1997 ROYALTY IN KIND FEASIBILITY STUDY

MINERALS MANAGEMENT SERVICE
OFFICE OF POLICY AND
MANAGEMENT IMPROVEMENT

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1997 ROYALTY IN KIND FEASIBILITY STUDY

EXECUTIVE SUMMARY

This document presents results of a feasibility study concerning whether the U.S. Government should take its oil and gas royalties from Federal leases "in kind" rather than "in value."

The Minerals Management Service (MMS) performed the study as part of MMS's continuing examination of potential improvements to the Nation's mineral royalty management program. The study also responds to a congressional directive to consider royalty in kind (RIK) scenarios. Potential benefits of adopting RIK programs include: 1) eliminating contentious valuation disputes between producers and MMS; 2) increasing the certainty of accurate royalty payments; 3) decreasing administrative costs for both industry and MMS; and 4) maximizing potentials to increase Federal revenues.

The primary objective of the study is to determine if the implementation of an RIK program or programs for Federal oil and gas appears to be in the best interest of the United States, and, if so, under what circumstances.

Public Comment MMS conducted six workshops to obtain public comment on RIK feasibility. The primary public reaction to MMS's RIK options was widespread support for MMS to take oil/gas production in kind, a sentiment expressed by large and small producers, marketers, field service companies, pipeline companies, and State governments. Overall, public comment indicated that offshore gas RIK has more potential for revenue enhancement than does oil RIK. Public comment supported delivery of U.S. royalty production at the lease, with either lease sales or downstream sales by a contracted marketing agent as the best options. Both producers and marketers urged MMS to adopt bold programs (rather than "pilot projects") involving substantial volumes and time periods. Producers cited maximized administrative savings and marketers asserted revenue enhancements as the basis for their opinions.

Market Survey MMS conducted a survey of natural gas marketing companies to understand this aspect of the business and to determine implications and potentials for marketing of U.S. royalty gas production. The energy marketers provide three attributes that have positive implications for marketing of U.S. royalty gas: 1) knowledge and experience in swapping/trading multiple commodities; 2) efficiencies from moving large volumes; and 3) the full spectrum of value-added services. Each of these potentially increases revenues from gas production. The gas marketers each contend that MMS can enhance offshore gas revenues by strategic alliances with energy marketers similar to the recent joint ventures between major producers and gas marketers.

Conclusions and Recommendations The overall conclusion of the study is that RIK programs could be workable, revenue neutral or positive, and administratively more efficient for MMS and industry. Key elements of a successful Federal RIK strategy would include:

- Downstream Market Presence: To be revenue neutral/positive, an MMS RIK program must strategically participate in downstream services and value enhancements, most likely through contracting with energy marketers.

- Aggregation: Provision of substantial volumes could provide MMS and its marketing agent(s) with increased market opportunities primarily through assurance of supply.

- Administrative Relief: The greatest relief would accrue under a broadly-applied, multi-year program through decreased reporting to MMS and discontinuation of audits of the producers' shares.

However, RIK programs would have reduced chances for success if implemented under the following unfavorable conditions: 1) audits of the producers' shares; 2) legislation directing MMS to take in kind for all commodities in all areas or at the lessees' discretion; 3) acceptance of production at less than marketable condition; and 4) payment of above market rates for transportation on non-jurisdictional pipelines.

We specifically conclude that a natural gas RIK program in the Gulf of Mexico has the greatest chance of success of any potential MMS RIK initiative, especially if it involves substantial volumes; is long-term; engages one or several marketers; and provides a formula for MMS sharing in downstream value additions secured by MMS's energy marketer(s). Although detailed economic effects can not yet be determined, such an RIK program is anticipated to be both revenue positive and administratively more efficient for the many reasons described in this document. **Accordingly, we recommend implementing an RIK pilot program for Gulf of Mexico natural gas consistent with the key success factors described above.**

For crude oil RIK, the information is equivocal and the revenue and administrative implications are uncertain. However, there is significant interest on the part of producers, marketers, and the State of Wyoming in taking crude oil in kind from Federal leases in Wyoming. **Thus, we recommend that a small-scale crude oil RIK pilot - developed in concert with all affected parties - be instituted in Wyoming to test revenue and administrative effects.**

Similarly, the State of Texas has expressed a significant amount of interest in an RIK program for Outer Continental Shelf (OCS) 8(g) leases offshore from the State. **Consequently, because the potential for a successful OCS gas RIK program appears high, we recommend that MMS and Texas jointly explore the possibilities of RIK programs involving these properties** .

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I. INTRODUCTION

This document presents results of a study of the feasibility of the U.S. Government taking its oil and gas royalties from Federal leases "in kind" rather than "in value." The study was conducted by the Minerals Management Service (MMS) Office of Policy and Management Improvement in coordination with MMS's Royalty Management Program (RMP).

MMS Director Cynthia Quarterman requested the study as part of MMS's continuing examination of potential improvements to the Nation's mineral royalty management program. The study was also conducted in response to a congressional directive to consider royalty in kind (RIK) scenarios. The congressional directive - included in MMS's Fiscal Year 1997 Appropriations Committee Reports - urged MMS to consider additional RIK pilot projects for both onshore and offshore Federal oil and gas leases.

Under the terms of standard Federal oil and gas leases, the government is entitled to a share (royalty) of production removed or sold from the lease. The terms "in value" and "in kind" refer to the manner in which a mineral owner (lessor) receives the royalty share from the producer (lessee). Historically, the U.S. government - and most other royalty owners - has received its royalty share "in value", that is, in cash as a percentage of the sales proceeds received by the lessee. However, most Federal oil and gas leases contain a provision whereby the government can receive its royalty share "in kind", that is, by taking and selling volumes of oil or gas equaling the royalty share.

Background The Department of the Interior has managed mineral leasing on Federal lands since the Mineral Leasing Act was passed in 1920. As lease numbers and produced volumes have risen over the years, the Nation's program to manage mineral royalties has also grown in size and sophistication. Today, MMS operates a highly centralized royalty management program supported by complex, modern accounting systems and a large audit workforce. The MMS's RMP employs some 904 people (including contractors), over 400 of whom work on verifying the accuracy of royalties received. Approximately 344 Federal and State auditors are employed.

Generally, lessees pay and report monthly to RMP 30 days after the end of each month. The great majority of the cash payments are made via electronic funds transfer. Similar to the IRS system, payments and reports are accepted subject to audit and other verification routines. The primary verification of royalty payments is the field audit, in which payors' records are examined typically at the companies' offices some 3 to 5 years after payments are made.

The major component of RMP's royalty verification effort is devoted to determining whether the lessee has "valued" its production for royalty purposes in compliance with the appropriate regulations. The Department's regulatory scheme for royalty valuation has historically been based

on a philosophically simple foundation, namely that the value of production on which royalty is due is the fair market value. For arm's-length transactions, the lessee's gross proceeds are generally accepted to be that value, provided that the lessees has been diligent in marketing. Gas can be valued based on either unprocessed or processed gas sales. Oil royalty valuation has historically relied on "posted prices" offered by major, often integrated companies. Deductions from royalties for processing and transporting production to the point of first sale are allowed.

This regulatory framework is still operative. Though based on straightforward premises, the Department's valuation regulations have proven to be administratively complex for MMS to monitor and for the oil and gas industry to comply with. Administrative appeals and litigation have proliferated as both MMS and industry have struggled with a host of thorny issues:

- Gross Proceeds: Although the concept of gross proceeds realized by the lessee from lease production is a seductively simple one, producers and the Department have disagreed over which revenues should be included as being derived from lease production, including: 1) reimbursements made to producers under FERC Order 94; 2) proceeds received pursuant to gas contract settlements; 3) judgements on the diligence of the lessee's marketing efforts; and 4) revenues realized due to services performed and marketing conducted downstream of the lease.

- Royalty Deductions: Numerous disputes have occurred and are ongoing over a variety of issues related to allowable deductions from royalty value for the cost of transporting and processing lease production, including: 1) the applicability of FERC tariffs; 2) allowances for fuel usage; 3) deductibility of compression; 4) the amount of return on investment to be allowed; and 5) boundaries between gathering of production generally on the lease (non-allowable) and transportation away from the lease (allowable).

- Marketable Condition and Marketing: MMS does not share in the costs of placing production in marketable condition or for marketing the product. Conflicts between MMS and lessees routinely occur over the meaning of these terms in an industry in which there are an almost endless variety of fact situations.

Two parallel and dramatic changes in the oil and gas industry have further complicated Federal royalty valuation, consequently leading to additional disputes:

- Restructuring of the Natural Gas Transportation Industry: Before the late 1980's, the natural gas industry was dominated by gas pipeline companies which generally purchased gas at the wellhead from producers, transported the product downstream to consuming areas, and sold to local distribution companies (utilities) and industrial end users. A lessee's gross proceeds were relatively simple to compute and document.

  A series of FERC regulatory actions culminating in FERC Order 636 in 1994 drastically changed the landscape of the industry with gas pipeline companies by regulation now restricted to performing only the transportation function with the requirement to allow open access to all shippers of natural gas. A vibrant gas marketing industry germinated

where producers, marketing middlemen, local distribution companies, and royalty owners now purchase, ship, market, and/or sell gas along many segments of long haul interstate pipelines. A lessee's gross proceeds are now often complicated by a series of downstream transportation, processing, and marketing activities frequently occurring prior to a first arm's-length sale of production.

o Widespread Emergence of Marketing Affiliates: Although some major oil corporations have had separate but affiliated exploration/production and marketing or trading companies for many years, the late 1980's and the 1990's have seen a proliferation of these integrated corporate entities to exploit business opportunities including marketing niches in the post-FERC Order 636 gas industry. The most recent trend is the formation of gas mega-marketers as joint ventures of major producers and energy marketers/pipeline companies. An increasing volume of Federal oil and gas production is now transferred to the lessees' marketing affiliates at non arm's-length transfer prices or posted prices that may not accurately reflect market value.

  MMS has responded to this situation by increasingly considering the affiliates' first arm's-length re-sales values far downstream of the lease as a factor in determining the wellhead value for such production. The procedure of "netting back" downstream sales values through numerous transactions to the lease is labor intensive, complex, and controversial. Lessees and the Department are engaging in a contentious and divisive dispute on the legality of this procedure.

Against this backdrop of complexity and divisiveness, the oil and gas industry, Congress, and the Department are considering the potential benefits of RIK programs. Valuation disputes between lessor and lessee could be eliminated if the government took its royalty share in kind. Responsibility for transporting, marketing, and selling the royalty share would accrue to the government or its agent. Proceeds received by the government would by definition be market value. Auditing of lessees could consist of straightforward volume reconciliations completed only months after production. Administrative savings could be realized by both government and industry through decreased reporting and verification. Potential exists to increase Federal revenues through aggregation/marketing. Recognizing the potential for these benefits, MMS Director Quarterman requested that staff conduct an in-depth inquiry into the practicality and revenue implications of RIK programs for Federal oil and gas production.

