program (GOM)	2,296	27,615	76,343	50,000	30,000	100,000	100,000
Wyoming	1,103	1,876	1,824	0	0	0	0
Strategic Petroleum Reserve (exchanged to DOE)	106,352	70,161	0	50,000	70,000		
Total	153,410	141,638	122,034	150,000	150,000	150,000	150,000
Small Refiner Program (Total)	43,749	41,986	37,225	50,000	50,000	50,000	50,000

Source: MMS data.

Natural Gas Volumes (mmBTU/day)

Year	Historic Sales Volumes			Estimated Sales Volumes			
	2004	2005	2006	2007	2008	2009	2010
Offshore Gas				700,000	750,000	800,000	900,000
Onshore Gas				170,000	200,000	250,000	300,000
Total	509,746	527,907	548,248	870,000	950,000	1,050,000	1,200,000

Source: MMS data.

Appendix 5 Credit Scoring Models

The primary credit scoring model used by the MMS RIK Mid Office (MMO) is the RMG Financial Credit Scoring Model, an Excel-based spreadsheet that incorporates key financial information¹⁴⁸ from a company's audited financial statements into an objective numeric scoring process. The Subcommittee has not evaluated this model, but simply notes that it is an "off-the-shelf" application that appears to be widely used in the private sector (e.g., Exelon Corp, New York Power Authority).

The RIK Mid Office assigns an unsecured credit limit based first on 10% of a company's tangible net worth, which is reduced by weights based on key financial ratios, earnings, cash flows, and profitability. This lower limit is referred to as the "credit security threshold" and it forms the basis for establishing and approving a specific line of unsecured credit.

A secondary scoring model obtained from AEP employs objective financial ratio and performance data, but provides a more subjective evaluation outcome. The model uses weighting factors in the areas of short-term liquidity, debt management, asset management, and profitability and provides an overall weighted score using four ratings: poor, below average, above average, and good.

Credit Exposure Calculation Procedures

Exposure Period

The RIK Mid Office currently calculates credit exposure for four RIK programs – Wyoming Gas, Small Refiner Gulf of Mexico, Gulf of Mexico and Pacific OCS Unrestricted Crude Oil, and Gulf Natural Gas. The RIK Mid Office Mineral Revenue Specialist computes 60-day sales values and outstanding credit exposures at least monthly for each RIK purchaser under the four programs. The 60-day period is significant because it represents the maximum credit exposure MMS would face if a counterparty defaulted on payment. Because payment is due towards the end of month following delivery, up to 60 days of production may be delivered before a default occurs and mitigating actions can be taken. For exchange programs such as filling the Strategic Petroleum Reserve, the exposure is calculated on a 30-day basis, because the product is re-delivered to MMS within the 30-day delivery period.

The credit exposure for the 60-day period is displayed in a report using the estimated sales value for the previous "delivered" production month, plus the estimated sales value for the undelivered forward month, less the available credit (unsecured plus secured). In other words, the 60-day period represents a "first month" and "second month." As one would expect, estimates for the delivered month are more accurate than for the second month, because second month data are projected, and therefore less reliable, and subject to change.

¹⁴⁸ The credit scoring model uses information from a company's balance sheet, income statement, and statement of cash flows, including current assets and liabilities, long-term assets and liabilities, stock ownership, revenue, cash flow, earnings, and interest payments.

In actuality, credit exposure follows a sinusoidal cycle which varies between 25 days exposure and around 55 days exposure.¹⁴⁹ For the first month of a contract, the exposure starts at zero and increases daily along with daily deliveries until payment is received approximately 55 days later. When that payment is received, the exposure drops to 25 days because that amount has been delivered and billing and payment has not yet occurred for that time period.

When payment is received for the first month, that exposure expires and a new cycle begins. Therefore, the cutoff date for determining the first month and second month for exposure computation purposes is the 25th of the month. For example, consider a contract beginning in January; for the period January 1 through February 24, January would be the first exposure month and February the second exposure month. On February 25, February would become the first month and March the second month, and so on.