Objectives and Scope of the Study. The primary objective of the study is to determine if the implementation of an RIK program or programs for Federal oil and gas appears to be in the best interest of the United States, and, if so, under what circumstances. The study assesses the apparent feasibility of a variety of RIK options - from a conceptual perspective. This report broadly examines many potential components of RIK programs, isolating those program attributes that could foster program success or failure. The goal of the study is to provide MMS management with the information needed to intelligently decide to either forgo RIK implementation or to focus on developing specific programs where they appear feasible.

The study addresses both oil and gas. Both onshore and offshore RIK options were studied. To achieve a realistic scope of study, RIK options for leasable solid minerals and Indian lease production are not addressed. These could be assessed at a later date. The study considers both small scale pilot programs and across-the-board, "steady-state" programs involving substantial quantities of Federal production.

Approach/Methods. The team first reviewed the results of previous staff investigations into the feasibility of RIK programs, including the results of a 1995 Gas Marketing Pilot described in more detail in the next section. Results of a previous analysis of the revenue implications of selling U.S. royalty production are included as Appendix 1. The study team also researched the RIK programs of other governmental lessors to learn from these experiences. The study team next used the conclusions of the previous studies and lessons learned in other RIK programs to develop a spectrum of RIK options (described below) ranging from conservative to aggressive. The purpose of the options was to frame a logical set of programs as a point of departure to stimulate public comment on RIK programs. Six public workshops were held to obtain public comment and inform the public of the types of RIK programs under consideration. The team next conducted a market survey of energy marketing companies to understand how production is marketed and sold in the industry, and what marketing opportunities may exist for Federal gas production. The team assessed the above data and developed the conclusions and recommendations contained in this document.

II. ROYALTY IN KIND EXPERIENCES

Although it is relatively rare, oil and gas lessors have taken and continue to take and market their royalty share of production in kind through various programs. In the present study, MMS examined three government RIK programs: 1) MMS's 1995 Royalty Gas Marketing Pilot; 2) Texas General Land Office RIK programs; and 3) the oil RIK program of the Canadian Province of Alberta.

The study team did not examine MMS's existing oil RIK program. The statutorily mandated objective of this program is to provide supplies of crude oil to small refiners who may otherwise be at a competitive disadvantage. Distinct from this objective, the goals of any further RIK implementation would likely be to maximize revenue receipts while streamlining the royalty management process. Thus, we believe that the existing MMS RIK program is not directly relevant to the current feasibility study.

A. MMS 1995 Royalty Gas Marketing Pilot

In May 1994, MMS formed a team to develop and implement a Royalty Gas Marketing Pilot. The objectives were to test methods to streamline royalty collections; increase royalty management efficiencies; and provide greater certainty in royalty collections - all in a revenue neutral manner.

The pilot program was voluntary on the part of lessees. Fourteen lessees volunteered 79 leases located in the Gulf of Mexico for inclusion in the pilot. The pilot was conducted for the entire 1995 calender year, during which time MMS took approximately 45.6 billion cubic feet (bcf) of gas in kind (approximately 6% of the Gulf of Mexico royalty share). MMS sold its gas by competitive bids to purchasers/marketers at or near the lease at the same point at which it received deliveries from the lessees. Revenues totaled over $72.6 million. MMS continued to audit the producers share of production for revenues received to provide a baseline for comparison to proceeds realized by MMS for the royalty share in kind.

Results are contained in the September 1996 Final Report of the Royalty Gas Marketing Pilot. The pilot was an operational success, proving that the concept of MMS taking its royalty gas at or near the wellhead is feasible. However, analysis of the revenue impact of the program concluded that royalties collected were approximately $.0974/MMBtu less than in value royalties. This loss would have been approximately $82 million annually, if extrapolated to all Gulf of Mexico Federal leases. MMS learned a substantial amount about RIK concepts from the pilot and from subsequent interaction with gas marketers:

- Competitive Bidding: A host of problems was encountered in the pilot, including: 1) MMS must have at least 6 months to prepare comprehensive invitation for bids and purchasers at least 3 months to respond; 2) contractual terms between MMS and purchasers should clearly define terms such as changing conditions, volume balancing, and allocations; and 3) up-front data on entrained liquids should be available to purchasers.

- o Voluntary Program: The voluntary nature of the program allowed lessees not MMS to select leases for taking in kind. This feature put MMS at a disadvantage and likely contributed to revenue losses. The most obvious disadvantage is that the volunteered leases were scattered throughout the Gulf of Mexico, eliminating any opportunity for aggregating production to potentially enhance sales values.

- o Lease Sales: Pilot sales at the lease simplified the program but did not increase sales receipts because: 1) no downstream value enhancements were realized; 2) uplift from gas processing and natural gas liquids sales were foregone; 3) aggregation did not occur; and 4) the purchasers' full cost of downstream marketing was reflected in the purchase prices.

- o Non-Jurisdictional Pipelines: Many purchasers, not familiar with the producer-owned, non-jurisdictional gathering lines in the Gulf, succumbed to relatively high transportation rates on these lines.

B. Texas General Land Office RIK Programs

The Texas General Land Office (GLO) takes approximately 37 percent of its gas production and nearly 45 percent of its oil production in kind from State leases. The GLO's oil is sold by competitive bid at the royalty measurement point every 6 months. Premia over postings are typically received. GLO staff assert that RIK revenues for oil and gas are some 5 percent and 7 percent, more than in value revenues, respectively.

The GLO's gas RIK program is statutorily mandated to provide gas to State facilities as an alternative to services provided by the local utilities. The program has two primary goals: 1) enhance the School Fund; and 2) streamline the GLO royalty program. The State facilities are GLO's primary customers, although excess gas is sold on the spot market. Most gas is not processed, but when it is, processing fees are paid for in kind with liquids. The State sells approximately 1 bcf per month from 100 State leases in the Gulf. On average, the program has resulted in an overall revenue enhancement of $11 million for the State, comprised of additional revenues of $1 million annually for the School Fund due to spot market sales, and $10 million in savings from decreased gas prices for State facilities by cutting out the local utilities. Five staff operate the program. The delivery point for lessee-provided gas is "where the lessee historically has sold the gas." GLO does not engage in any price hedging or other risk management tools.

C. Province of Alberta Oil RIK Program

The Crude Oil Operations Division of Alberta Energy has managed a large-scale oil RIK program since 1974. This statutorily mandated program took and sold all lease production (lessors' AND producers' shares) from 1974 until deregulation in 1985. From 1985 until 1996, Alberta Energy took, marketed, and sold its "Crown" (royalty) portion. The marketing/sales function was privatized in June 1996, with three private marketers now selling Crown production. Currently, the Crown's production is nearly 150,000 barrels per day (by comparison, the Gulf of Mexico royalty share is 165,000 barrels/day). Natural gas royalties are paid in value, with prices set by the Province. Approximately 32 staff (including management and secretarial) operate the crude

oil RIK program. By comparison, some 90 personnel operate the gas in value program which generates annual revenues roughly equal to the oil program.

The three marketing agents combine Crown production with their own equity production and transport the mix downstream to oil refineries primarily in the Midwest of Canada and the United States. The oil is sold to refineries and the proceeds are split pro rata according to volumes contributed to the collective volume. The theory behind the process is that, by combining the Crown and marketer volumes before sales, the marketing agent has an incentive to maximize Crown proceeds.

By regulation, the Province's marketing agent must not have any ownership interests in refineries and must have equity production. Further, the agents can not subject Crown production to financial hedges or other risk management activities. Agents are hired for a 5-year term and they are paid a 5 cent (Canadian)/barrel fee.

The 500 oil tank battery operators deliver Crown production to a pipeline interconnect or battery, with the Province paying for transportation by check. These operators report these volumes monthly to Alberta Energy. Imbalances are settled in cash, with the Province by regulation setting monthly prices for each of 5,000 batteries based on netting back from the agent's proceeds. The larger imbalances may, however, be settled in kind. The pipeline company also reports volume receipts into the pipeline by interconnect and operator. Alberta Energy reconciles the two volume reports. The agent monthly reports inventory, delivery, and sales volumes, and expenses incurred for both its equity and the crown volumes, and remits a check to the Province. Source sales documents are sent in monthly for the limited amount of sales transactions, so that "real time" auditing is performed (i.e., the month after production/sales).

The agents' performance is measured against a posted price benchmark every 6 months. The Alberta posted price indices used reportedly differ from those in the United States but are most comparable to market center index prices for the crude oil cash market in the Gulf of Mexico region (e.g., Empire or St. James). If agents do not meet the benchmark, their contract can be terminated. Three agents were chosen so that if one or two marketers are not at least equaling the benchmark performance measure, there would be other marketer(s) to assume the outstanding production. In addition to the benchmark measurement and monthly review of sales source documents, the Province hires an independent contractor to audit the agents and report to Alberta Energy.

Results indicate that a gross enhancement of oil values of 12 cents (Canadian) per barrel has occurred, with a net uplift of 7 cents (Canadian) after the marketing fee is paid. According to Alberta Energy, the enhancement results from: 1) ensuring a security of supply of large volumes to refiners; and 2) movement of the Crown's sales point away from remote areas with little refining capacity to areas of many refineries with more demand for crude volumes.

III. MMS RIK PUBLIC WORKSHOPS

In March and April 1997, MMS convened six public meetings/workshops to discuss and obtain input on new ways to further utilize RIK programs for onshore and offshore oil and gas. The workshops were announced in the Federal Register and were open to the public without advance registration or cost. The objective of the workshops was for MMS to become better informed of the specific issues surrounding RIK implementation.

Workshops were held in Houston, Texas on March 19, 1997, and New Orleans, Louisiana on April 2, 1997, to discuss RIK options for Outer Continental Shelf (OCS) gas. Additional workshops were held in Houston, Texas and New Orleans on March 18 and April 1, 1997, respectively, to discuss RIK issues related to OCS crude oil. Sessions were held to discuss RIK potential for onshore oil on March 25, 1997, in Casper, Wyoming, and for onshore gas on May 14, 1997, in Farmington, New Mexico. One further meeting was held on May 22, 1997, at the request of the Independent Petroleum Association of Mountain States to give information for its members.

The workshops were well attended, mostly by producers, gathering and transportation companies, marketers, and trade group representatives. State representatives attended meetings in New Orleans, Casper, and Farmington. Representatives of the Texas GLO and Alberta Energy gave presentations at the New Orleans meetings.

A. RIK Options

The MMS study team developed a series of conceptual RIK options to stimulate discussion at the workshops and to array a spectrum of potential RIK scenarios for study ranging from conservative to aggressive. These options formed the focus of discussion at the public workshops. The options (summarized below) reflect a logical range of plausible RIK programs. Though the options were presented separately in the public workshops, they are largely the same for both oil and gas and for offshore and onshore. They vary in point of sale and title transfer, magnitude of the RIK program, and the nature of marketing and sales. An underlying assumption for all options is that no audits of the producers' gross proceeds would occur.

1. Enhancement of the 1995 Pilot

Under this option, MMS would take a portion of its crude oil or natural gas and sell it to purchasers by competitive bid at the royalty measurement point on or near the lease. The objectives of this option are to reduce disputes over valuation and to decrease MMS and industry administrative burdens. The program could be as extensive as the entire Gulf of Mexico or as small as a single onshore county. For offshore leases, MMS may take delivery "at a convenient point onshore" as allowed in lease terms for many OCS leases. Sales would be to the highest bidder, and MMS would reserve the right to reject any bid. Purchasers would assume financial reporting and payment responsibilities to MMS, lessees would no longer submit royalty reports, but operators would continue to submit production reports.

Enhancements to the 1995 pilot would include: 1) longer response time for bidders; 2) between heating season start; 3) complete information to the public on production quality and transportation rates; 4) provision of operator contacts to potential bidders; and 5) mandatory participation.

2. MMS-Marketed RIK Production

Under this option, MMS would take a portion of its crude oil or natural gas, and aggregate production at the first downstream pooling point before marketing and selling the product at this point. MMS would hire a consultant to guide in the aggregation and marketing of oil and/or gas. In addition to eliminating valuation disputes and streamlining the royalty management process, the objectives of this option are to attempt to increase revenues over current levels and to develop MMS expertise in transportation and marketing of oil and/or gas.

MMS would take delivery at the royalty measurement point at or near the lease and arrange for transportation to the pooling point. For onshore, this is typically the first interstate pipeline interconnect and for offshore is the first onshore pipeline terminus. Again, MMS could direct offshore lessees to transport production to the onshore terminus (reimbursing for costs incurred).

The magnitude of this RIK program would be limited to one or several pipeline systems or more scattered lease holdings in the Gulf of Mexico or a single onshore county because of the steep learning curve required for MMS staff to successfully market oil or gas.

3. Private Sector Marketing of U.S. Production

In this option, MMS would take all royalty oil and/or gas from certain areas and enter into a partnership with one or several oil or gas marketing firms for the marketing and sales of product at or downstream of pooling points in the producing areas. The primary objective of this option is to increase revenues as much as possible over current levels.

Title to the oil or gas would likely be retained by the U.S., and the marketing agent would arrange all transportation, aggregation, marketing, and sales services for the U.S. Sales could occur at any location downstream of the lease, including pooling points, pipeline interconnects, refineries, citygate, or to retail, burner-tip customers. U.S. volumes would be aggregated with the agents' equity volumes for collective sales. The agent would arrange for gas processing and sales of natural gas liquids. The agent would pay for expenses incurred such as transportation and processing with reimbursement occurring later, likely by netting out of sales proceeds. The agent would likely be paid a negotiated amount of downstream proceeds, with incentive-based performance criteria used.

This RIK program would likely involve substantial volumes of production - especially on the gas side - because aggregation of such volumes may provide the leverage needed to command higher prices and minimize any fees paid to or profits shared with U.S.

marketers. Specifically, this option favors volumes from an entire onshore basin (e.g., Powder River or San Juan Basin) or either the entire Gulf of Mexico or several of its major pipeline systems.

B. Public Comment

MMS obtained public comment through: 1) public statements issued by industry and government personnel at the workshops; 2) an extensive amount of give-and-take dialogue on specific RIK issues between MMS and the public at the meetings; and 3) written statements received subsequent to the workshops.

1. Public Statements

Public statements for the record were given by Total Minatome, Marathon Oil, Coastal Oil and Gas, Devon Energy, Burlington Resources, Chevron, Shell, Giant Refining, Vastar, Independent Petroleum Association of Wyoming, Independent Petroleum Association of America (IPAA), 88 Oil, State of Wyoming, Nance Petroleum, Enron Oil and Gas, and Merrion Oil and Gas.

The public statements from essentially all parties were supportive of MMS implementing RIK programs. Nearly all statements commended MMS for its consideration of RIK. Industry comments from both small companies and majors were quite similar. The most frequently expressed statement was that RIK would benefit both industry and MMS by establishing a more cost effective and certain method of valuation. The statements asserted that RIK is the best method for reducing reporting burdens and eliminating valuation disputes. Industry urged MMS to be bold and move forward as fast as possible to implement not pilot programs but actual "live" operations for substantial volumes. Many of the public statements urged MMS to work with the industry as it continues to examine RIK potentials. Concerns were expressed over a variety of issues, including:

- Cherry-picking the best leases will decrease benefits for many lessees
- Use of RIK pricing to set prices for in value leases is problematic
- New oil RIK projects should give preference for volumes to small refiners
- Forcing producers with lease sales to transport RIK product is burdensome
- MMS must not create a non-level playing field by self-serving regulations

The State of Wyoming, in its prepared statement, proposed a fourth option to be considered by MMS for taking oil in kind in Wyoming (Appendix 2). Under this option, Wyoming would take its share of Federal production in Campbell County during the term of a Federal pilot project, combine it with its State lease production, and sell via competitive bidding. The Wyoming option most closely resembles the first option described above. The State stressed that their proposal is conceptual and that they remain flexible. If authorized, the State would like to consider taking all Federal production and pay MMS its 50 percent share. The objectives of the State proposal are to increase revenues and decrease administrative (net receipts sharing) costs. Wyoming's proposal would be for at least a 2-year term.

2. Issue-Oriented Discussions

Appendix 3 provides a summary of the issues discussed during the workshops. The general consensus at the workshops was that MMS should seriously consider either the option of competitive bidding at the lease or the option of engaging a private sector marketer for U.S. RIK production. The major points made in the discussions follow.

- MMS Marketing: Concerns were expressed over intrusive government if MMS marketed and sold its own production. Many questioned whether MMS could ever acquire the expertise to successfully market.

- Private Sector Marketing: The nearly unanimous consensus was that private sector marketing of U.S. production would be an intelligent business decision; would utilize private sector expertise; and would reflect less government intrusion due to letting the market work rather than second-guessing lessees' business decisions.

- Lease Selection: Few concerns were expressed about mandatory lessee RIK participation. Many favored 100 percent lessee participation in entire areas.

  Marketers urged MMS to select many leases in entire areas so that volumes could be aggregated, thus increasingly market value, facilitating transportation pricing; reducing per unit costs; and enhancing revenues.

- Program Attributes: Most favored an RIK term of at least 3 to 5 years so that business arrangements can mature. Producers desire a 6-month to 1-year lead time before conversion. There should be no switching back and forth between in value and in kind for the program term. All working interests on a lease and all leases in pooling agreements should be included.

- Operational Considerations: Producers stated that MMS would need to transform from a passive royalty owner to an active, "working interest" type owner; e.g., MMS may need to enter into working interests' balancing agreements, if regulations do not dictate entitlements allocations. Many stated that balancing problems increase with distance from the lease.

- Transportation: Marketers stated that MMS or its agent should be able to negotiate better rates because MMS could direct all its share down one line, rather than over multiple lines as is currently the case. This would increase throughput on the selected line, potentially decreasing rates.

- Reporting/Auditing: Concern was expressed that new MMS systems would be even more burdensome than the current system. All parties agreed that the net result of RIK should be decreased reporting. Most stated that lease and sublease level of reporting is no longer needed if the U.S. takes in kind, and stated that

reporting of RIK data should mimic reporting within industry. Producers expressed opposition to MMS continuing to audit the lessee's share under RIK programs.

- o Oil Versus Gas: Marketers stated that aggregation is not particularly important in oil as distinct from gas in that refiners like to remain flexible so they utilize the spot market based on commodity prices (linked to NYMEX). Further, refiners typically are looking for incremental barrels to fill capacity rather than large volumes to fuel ongoing industries as in gas.

- o Onshore Versus Offshore: This subject did not generate much discussion. However, some attendees speculated that large-scale RIK would work better for offshore leases in the Gulf of Mexico because of the concentration of large volumes in a relatively small area with mature pipeline and market infrastructures. The same attendees opined that smaller-scale RIK could work in select onshore basins.

- o San Juan Basin Issues: Two issues specific to San Juan Basin gas emerged:
  1) *Marketable condition:* Currently, MMS does not allow lessees to deduct from royalties full costs of CO_2 transportation/treatment from the gas stream. MMS and attendees explored the possibility of lease delivery of CO_2-rich RIK gas but could not find a revenue neutral scenario. Options appear to be delivery at plant tailgates or compensation to MMS from lessees for transportation/treatment.
  2) *Pipeline capacity constraints:* There are currently capacity limitations on interstate pipelines and, especially, gathering systems in the San Juan Basin. Attendees stated that MMS could be left without gathering services because lessees would use their contracts for transporting their own, increased production.

- o Wyoming Issues: Producers informed MMS that the recent start-up of the Express Pipeline running from Alberta to Wyoming will "dump" major oil volumes into the local market likely depressing prices for a time. Many lessees have locked-in higher term prices, anticipating the pricing effect. MMS was told that it may be a poor time for an oil RIK program because revenues would not be as high as those from the locked-in contracts.

3. Written Statements

MMS received three written statements for the record (Appendix 4). The Texas GLO submitted a written statement for the record expressing support for Federal RIK programs, specifically in favor of the option of engaging a private sector marketer to aggressively market U.S. RIK production. The GLO also urged MMS to consider an option of allowing States to market their share of Federal production in kind.

Shell Offshore, Inc. also submitted a written statement for the record asserting that RIK programs would negatively impact lessees and operators. Shell further stated that MMS

would encounter difficulty in achieving revenue neutrality because, under RIK programs, MMS would have to pay for numerous items not currently shared in by MMS under in value royalties: 1) penalties related to nominations; 2) programs administration; 3) marketer fees; and 4) costs associated with purchaser defaults. Shell also asserted that any RIK program must be voluntary for lessees, and that MMS must take royalty volumes on a daily basis at the lease, fully satisfying all royalty obligations. The written statement also asserted that the Texas and Alberta programs are not analogous to OCS production and thus shouldn't be advertised a success stories for implementation for the OCS.

MMS also received a written statement submitted on behalf of the Independent Petroleum Association of Mountain States, Rocky Mountain Oil and Gas Association, and 13 producers suggesting overall goals, elements, and mechanics of a well-designed RIK program. The statement suggested that an RIK program should: 1) provide certainty; 2) be capable of administration by MMS; 3) be capable of compliance by lessees; 4) be flexible to accommodate changing conditions; and 5) promote simplicity. The statement also asserted that the full royalty share should be taken at the lease to completely satisfy all royalty obligations, and that the program should extend for multiple years.

C. Conclusions

The clear conclusion to be drawn from the MMS RIK public workshops is that there is widespread support for MMS to take its oil and/or gas production in kind. Producers, marketers, field service companies, and State governments all expressed this support. Only one producer expressed opposition to RIK concepts. Two primary reasons were given for endorsement of the concept: 1) there appears to be a bona fide potential to reduce valuation disputes, increase certainty in royalty obligations, and decrease administrative burdens; and 2) evidence exists that an intelligently-developed RIK program could be revenue positive and would be consistent with recent initiatives to make government operate more like a business.