Pricing and Volumes

The RIK Mid Office uses “best available” prices and volumes when computing credit exposure. The Mid Office uses actual prices, if available, or estimated prices otherwise. In the above example, if the exposure calculation was performed at the end of the first month, actual prices would be available for most of January, the first month. Those actual prices would be used for the entire month’s calculation. Prices for February would be estimated using one of several methods: (1) first month prices, (2) projected futures prices, (3) most current daily market prices, or (4) a combination of the above.

For gas calculations, the RIK Mid Office computes exposure shortly into the second month when the first-of-month index price for the second month is obtainable for the base load portion of the exposure. For the swing volumes, the second month exposure is estimated using the first month’s actual daily prices. For oil calculations, the Mid Office uses first month actual prices for both months’ calculations.

In special situations where an excess exposure exists or a significant amount of surety would be required to eliminate the excess exposure, the Mid Office makes an independent determination regarding the pricing method that would be the most accurate and/or applicable to the particular situation. For example, if on February 10, an excess exposure of \$1 million arises, the RIK Mid Office may use the latest prices obtainable for February production, or an average of the latest cash prices and the future prompt month price to compute the second month exposure. During periods of severe price spikes, it may be appropriate to use an average of prices over a certain time period to arrive at a fair and justifiable price.

Again, the Mid Office strives to use the best volumes available. Volumes used by the Mid Office for exposure calculations are either contract awarded volumes, nominated volumes, or actual delivered volumes from a previous month (when available). Typically for oil, nominated volumes represent the best, most recent

¹⁴⁹ A sinusoidal cycle is a wavelike function of time (t).

delivery volume estimates. For gas, nominations are not performed by the RIK program, so most recent invoiced volumes are used in the calculation.

The specialist obtains both prices and volumes (except contract volumes) using Excel spreadsheets under either the RIK oil or RIK gas directories, as the case may be. The pricing and volume spreadsheets are maintained by the MMS Back Office personnel, with the exception of oil pricing, which is maintained by the MMS Economic Analysis office on a "Pricing Master." If forward prices are deemed appropriate for exposure calculations, those prices are normally the NYMEX front month or strip available from public sources.

Contract volumes are obtained from the transaction confirmations. Pricing formulae and bid amounts are also obtained from the transaction confirmations to calculate exposure. To anticipate imminent credit exposures, the specialist and the RIK Mid Office monitor price movements for oil and gas, both in the cash markets and the futures markets, by surveying Oil Daily and Gas Daily publications and monitoring commodities pricing websites such as INO.com and Bloomberg's.

Expiring/Commencing Contracts

At several times during the year, the RIK program solicits bids for new sales contracts. As delivery commences under the new contracts, it creates a "split period" credit exposure calculation. At the end of the month that the existing contracts expire, credit exposure schedules must be prepared for the final thirty days of delivery and a separate schedule prepared for the first thirty days of new contract delivery. For purchasers continuing with a new contract, the results of these two schedules are added to determine the total sixty day exposure for that purchaser.

Excess Exposure and Mitigating Processes

Upon completion, the specialist submits the credit exposure calculation and available credit summaries for each purchaser under each RIK program to the RIK Mid Office for review. This monthly review primarily focuses on ensuring reasonableness of exposure amounts, accuracy of pricing and volumes, and recognition of any outstanding credit exposures. (RIK-MO-3)

If the total amount of credit is exceeded by the 60-day value calculation, an outstanding credit exposure results. In situations where an unacceptable credit exposure arises, the RIK Mid Office will: (1) re-evaluate the prices and volumes used for the exposure computation to ensure accuracy and relevance (for example, revise the estimates for the forward month using more current information, or look for calculation errors), (2) re-examine the amount of credit issued, and (3) review when a surety increase was last received, before deciding whether additional surety is required. The Mid Office may also direct the specialist to perform the above tasks.

If there is reason to believe that a deficiency in available credit is a result of temporary market price spikes, the Mid Office staff will monitor the situation in the near-term (less than 2 months). If the situation remains, additional financial assurance will be sought.

The number of current RIK qualified bidders, categorized by investment rating, is shown in Table 28. This information indicates some level of diversity in the qualified bidders.

Table 28 Qualified Bidders for RIK Auctions Companies

	Gas Companies	Oil Companies
A rating	17	9
BBB rating	15	7
Sub-investment grade	1	2
Non-rated	8	13
Total	41	31

source: MMS