The primary concern expressed over government operating in the oil and gas markets was that it would be important that MMS establish a clear division between its regulatory functions for in value leases and its marketing function under any broad-based RIK program undertaken. In the long run, the team was told that neither the government, industry, or public would be well served if MMS adopts self-serving regulations designed to create a revenue-positive advantage.

Regarding the nature of a future RIK program, both producers and marketers urged MMS to be bold and take substantial volumes in kind in a "live" operational program rather than a pilot. Producers concluded that the benefits of decreased disputes and administrative burdens would be insignificant if small pilots were pursued. Marketers based their view on the potential for increasing revenue from aggregating substantial volumes, particularly for OCS natural gas.

Publicly, producers urged MMS to consider RIK for both oil and gas, onshore and offshore. However, some expressed reservations about the ability of government to realize enhanced revenues from oil RIK, especially in comparison to oil index or futures prices. Further, despite direct inquiries, marketers were not able to provide convincing arguments or evidence that oil

RIK would be revenue positive. By contrast, producers, marketers, and field service companies asserted that MMS could enhance revenues through extensive gas RIK - especially on the OCS - due to large volumes and access to downstream markets.

IV. MARKET SURVEY

As stated above, public comment during the RIK workshops suggested that the greatest potential for revenue enhancement and attendant benefits from RIK programs would likely accrue from aggregation and downstream sale of OCS gas production. Further, the experience of Alberta's RIK program indicated that downstream marketing of RIK production can succeed.

Based on this information, the study team conducted a "market survey"[1] of natural gas marketing firms. It became apparent to the team that, although MMS is quite familiar with the exploration and production segment of the industry, we are less experienced with the gas marketing component. The objectives of the survey were to develop an understanding of the gas marketing business sufficient to assist in determining the feasibility of natural gas RIK programs.

Several team members visited the offices and trading floors of six gas marketing companies, including three "mega-marketers", two mid-size marketers, and a smaller, niche company. Each of the companies initiated contact with MMS. All facets of the marketing industry were represented including the producer/marketer joint ventures, field services/marketer companies, pipeline/marketer companies, utility/marketer firm, and the niche player. MMS representatives clearly communicated that the discussion would only concern general aspects of gas marketing, and would thus not involve any proprietary or other non-public information. At the meetings, the following topics were discussed:

- Gas marketing trends
- Downstream services provided
- Implications for MMS gas RIK

A. Gas Marketing Trends

The following is summarized from information provided by the marketers visited, and represents our interpretation of trends that are most relevant to the potential for RIK for OCS gas.

Over the past 20 years, the natural gas industry has seen the decontrol of gas wellhead prices, and the unbundling of the pipeline transportation and sales services. The industry response has been new contractual arrangements, services, risk management tools, and the emergence of a new player: the gas marketer. However, the most profound change has been price volatility. Today, natural gas has become one of the most volatile commodities in the market. This price volatility, together with the other trends noted below, have significant implications for MMS as RIK concepts are examined:

- Price Volatility: Monthly changes in gas prices have recently been substantial (upwards of an order of magnitude) and are difficult to predict. Sellers with capability to move

[1] "Market survey" is a term describing a pre-procurement gathering of information on an topic or industry so that future decisions can be better informed.

supplies quickly have much to gain when prices rise. For example, marketers with transportation contracts to the Chicago area were well positioned to take advantage of price spikes in the winter of 1995/1996.

In response to such volatility, marketers are increasingly reducing price risks by using futures contracts and other financial instruments.

- Consolidation and Competition in the Gas Marketing Industry: The last 2 years have seen several major mergers between large producers and large gas marketers/pipelines (e.g., Chevron/NGC and Shell/Tejas). In such mergers, producers gain access to markets and marketing expertise and marketers gain access to secure supplies. The mergers continue to reduce the number of major marketers and increase the market share and leverage of the largest companies.

- Convergence of Energy Commodities: The evolving deregulation of the retail gas and electric power markets has more closely aligned not only gas and electrical supply industries but also these segments with the coal and oil industries. Strategic alliances are forming in which major firms are positioning to exploit multi-commodity trading opportunities. Margins for arbitrage between commodities can at times be substantial.

- Transportation Issues: According to the Energy Information Administration (EIA) Natural Gas 1996: Issues and Trends, utilities and end users are primarily using high-priced firm transportation, while marketers are using a diversified portfolio of firm, capacity release, and interruptible services, thus reducing costs. Further, a robust secondary market has flourished for sales of capacity release transportation.

- New Supplies: Start-up of the highly-prolific leases in the deep-water Gulf of Mexico may soon strain capacities on certain pipelines. In anticipation, the largest marketing companies are now purchasing more firm transportation on the pipelines expected to be constrained.

B. Downstream Services Provided

MMS asked each of the marketers what types of services are generally provided to increase the downstream value of natural gas. The answers shed some light not only on the opportunities for MMS to realize value enhancements from RIK gas but also to better understand the implications for in value royalties as MMS considers affiliates' first re-sale pricing. Downstream services include but are not limited to:

- Volume aggregation and provision of security of supply to customers
- Close working relationships with customers, pipelines, gatherers, and processors
- Capability to store gas in consuming areas to respond to price spikes
- Commodity swapping to exploit arbitrage opportunities
- Use of risk management tools to reduce price risks
- Portfolio of transportation arrangements from firm to capacity release

- o With sufficient supplies, provision of no notice service[2] for premium prices
- o Wheeling, back-hauling, and other activities to route gas between pipelines
- o Storage of gas during low price periods
- o Identification of and trading on location differentials
- o Knowledge of the marketer's own pipeline/gathering systems or processing plants

C. Implications for MMS Gas RIK

Discussions with gas marketers clearly indicated that this segment of the oil and gas industry has emerged as a major, perhaps dominant player. The deregulation of the gas transportation industry segment, imminent deregulation of the retail gas and electric markets, and convergence of energy commodities have synergistically placed the energy marketer into the forefront of the industry. The energy marketer brings: 1) comprehensive knowledge and experience with trading multiple commodities; 2) efficiencies from moving substantial throughput, and 3) value-added services. These attributes theoretically conspire to increase net revenues for a gas supplier. According to the EIA, value-added services for natural gas from wellhead to citygate increased prices in 1995 by an average of $1.19 with an additional increase of $1.97 from citygate to commercial end-user. To the extent that the costs of value-added services is less than these increases in prices, the gas supplier can expect to increase net revenues by alliances with energy marketers.

In addition to utilization of the full spectrum of value-added services described above, the gas marketers contend that there are several further reasons why MMS could expect to realize revenue enhancement from alliances with energy marketers were given:

- o Aggregation: MMS could offer approximately 16 2/3 percent of Gulf of Mexico gas - some 2.3 bcf/day - for marketing and sales. For comparison, the next two largest producers own a collective 13 percent of Gulf of Mexico gas. Further, the two largest gas marketers move approximately 9 bcf/day in physical volumes. The large royalty share in the Gulf could provide a marketer - and its supplier - with a full spectrum of contractual options to exploit market opportunities.

- o Uplift from NGL Sales: To the extent that MMS does not currently receive NGL proceeds, revenue increases would occur from marketers selling these products.

- o Wellhead Sales: To the extent that current royalties result from wellhead sales, downstream movement and value additions would increase revenues.

- o Risk Management: Because revenues are only increased if the cost of value-added services is less than the downstream price received, all energy marketers use price hedging

[2] Similar to residential gas or electrical service, no notice gas transportation service ensures customers they can take gas when needed - for a substantial price premium

and other risk management tools to reduce price risk. If it is appropriate for the government to become involved in risk management, price surety is gained.

- Gathering/Processing: Several marketers stated that alliances with energy marketers that also own extensive gathering systems (non-jurisdictional) and/or processing plants may result in attractive gathering and processing arrangements.

D. Remaining Questions

The gas marketers visited provided convincing theoretical evidence to MMS staff that forming an alliance with one or several gas marketers could result in revenue enhancement for the U.S. Treasury. However, questions remain, including: 1) Given that MMS does not currently share in marketing costs under in value royalties, how can MMS expect to realize revenue increases when such costs may be paid for under RIK programs? 2) With index prices at gas pools and citygates being very transparent and highly traded, why can't MMS's lessees realize the same prices as the top marketers? 3) Would MMS engage in price risk management? 4) In an MMS/marketer alliance, who would assume what costs and risks, and to what extent would MMS share in ultimate value produced? 5) Does MMS have the authority under authorizing and appropriations statutes to enter into an RIK program involving an energy marketer?

V. LEGAL ISSUES

Although the right to take royalty in kind is contained within most onshore and offshore standard leases, the manner in which royalty production is taken in kind and accounted for is governed by several statutes, including the Outer Continental Shelf Lands Act (OCSLA), Mineral Leasing Act (MLA), appropriations laws, and the Federal Oil and Gas Royalty Management Act of 1982 (FOGRMA). The following series of legal issues were identified during the study. They need to be fully resolved before final decisions are made concerning future RIK programs.

A. OCSLA Issues

The OCSLA in relevant part states in Section 27(c)(1) the terms for taking royalties in kind:

> "Except as provided in paragraph (2) of this subsection, the Secretary, pursuant to such terms as he determines, may offer to the public and sell by competitive bidding for not less than its fair market value any part of the gas...obtained by the United States pursuant to a lease as royalty or net profit share..."

The OCSLA defines the term “fair market value” in Section 2(o) as follows:

> "The term "fair market value" means the value of any mineral (1) computed at a unit price equivalent to the average unit price at which such mineral was sold pursuant to a lease during the period for which any royalty or net profit share is accrued or reserved to the United States pursuant to such lease, or (2) if there no such sales, or if the Secretary finds that there were an insufficient number of such sales to equitably determine such value, computed at the average unit price at which mineral was sold pursuant to other leases in the same region of the outer Continental Shelf during such period, or (3) if there were no sales of such mineral from such region during such period, or if the Secretary finds that there are an insufficient number of such sales to equitably determine such value, at an appropriate price determined by the Secretary”

The issues of relevance to MMS gas RIK on the OCS, especially in an RIK program in which a gas marketer were engaged by the U.S., are two-fold.

1. Competitive Bidding

At least two interpretations could be made regarding the competitive bidding language. The first is that royalty production, either by itself or combined with that of other leases, must be **sold directly to purchasers by competitive bidding.** In this view, an MMS marketing agent could be precluded from simply arranging the best business transactions for product sales, rather than going through a cumbersome bidding process for each lease.

The second interpretation is that MMS could procure **by competitive bidding** the services of one or several marketing agents. After such compliance with the competitive

bidding language, the marketer could then market and sell U.S. production in accordance with best business practice and the contractual arrangement entered into with MMS.

2. Fair Market Value

There also appears to be at least two interpretations of this language. A literal interpretation concludes that OCS RIK could only occur if the royalty portion were sold for at least as much as the lessee sold the non-royalty share of production for each lease. If there were no such sales, then the RIK portion could be sold for at least as much as realized from other leases in the area or by an amount deemed reasonable if there were no sales in the area.

Critical questioning of the logic of the above interpretation could lead to a more intuitive conclusion. Did Congress really intend for the U.S. to continue to audit the lessee's share of lease production when taking in kind? With such administrative burdens, why would anyone implement an in kind program? How would it be possible for the U.S. to know the pricing details of the producer's share of lease production in "real time" so that sale of the royalty share could take it into account? If Congress intended to establish a floor based on the producer's share, why use the term "average unit price?

A second interpretation concludes that Congress established a generalized, average floor price because the intent was to allow for an RIK program that could actually be workable. In this view, the government would be held to a benchmark of averaged, regional prices as a floor for the sale of royalty production.

B. MLA Issue

The issue of importance to the present study for onshore RIK is whether or not a State has the authority to implement an RIK program separate from the Federal government. Both Wyoming and Texas have requested that they be allowed to implement such a program. Further, Wyoming has expressed interest in taking the entire royalty stream from Federal leases in that State in kind with reimbursement in cash to the U.S. government for its one-half share.

The Department's Solicitors Office has counseled that the MLA merely gives States a permanent and indefinite appropriation of one-half (generally) of receipts received from Federal mineral leases within each respective State. As such, there is no authority for the States to implement RIK programs separate from the U.S. However, there does not appear to be any statutory bar to establishing joint programs.

C. Appropriations Laws

During the study, questions have surfaced over whether MMS has the authority to pay for processing and/or transportation of its production, and, if applicable, marketer services. Upon inspection, it appears that MMS does not have the authority to directly pay for these services (e.g., cutting a check) without a specific appropriation for this purpose.

Authority for indirect payment for services is another issue. This issue could apply to two types of circumstances: 1) MMS could net the costs for processing and transportation services out of the sales proceeds realized from downstream sales made by a marketing agent; and 2) MMS could indirectly pay a marketer for its services in a fee or a profit sharing arrangement, depending on the nature of the contractual relationship potentially entered into with a marketer, by netting-out of sales proceeds.

D. FOGRMA Issues

Comment at the RIK public workshops was clear in that one of the primary objectives of RIK for the oil and gas producing industry was a decreased level of reporting. Issues have subsequently risen over the meaning of statutory requirements in FOGRMA Section 105(a) for data to be provided to States in support of royalty payments. This section of FOGRMA requires data on the type of payment, time period of such payment, source of payment, production amounts, royalty rate, and unit value.

MMS's royalty program has interpreted these requirements quite specifically in terms of detailed data elements that feed mainframe accounting systems. However, there does not appear to be any constraints within FOGRMA to the adoption of new, more streamlined reporting systems that use more generalized requirements and definitions of data types. For example, source of payment does not by statute have be a lease or even a county, and time period of payment does not have be monthly. In other words, there is no statutory bar to drastically simplified reporting of RIK sales data to MMS.

VI. FEASIBILITY ASSESSMENT

This section provides analysis regarding the feasibility of RIK programs for Federal oil and gas leases. The analyses in this section attempt to determine if implementation of RIK program(s) for Federal oil and gas appears to be in the best interests of the United States, and, if so, under what circumstances.

The interests of the United States are met by a program that not only reduces the costs of government but also has the potential to increase Federal royalty receipts. Because OCS gas RIK appeared more attractive from comments and discussion with industry, the team concentrated its efforts there. Revenue impacts for sample OCS leases were analyzed and estimated for a range of scenarios. We assess onshore gas and both onshore and offshore oil more qualitatively. Administrative effects under RIK for both commodities are only examined qualitatively because detailed requirements for administration, oversight, and auditing have yet to be determined.

A. Overall Findings

The main finding of the study is that RIK programs, under favorable circumstances, could be workable, revenue positive for the United States, and administratively more efficient for both lessees and the MMS. On the other hand, implementation of RIK programs, under less favorable circumstances, would greatly reduce the chances for success both economically and administratively. Conditions not favorable for an MMS RIK program include:

- If MMS is required to audit the lessee's production share to measure performance of an RIK program, the lion's share of benefits to MMS and industry is lost. Such auditing occurred during the 1995 pilot program and was burdensome for all parties.

- Statutory language directing MMS to take Federal production in kind at the discretion of producers (that is, a mandatory program for MMS, but a voluntary one for producers) would be counterproductive. The uncertainty inherent in such a situation would negatively affect MMS's ability to develop relationships with purchasers and to aggregate volumes.

- Acceptance of RIK production at less than marketable conditions would require MMS to pay for services currently performed at no cost to the government. Federal royalty revenues would be negatively affected.

The key elements of a successful Federal RIK strategy are those that allow for:

- Downstream Marketing/Sales: There is no reason to believe that MMS RIK production *sold at the lease* should be worth any more or less than a lessee's production sold at the lease. Value is added by a variety of services performed downstream. To be revenue positive, an MMS RIK program must strategically participate in downstream services. This is especially true for gas because its diverse customer base, high price volatility,

relationship with electricity, and well-developed marketing industry all increase the up-side for value-additions in the downstream direction.

- Aggregation: A successful MMS RIK program would be one in which the government's strengths are intelligently used. The major strength of U.S. RIK production is its magnitude, as described previously in this document. Aggregation of substantial volumes of RIK production would provide MMS and its marketers sufficient supply to exploit the full range of market opportunities.

- Concentration of Production: Implementing an RIK program with the greatest chances for success - one that allows for downstream marketing/sales and aggregation of substantial volumes - is a formidable undertaking. The learning curve for either MMS or a marketer(s) would be quite steep, especially if leases were scattered over many States in a variety of basins with differing gathering, processing, and production environments. Concentration of similar production in a single area or basin, with a mature, extensive transportation infrastructure, would increase the practicality of such a program.

- Administrative Relief: From an administrative perspective, the most successful RIK program would be one that minimizes: 1) reporting; 2) valuation disputes; 3) tracing sales back to leases; and 4) royalty verification. Clearly, small pilot programs are not consistent with these factors. The greatest amount of administrative relief would accrue from broadly-applied, multi-year programs.

The team believes that the feasibility of RIK programs is dependent on whether a program is intended for oil or natural gas. The above-described factors favoring a successful RIK program are used throughout the following discussion.

B. Oil RIK Findings

For **onshore oil**, the team focused on options for taking crude oil from Federal leases in Wyoming as an example of how an onshore oil RIK program could work. We also assessed the Wyoming proposal (Appendix 2), and discussed with the State a modified option of downstream marketing. In addition to the factors described above, the team examined onshore crude oil RIK in the context of Alberta's oil RIK program.

Neither the public nor marketing companies provided any evidence that selling crude oil in kind at the lease - either onshore or offshore - would be revenue positive for the U.S. Again, there does not seem to be any direct revenue-related reasons for selling any type of RIK production at the lease. The Province of Alberta is, however, making approximately 5 cents per barrel more than Alberta postings (akin to U.S. market center prices; e.g., Empire/St. James). Alberta representatives offered two explanations for the revenue enhancement: 1) the Province is increasing competition for its oil among refiners by transporting crude from remote regions with few refineries to refining centers; and 2) the large volumes in the program offer supply assurance. On the other hand, it is not clear to the team whether an increase of 5 cents per barrel represents a significant enough enhancement to justify implementation.

Continuing on the revenue side, producers have informed MMS that the recently completed Express Pipeline from Alberta to Wyoming is currently depressing crude prices. Because MMS has also been told that lessees have locked-in higher prices with longer-term contracts, it appears that MMS could lose revenues relative to an in value share until the higher price contracts expire.

From an administrative perspective, taking crude oil in kind from an entire county (e.g., Campbell County) would offer savings to many small companies. From a "net receipts sharing" perspective, any savings in Wyoming's share of administrative costs that could accrue from a pilot program in a single county would not appear to be material. Adoption of a State-wide program could lead to such savings. Interestingly, MMS was told by small producers that, if an oil RIK program was adopted in Wyoming, they would like to "tag along" and combine their volumes with government volumes to hopefully to realize higher prices. Thus, administrative savings and revenue enhancement theoretically could accrue.

Under the MLA, MMS does not have the authority to delegate to Wyoming an RIK program for their one-half royalty share, as in the original Wyoming proposal. However, MMS would like to work with the State to jointly assess the potential for a legally authorized RIK program. The results of Wyoming's upcoming RIK sales on State leases by competitive bid would be a good place to start.

For **offshore oil**, the team focused its attention on the Gulf of Mexico area where the Federal royalty share is approximately 165,000 barrels/day. Crude oil is produced from within the 3-mile limit to the deepest producing waters. Major pipeline systems bring oil to onshore facilities. Refining of most OCS oil occurs in Texas and Louisiana, however, some crude oil is transported to refineries in the Midwest. A substantial amount of crude oil exchange occurs between producers and refiners before the product is refined.

We do not support the options of lease sales by competitive bid and MMS marketing for reasons described previously. Preliminary discussions with oil marketers yielded mixed results on the question of whether MMS could realize revenue enhancements from oil RIK. One opinion was that there are only limited benefits of aggregating crude oil because refiners are typically pursuing incremental barrels to fill refining capacity, not large batches of crude. In this view, the major strength of the U.S. RIK position - large volumes - does not translate into attractive marketing opportunities; thus there is no reason to believe that the U.S. could sell for more or less than any other party. However, another view is that, to the extent that lessees are legitimately selling arm's-length at the lease for posted prices, MMS could realize relative revenue enhancements by taking crude oil to market centers and selling in the cash market.

The team attempted to quantify the potential for uplift in the value received for royalties if MMS were to take Gulf of Mexico royalty oil in kind and have a marketer sell it at market centers. However, several major data problems were encountered that would have made the analysis highly tentative: 1) we did not have access to negotiated differentials included in exchange agreements at market centers; and 2) calculations would have relied on reported crude oil quality on MMS's royalty report, an unaudited field with historically poor data. Several other factors dampen enthusiasm for widespread offshore oil RIK:

- MMS understands that a greater proportion of lessees are taking crude oil to market centers to obtain additional revenues, which will increasingly limit any revenue enhancements that could be captured from RIK.

- Unlike natural gas, there does not appear to be diverse downstream set of customers and high potential for revenue enhancements downstream of producing area market centers for crude oil.

- MMS believes that it is within reach of a regulatory solution to mitigate crude oil valuation problems in a manner that provides more certainty and less reliance on posted prices.

The oil marketers that the team spoke to concluded that, if additional revenues could accrue from oil in kind, they would be maximized by: 1) taking delivery at the lease and arranging (through an experienced marketer) "transportation" to refineries through a variety of swaps and exchanges to minimize costs; and 2) sales at refineries to capture as much downstream revenue enhancement as possible in the crude oil market.

CONCLUSION: The feasibility of crude oil RIK is uncertain enough that the team cannot endorse widespread implementation. However, the Alberta experience provides a model suggesting that, under the right conditions, crude oil RIK may be essentially revenue neutral while providing significant administrative savings. A crude oil RIK program in a single onshore county or basin using the Alberta model of marketing by an agent could test the revenue and administrative effects of crude oil RIK. If such a program proves revenue neutral or positive and workable, more significant administrative relief to companies, State government, and MMS could accrue from broader implementation.

C. Gas RIK Findings

For **onshore gas**, the team focused on the San Juan Basin of northwest New Mexico as an example area. The San Juan Basin is the largest onshore natural gas producing area with a royalty volume of 433 million cubic feet per day, approximately 65% of which is coalbed methane. Federal production constitutes about 75 percent of the total royalty share.

San Juan Basin gas moves primarily west to the southern California area, and also moves southwest to the west Texas Waha gas market hub. Gas can also move northwest. In recent years, differentials in market indices between Southern California and Waha have temporarily offered attractive trading opportunities in response to supply and demand dynamics.

These opportunities to sell gas at either western or eastern markets suggests to the team that an alliance with a marketer well-positioned in transportation contracts in both directions could result in higher revenues than currently received. Other factors in favor of San Juan Basin RIK are: 1) substantial volumes of Federal gas; 2) concentrated production; 3) mature and extensive pipeline systems; and 4) numerous small operators selling gas at the wellhead (75 percent of the gas is reported to MMS as unprocessed). The significance of the latter point is that these

operators are likely not currently realizing any benefits of downstream value enhancements; thus, under an RIK program, revenue enhancement could accrue.

Regarding administrative costs, companies would appear to benefit from a San Juan Basin gas RIK program because no longer would larger producers need to undertake the significant amount of tracing of sales from distant locations back to leases. Both MMS and companies could forgo disputes over affiliate gas sales, an extensive occurrence for San Juan Basin gas. Similar to comment from small producers in Wyoming, several producers told MMS that, if a gas RIK program with a marketer were instituted in New Mexico, they would also like to use MMS's marketer. The team concludes that this statement is a tacit admission that these small producers feel that they can receive higher prices for their production than they currently receive.

However, two obstacles to successful RIK implementation exist:

- CO_2 Transportation/Removal Costs: Downstream value enhancements do not even approach the 8 to 15 cent/MCF non-allowable costs to transport and treat coalbed methane. Thus, gas RIK in the San Juan Basin would be revenue negative relative to current revenues if MMS did not either receive compensation for the treatment or accept delivery at the plant tailgate. The deductibility of CO_2 costs is currently under administrative appeal.

- Gathering System Capacity Constraints: Similarly, if MMS is left without gathering services because lessees fully utilize their existing contracts, gas RIK in the San Juan Basin would be revenue negative. However, MMS has been informed that alliances with gas marketers who are also primary gatherers in the San Juan Basin will assure that MMS does not have a capacity problem.

For **offshore gas**, the team focused its attention on the Gulf of Mexico area where the Federal royalty share is approximately 2.3 bcf/day. Gas is produced from within the three-mile limit to the deepest producing waters. A series of major pipeline systems bring gas to onshore facilities and pooling areas. Typically, there are several gathering lines used to bring gas from platforms to different major pipelines heading onshore. Gas is processed locally near the onshore pipeline terminus, and liquids are sold both in local markets and at NGL market centers (e.g., Mount Belleview, TX; and Conway, KS). Residue gas moves generally northeast and north through extensive pipeline systems to the major American consuming areas in the Northeast and Midwest.

Based on public comment, discussions with marketers, and analysis of the 1995 pilot program results, we do not support the options of lease sales by competitive bid and MMS marketing of natural gas. The former option may not be revenue positive, and the latter option would not be practicable for MMS to undertake with its lack of marketing expertise. Thus, our analysis addresses the private marketing option in greater detail.

The team believes that forming an alliance with several top marketers for marketing and sale of OCS Gulf of Mexico gas could be revenue positive. Such an arrangement is attractive in that: 1) large, aggregated volumes could provide marketing options for energy marketers;

2) concentrated production with a mature transportation infrastructure would enhance practicality; and 3) substantial administrative relief could result. We examined in detail both the revenue implications and administrative issues.

Revenue Implications. The context in which OCS gas RIK should be examined is an evolving one in which MMS valuation regulations and policy are changing. As more gas is sold at locations downstream of the lease, producers are experiencing difficulties in tracing pooled production back to individual leases. MMS has tried to develop new regulations to mitigate the tracing problems and to provide more pricing certainty for industry and the government. However, regulations acceptable to all have been elusive. Further, a long run of appeals and litigation is virtually assured as MMS fully considers affiliate re-sales prices in determining production values at the lease.

We believe that OCS gas RIK could be revenue positive for the following reasons:

- Lease Sales of Gas Do Not Maximize Revenues : Currently, most Gulf of Mexico lessees sell unprocessed gas at the lease. For calender year 1995, over 50 percent of Gulf of Mexico gas production was reported to MMS as unprocessed gas sold at the lease. MMS is presumably not receiving revenue uplifts from downstream services and value enhancements for this large amount of production.

  Further, although royalties from unprocessed gas reflect the value of liquids entrained in the wet gas stream, MMS does not currently receive any direct uplifts from NGL sales in these cases. The team's review of royalty data and opinions of gas marketers both indicate that average uplifts range from 7 to 10 cents per MMBtu, net of costs. Although wet gas can at times be more valuable than its processed brethren when NGL prices are low, over the long term, values are enhanced when gas is processed.

- MMS May Not Quickly Realize Uplifts from Affiliates' Re-Sales: Courts have not yet opined as to the extent to which a royalty owner can share in affiliates' re-sales values and the costs of services performed to realize those values. MMS's expected sharing in downstream revenues may not fully occur until after a long period of litigation is concluded.

  The extent to which MMS would share in the downstream costs and values received by its marketing agent would be dependent on the specific nature of the business contract between the government and the marketer. At this point, the indications are that the large OCS gas royalty share could provide MMS's energy marketer(s) with significantly increased sales options, thus potentially minimizing government sharing in marketing costs. As stated previously, we believe that MMS must participate in downstream value additions to be revenue neutral or positive. Thus, any MMS contract with an energy marketer would need to include provisions for sharing in such value additions.

- Sales by One/Several Marketers Aggregates More Production: Currently, hundreds of different marketers sell OCS gas production. It stands to reason that RIK marketing by

only several marketers would provide for much greater aggregation and assurance of supply to large customers. Such a large source of supply allows marketers much more flexibility to offer services such as no-notice supply and to manage volume risks through sufficient swing volumes to cover shortages. These services increase values of downstream product.

- Non-Jurisdictional Transportation: Currently, the Federal one-sixth royalty share moves away from the platform on several gathering lines for many leases. MMS's agent could move royalty gas through a single gathering line, thus increasing overall throughput on that line; increased throughput typically lowers the per unit costs of transportation.

- Jurisdictional Transportation: According to the EIA (Natural Gas 1996: Issues and Trends), the energy marketers have the most diverse transportation portfolios, consisting of a mix of interruptible, firm, capacity release, and no-notice service. The most appropriate and cheapest rate can be brought to bear for specific circumstances. For example, released capacity transportation can be used in many non-emergency situations - at substantial discounts from tariffs. According to the Energy Information Agency, these discounts averaged 65 percent and 83 percent of maximum tariff rates in heating and non-heating seasons, respectively in 1995/1996.

  Another example is instructive. Cold weather in the winter of 1995-1996 drove spot prices in Chicago up to $16-$20 per MMBtu. While the top marketers had sufficient firm transportation contracts to move much of their gas, taking advantage of the price spikes, many producers did not have such contracts and could not benefit from the high prices.

The team approximated revenues from taking OCS gas in kind under the private marketing option and compared these to revenues currently received. The detailed methodology and results are presented in Appendix 5. Ten leases were selected from across the Gulf of Mexico. The leases were involved in the 1995 RIK pilot, thus the team had extensive data on volumes, prices received, and transportation rates. Four test months were selected: December 1995, January 1996, June 1996, and July 1996. For all of the sample leases and months, we arrayed the prices and revenues actually received in value (net of transportation) against an approximation of prices and revenues accruing under a marketing agent scenario. For the latter, we used citygate prices where applicable (less transportation) as a first order approximation of marketing sales. Further, for winter months, we assumed that 3/4 of the volumes would be priced at Citygate Chicago and New York indices less transportation from the platform to citygate, with 1/4 of volumes at index less transportation. For summer months, we assumed just the opposite.

The estimate of revenues under the preferred option is conservative. We did not estimate uplifts from the sale of NGLs, typically in the 7 to 10 cent range per MMBtu. Although marketing agents perform significantly more types of complex trading than simply moving gas to receive citygate index prices, we only used the citygate prices netted back to the lease or production area pool sales less transportation. For the two winter months, the approximation of marketing agent revenues assumed that 100 percent of the maximum tariff rate would apply even though the EIA asserts that winter discounts in the capacity release market average 65 percent of maximum tariff.

For the sample months and leases, the results (Appendix 5) indicate that price enhancements due to gas moving from leases and producing area pools to citygates are greater than the costs of transporting the gas to the citygates. For example, the net price received at citygates for the sample months averaged over 7 percent more than the average price actually received under in value royalties. Close examination of the numbers indicates that most of this increase accrues during the winter months.

We offer a note of caution for reviewers of the revenue analysis. The estimates exclude NGL uplifts and the effects of sophisticated marketing strategies. On the other hand, the estimated revenues do not reflect any potential MMS payment to marketers for their costs. These factors are not included because: 1) it is simply not possible to quantify specific revenue effects of an MMS agent's marketing strategies before such marketing occurs; and 2) payment of any marketer fees would depend on the business arrangement actually negotiated between MMS and its marketer(s). Thus, the revenue analysis should only be considered a first order approximation of potential net price enhancements between the lease and citygate locations.

Administrative Issues: A broad Gulf of Mexico gas RIK program would appear to offer the greatest amount of administrative relief to both MMS and industry from the burdens reporting/accounting, valuation disputes, tracing sales back to leases; and royalty verification. Producers would no longer submit royalty reports. Some MMS staff would be needed to reconcile volumes between operators and the marketing agent(s) and to verify reports and payments from the agent(s). However, the sum total of reporting and accounting would decrease dramatically. Further decreases in administrative work would accrue if MMS requires an entitlements-based delivery requirement for its royalty gas. That is, MMS would be delivered its 16 2/3 percent royalty share by volume of what is produced. In this way, balancing royalty volumes would be minimal.

A major benefit would be relief from auditing and certainty in valuation. As first sales of natural gas increasingly occur distant from the lease and involve more complex commodity swapping, auditing of natural gas under a gross proceeds-based, in value royalty system will become even more difficult than it is today. Further, MMS expertise in the natural gas industry under a substantial gas in kind program would greatly increase. Currently, while MMS staff are quite knowledgeable regarding the industry structure 4 to 6 years ago during audited periods, much less is known about current industry events.

Administrative relief for both MMS and industry would be maximized if RIK were implemented for a period sufficient to offset start-up costs associated with the procedural and automated systems changes necessary to implement RIK. Administrative savings would not be realized for a short-term program or one in which MMS switched back and forth between in kind and in value programs. Public comment indicated that a period of 3 to 5 years is advisable. We would also expect that a longer term program could enhance direct revenues through allowing for a learning curve for MMS marketer(s) and maturing of relationships with purchasers.

Another administrative issue concerns RIK programs for OCS 8(g) leases. The State of Texas has expressed interest in taking its share of Texas 8(g) production in kind. The Federal

Government's authority and options with respect to delegating or contracting an RIK program to Texas for its 8(g) production are currently unclear. However, because the potential for a successful OCS gas RIK program appears high, it appears to be in the best interest of both the Federal Government and Texas to identify and assess RIK programs of joint interest.

One final administrative issue concerns MMS organization. If widespread RIK is adopted, it would be advisable to organizationally separate the regulatory function of MMS for in value leases from the marketing arm of MMS for in kind leases. Without such separation, regulations could - consciously or not - adversely interfere with market forces.

CONCLUSION: The analysis suggests that a bold OCS gas RIK program has the greatest chance of success of any potential MMS RIK initiative. Such a program would be most successful if it: 1) involved substantial amounts of OCS production; 2) ran for a period of more than 3 years; 3) took delivery at the lease; 4) engaged one or several marketers; and 5) provided a formula for MMS sharing of downstream value additions secured by MMS's energy marketer(s).

VII. RECOMMENDATIONS

The information, analysis and conclusions presented above address potential future RIK programs from a conceptual basis. The assessment is intended to provide management with a sound informational basis so that MMS can focus on RIK concepts or programs that have the greatest chance for success. Additional information and analysis, including legal conclusions, would be needed before decisions are made to implement any specific RIK program. The following recommendations are made in this spirit.

RECOMMENDATION #1: With input from the States of Texas and Louisiana, develop detailed specifications for a long-term, OCS pilot program for the private sector marketing of substantial volumes of U.S. royalty gas, including:

1. Determine specific scale of RIK pilot program; identify leases to be involved; and develop lease profiles of relevant data to be provided to marketers..

2. Solicitation of Program Attributes: Start a pre-procurement process soliciting business solutions from qualifying energy marketers for OCS gas. The process would follow the "California procurement model," an alternative, interactive process designed to create innovative and intelligent contracting solutions.

3. Economic Analysis of Leading Business Solutions: Perform an in-depth analysis of revenue implications of the most attractive RIK programs proposed by marketers.

4. Address Legal Issues: Based on the most attractive RIK proposal, identify any regulatory and statutory issues needing resolution. Develop regulations and work towards legislative solutions, if needed.

5. Brief Congressional Committees: Obtain congressional input on tentative decisions

6. Decide Whether or Not to Implement

RECOMMENDATION #2: Formally establish a joint MMS/Wyoming team to examine the viability of an oil RIK program in Wyoming, focusing on:

1. The magnitude and duration of adverse pricing effects of the Express Pipeline relative to RIK programs.

2. Results of the Wyoming sales of State lease oil by competitive bidding.

3. Using these results, determine the relative chances of success of a competitive bidding RIK program versus a program using the Alberta model.

4. Develop and assess specifications for a small-scale pilot program, with assistance of crude oil marketers and producers.

5. Make decisions on implementation.

RECOMMENDATION #3: Establish a joint team of MMS and State of Texas personnel to identify and assess a range of the possible RIK programs involving OCS 8(g) leases offshore Texas.

Lastly, we further recommend that, upon successful implementation of any pilot project, the potential for expansion of the pilot programs be evaluated and the potential for additional RIK pilot programs also be assessed.

APPENDIX 1

The following text originated from MMS's September 1996 Final Report of the Royalty Gas Marketing Pilot, Appendix 12. It is included here to provide information on the potential for MMS taking its production and kind and selling it to Federal facilities.

EARLY EXAMINATION OF GAS ROYALTY-IN-KIND

The changes in the U.S. gas market fostered by the Federal Energy Regulatory Commission (FERC) Order 636 and earlier deregulation prompted the Minerals Management Service (MMS) to explore more efficient ways to manage gas royalties. In early 1994, the Assistant Secretary for Land and Minerals Management and the Director, MMS, suggested an examination of royalty-in-kind (RIK) procedures for the royalties on gas produced on federal leases. They were familiar with the gas RIK program in Texas in which a portion of the State's gas royalties is taken, on an in-kind basis, and used in state facilities such as schools, prisons and public office complexes. In making their suggestion, the Assistant Secretary and the Director, MMS, sought to determine if such an approach for federal royalty gas would (1) reduce administrative costs associated with federal gas royalty collections and (2) enhance net federal royalty revenues.

In February of 1994, the Associate Director for Policy and Management Improvement (PMI) within MMS commenced an assessment to determine if administrative cost savings and federal revenue enhancements could be achieved within the context of a Federal RIK program patterned after that employed in Texas. Attainment of these objectives would hinge, in major part, on the extent to which Federal RIK gas could be the least costly source of supply for federal facilities around the United States. Could Federal RIK gas be delivered to military installations, prisons and office complexes at a cost which would justify displacement of conventional sources of gas supply? Also, would there be administrative savings for MMS and industry in taking the RIK gas at the lease and then taking responsibility for its delivery at the location of the federal end user?

In attempting to answer these questions, PMI staff met with representatives from the Defense Fuel Supply Center (DFSC) of the Department of Defense (DOD). The activities of the DFSC were relevant to MMS's efforts since, in addition to buying gas for Defense installations, DFSC buys gas for the Department of Energy (DOE), Veterans Administration medical centers around the country, the Social Security Administration, Internal Revenue Service (IRS) of the Department of the Treasury and other sundry federal facilities outside of the Defense Department. The program had reduced gas acquisition costs for the various participating agencies. Of particular interest was the fact that the DFSC had revamped its gas procurement program to reflect changes which had occurred in the gas market. As part of this revamping, DFSC had moved to a policy of dealing strictly with marketing companies in obtaining gas at the lowest possible price. DFSC has no contractual arrangements with any gas producers which means that they are not committed to purchasing gas from particular sources. This information raised concerns about the role of Federal RIK gas in such an effort if we were committed to supplying gas to particular federal customers. The meeting suggested that MMS may not be able to

establish a longer term contractual arrangement with federal users in which Federal RIK gas would consistently be the lowest-cost source of gas.

PMI staff also had several conversations with DOE representatives to learn about DOE's sales procedures for gas from the Naval Petroleum Reserve in California. In these sales, DOE had attempted to act as their own marketing company, but had achieved only limited success. One failed marketing venture included an attempt to market gas to the DFSC of the Department of Defense. This experience prompted DOE to begin selling gas to marketing companies. In the sale of gas to marketing companies, DOE issued a Request for Bids but at the time of these conversations DOE was considering streamlining their procedures by moving to a simpler Invitation for Bids.

APPENDIX 2

The following proposal was presented by State of Wyoming officials to MMS representatives at the RIK public workshop meeting held in Casper, Wyoming on March 25, 1997.

MARCH 25, 1997

WYOMING PROPOSAL TO TAKE STATE SHARE OF FEDERAL ROYALTY IN-KIND OIL

The State of Wyoming hereby offers an additional option to the Minerals Management Service' February 21, 1997 draft options for a federal royalty in-kind feasibility study onshore (Wyoming). That is: The State of Wyoming be allowed to take its share of federal royalty in-kind and market during the term of the proposed federal pilot program.

ASSUMPTIONS

This State option proposal is proffered under the assumptions that:

* Federal lessees/operators will be under a mandate from MMS to participate in a royalty in-kind pilot, delivering State share royalty production as directed by the State.

* The primary goal of the pilot project is revenue enhancement for the in-kind royalty share volumes taken, if and when taken, during the terra of the pilot.

* Consideration will be given to the State's sharing in federal. pilot program funding for the administrative costs related to in-kind royalty volumes taken.

PILOT FOCUS

The State proposes a pilot in-kind royalty oil program focusing on:

* Federal unitized production from high-volume units from which the State also currently receives a production allocation, and federal unitized presence is a significant percentage of total unit production.

* Taking initially from an area with sufficient transportation capacity and proximity to the Rocky Mountain market center within Wyoming.

* Taking initially from an area with significant proximate production concentrations - Example: a by-county or township concentration.

PROGRAM BASICS

Proposed program basics for State R-I-K pilot:

* State share of federal in-kind royalty oil production available on a competitive bid basis only, on a total available unit or field basis, inclusive of State in-kind royalty oil volumes, as a minimum. Total royalty in-kind volume shares (federal/State) from all units in the aggregate may be bid.

* Bid package to include call for bids detailing bidder requirements, sample contract and property schedule.

* Bids received to be compared to current market and current net royalty value as a basis for acceptance or rejection of high bid(s).

* Reservation of right to reject any and all bids and receive direct cash royalty payment for State share marketed by federal lessees/operators.

* Purchaser(s) assume(s) all responsibility for taking delivery, transporting and marketing crude beyond custody transfer tankage.

* Requirement for purchasers to take or pay for all state share in-kind royalty produced volumes on a monthly basis.

* In-Kind purchaser to retain all revenue from downstream sale and provide payment monthly on all volumes at contract price.

ACCOUNTING CONSIDERATIONS

* Use existing State bid package and contract documents, modified as necessary to accommodate federal production issues.

* Federal and State lessees/operators to continue reporting to respective agencies as applicable.

* State receives monthly a report of unit sales volumes supported by crude run statements/purchasers statements as verification base documentation.

* Production verification accessible electronically from Wyoming Oil and Gas Conservation Commission and Department of Audit computerized access to federal forms 3160 and 2014.

* State costs should not increase dramatically assuming cooperation from State and federal agencies and lessees/operators, and given existing direct relationships with producers/operators and proximity to the area.

* Purchaser of in-kind royalty provide electronic funds transfer to State Treasurer, acknowledgment documentation to Office of State Lands and Investments along, with custody transfer pipeline and truck run tickets to support volumes purchased.

Example County: Campbell, Wyoming

* Federal production approximately 52% of total county crude production.

* State in-county production approximately 6%.

* The first ten units (arrayed in order of descending volume) within county in which State/federal production exists, would yield greater than one-thousand barrels per day as State's share of in-kind royalty available for sale.

Target County: Campbell County, Wyoming

1996 Monthly Volume:
Federal - 715,673 bbls (52.03% of County Production)
State - 85,545 bbis (6.22% of County Production)

Federal Units:

	Volume	Federal Interest	State Interest
Hartzog Draw (Johnson County also)	430,512 bbls	70%	2.5%
North Buck Draw (Converse County also)	331,637 bbls	55%	07%
Sandbar East	51,913 bbls	90% Muddy "A" 40% Muddy "C"	05%
Alpha	41,009 bbls	72%	04%
Highlight	40,942 bbls	28%	04.9055%
Raven Creek	36,631 bbls	24%	11.8111%
Rozet	37,161 bbls	96% Minnelusa 32% Muddy	00% 02.9208%
House Creek	34,374 bbls	53%	08.41%
Bone Pile (Converse County also)	30,024 bbls	09%	.000164
Pine Tree	26,351 bbls	100% Shannon "E" 82% Shannon "CE"	00% 00.71808%
Lone Cedar	23,060 bbls	03%	46.195019%

APPENDIX 3

MINERALS MANAGEMENT SERVICE
1997 ROYALTY-IN-KIND FEASIBILITY STUDY

SUMMARY OF PUBLIC COMMENT AT RIK WORKSHOPS
MARCH - MAY, 1997

The Minerals Management Service (MMS) conducted a Royalty Gas Marketing Pilot in 1995 in which it sold Gulf of Mexico royalty gas at the lease to competitively selected gas marketers. Subsequently, Congress directed MMS to consider additional projects for taking oil and/or gas in kind. In response to this directive and MMS's ongoing exploration of potential improvements to the royalty management process, MMS Director Cynthia Quarterman formed the 1997 Royalty-in-Kind (RIK) Feasibility Study. In this study, MMS considered a variety of RIK options built on lessons learned in the 1995 Pilot. These options formed the focus of a series of public workshop meetings held by MMS in March, April, and May of 1997 to obtain public comment so that MMS could become better informed of the issues surrounding RIK programs. This document summarizes the public comment at these meetings.

I. NATURAL GAS WORKSHOPS - OUTER CONTINENTAL SHELF

Four options - ranging from conservative to aggressive in approach - were developed to reflect a spectrum of possible RIK programs for natural gas. Each of the options addressed Outer Continental Shelf (OCS) leases in the Gulf of Mexico.

- Option 1: Enhancement of 1995 Pilot. MMS takes its gas at the lease and competitively sells it to the highest bidder, reserving the right to reject all bids.

- Option 2: Focused MMS Gas Marketing. MMS takes all royalty gas from several pipeline systems at the lease or onshore, aggregates, markets, and sells by competitive bid, with the assistance of a marketing consultant.

- Option 3: Widespread MMS Gas Marketing. MMS takes some gas from most pipelines at the lease or onshore, aggregates, markets, and sells by competitive bid, with the assistance of a marketing consultant.

- Option 4: Private Sector Marketing of U.S. Gas. MMS takes all royalty gas from many pipelines, and retains one or several marketers to arrange for transportation, aggregation, marketing, and sales on a service basis.

The MMS study team held public meetings/workshops on March 19, 1997, in Houston, Texas, and April 2, 1997, in New Orleans, Louisiana, to discuss and obtain input on the RIK options and associated issues involved in Federal RIK programs for natural gas on the OCS. The meetings

were announced in the Federal Register (FR 97-4350) on February 21, 1997. The following summarizes comments on MMS gas RIK options made during the public workshops.

General Comments

The general consensus of participants at the workshops was that they were in favor of MMS taking its gas royalties in kind under either Option 1 or 4, subject to the comments below.

Proposed Regulations

The producing side of the industry would like to be involved in any rulemaking that may precede implementation of an RIK program. Specifically, the Independent Petroleum Association of America (IPAA) offered to assist with regulations if MMS commits to pursuing RIK. Also, IPAA would like to work with MMS to pursue a legislative change to the Outer Continental Shelf Lands Act (OCSLA) changing the fair market value definition (similar to a proposed change that was in the original draft of the *Federal Oil and Gas Royalty Simplification and Fairness Act of 1996).*

The producers would like any new regulations to be simple and flexible. They also do not want additional burdens placed on them by the regulations, such as requirements for arranging transportation for U.S. gas or for reporting additional data. Lastly, producers cautioned against the government creating a "non-level playing field" through promulgating self-serving regulations for the transportation of RIK gas.

MMS Marketing of Gas

Attendees did not express any concerns about MMS competing in the marketplace if MMS takes royalty gas at the lease and either sells to a marketer or retains an agent to market for the government. However, there were some concerns expressed over intrusive government if MMS were to get involved in downstream marketing.

All parties agreed that MMS should seriously consider utilizing private sector marketing expertise to potentially enhance revenues. The attendees further stated that this approach would actually reflect a less intrusive government due to letting the marketplace work rather than having the government second-guessing industry's marketing and sales decisions.

Mandatory Participation, Lease Selection, Aggregation, Contract Terms

Attendees were not opposed to MMS taking its production in kind on a mandatory basis, recognizing MMS's authority under lease terms to take royalties in kind. However, lessees stated their opposition to any attempt by MMS to select only those leases where it appears that the government would realize revenue enhancement. Rather, they would prefer that MMS take production from all leases in a given system or area, and take 100 percent of production from these leases. All parties agreed that an RIK program should involve all working interests on a lease and all leases in pooling agreements.

The marketers in attendance would like to see MMS aggregate volumes as much as possible. This would make the packages more attractive to market; facilitate transportation arrangements; aid the marketers in moving volumes to and through market centers; reduce per unit costs; and enhance revenues for both U.S. gas and marketers' own "equity" gas.

All parties would like to see contracts of at least 2 years in length, with a 6-month to 1-year lead time prior to implementation. The lessees would like the MMS RIK program to be "non-terminable" during the stated period; that is, neither the lessees nor the government should be able to switch back and forth between in-value and in-kind royalties.

Minimum Bids

Producers expressed concern over MMS establishing minimum bid values. This concern centered on the mistaken belief that MMS would attempt to turn royalty gas back to the lessee if the minimum bid values were not realized on the spot market. MMS explained that in the RIK context the term "minimum bid" refers to a benchmark that would be used to evaluate and potentially reject bids for term RIK sales.

Delivery Points and Transportation

Delivery Point. The participants were unanimous in their desire that MMS take its royalties at the lease (wellhead or royalty determination point) for the following reasons:

- Most independents sell their production at the wellhead, and would be forced to enter into unfamiliar business practices if they had to transport royalty gas downstream;

- The further downstream MMS moves the delivery point, the more complex and burdensome it becomes for all concerned in areas such as balancing and processing;

- Lessee-negotiated transportation rates may be higher than those currently in place due to lack of experience, thus increasing costs and decreasing revenue; and

- Downstream delivery points increase risks for lessees and creates more overhead costs.

If MMS takes its royalty gas in kind, it would have to expect to take all gas daily because the royalty share is mandatory upon severance of product from the reservoir.

Transportation. Producers stated that there are many complexities to consider in transporting gas and that these have revenue implications as critical as product pricing.

- MMS or its agent(s) could successfully negotiate rates on non-jurisdictional lines as well as on common carriers;

- There are interruptions in transportation at times, but not often because interruptible transportation often is backed up by firm transportation downstream;

- Even under worst case scenarios of not being able to move gas, there are always shippers with transportation capacity locked up that are willing to take gas (however, value is lost in these situations); and

- If MMS sells at the lease, the purchaser risks the potential for discounted prices occasioned by downstream transportation interruption.

Marketers stated that MMS or its agent(s) could theoretically negotiate better transportation rates than currently in place because MMS could direct all its royalty share through one line (rather than over multiple lines as currently is the case for many leases), thus increasing throughput on the selected line and potentially decreasing rates.

Marketable Condition and Commingling

On the OCS, producers stated that MMS should not have any problems in encountering gas that is not in marketable condition.

Reporting and Balancing

Producers stated that it may be difficult to reconcile volumes because MMS does not have a verification system for gas, as it does for oil. However, the lessees stated that such problems will be lessened if gas is taken at the facility/measurement point.

IPAA recommended reporting and payment be simplified and accomplished through a system other than MMS's major accounting system.

All parties agreed that any new reporting requirements result in a net decrease in overall reporting to MMS. That is, attendees cautioned that MMS should not replace its current reporting requirements with more burdensome requirements to support its RIK program. Attendees seem to agree that producers should report volumes, and either the marketer or MMS could report the value component.

The lease and sub-lease level of reporting detail that MMS currently requires would be problematic for marketers, if they were required to report. Marketers generally do not have the need to allocate proceeds to specific leases. A requirement for marketers to allocate to leases would be a disincentive for their participation in RIK programs.

Producers stated that the balancing of production, nominations, and delivered volumes becomes more difficult as you go from Option 1 to Option 4: the farther downstream you go, the more difficult balancing becomes.

Miscellaneous

Participants would like to see MMS simplify the royalty valuation process, whether by RIK or new valuation regulations. However, during the oil workshops, IPAA questioned what direction

MMS was trying to go, since we are looking into simplifying things on the one hand with RIK, while we also have proposed "complex" new oil valuation rules.

IPAA urged MMS to give serious consideration to taking onshore gas royalties in kind (specifically, from the San Juan Basin because it has an active spot market), and not disregard the idea because of the "complexities" involved. MMS stated that it will hold a workshop in Farmington, New Mexico to address the special issues associated with onshore gas.

II. CRUDE OIL WORKSHOPS - OUTER CONTINENTAL SHELF

Three options - ranging from conservative to aggressive in approach - were developed to reflect a spectrum of possible RIK programs for crude oil on the Outer Continental Shelf (OCS):

- Option 1: Enhancement of 1995 Pilot. MMS takes its crude oil at the lease and competitively sells it to the highest bidder, reserving the right to reject all bids.

- Option 2: MMS Crude Oil Marketing. MMS takes title to its crude oil at the platform from various locations across the Gulf, and aggregates, markets, and sells by competitive bid, with assistance of a marketing consultant.

- Option 3: Private Sector Marketing of U.S. Oil. MMS takes royalty crude from many pipelines, and retains one or several marketers to arrange for transportation, aggregation, marketing, and sales on a service basis.

The MMS study team held public meetings/workshops on March 18, 1997, in Houston, Texas, and April 1, 1997, in New Orleans, Louisiana, to discuss and obtain input on the RIK options and associated issues involved in Federal RIK programs for crude oil on the OCS. The meetings were announced in the Federal Register (FR 97-4350) on February 21, 1997. The following summarizes comments on MMS OCS crude oil RIK options made during the public workshops.

General Comments

The consensus of participants - both major and independent producers and marketers - was that they were in favor of MMS taking its crude oil royalties in kind under either Option 1 or 3, subject to the comments below. The primary caveat associated with this consensus was that the "facility measurement point" at or near the lease be the delivery point for the government taking its production in kind. The producers were not in favor of MMS marketing its own crude oil, a possibility developed in Option 2.

The producers also stated that any RIK program implemented by MMS be a "live" operational program as opposed to a more limited "test" program so that MMS could obtain real data on RIK results and producers could enjoy substantial benefits.

Proposed Regulations

The producing side of the industry would like to be involved in any rulemaking that may precede implementation of an RIK program. Specifically, the Independent Petroleum Association of America (IPAA) offered to assist with regulations if MMS commits to pursuing RIK. Also, IPAA would like to work with MMS to pursue a legislative change to the Outer Continental Shelf Lands Act (OCSLA) changing the fair market value definition (similar to a proposed change that was in the original draft of the *Federal Oil and Gas Royalty Simplification and Fairness Act of 1996).*

The producers would like any new regulations to be simple and flexible. They also do not want additional burdens placed on them by the regulations, such as requirements for arranging transportation for U.S. gas or for reporting additional data. Lastly, producers cautioned against the government creating a "non-level playing field" through promulgating self-serving regulations for the transportation of RIK oil.

MMS Marketing of Crude Oil

Attendees did not express any concerns about MMS competing in the marketplace if MMS takes royalty oil at the lease and either sells to a marketer or retains an agent to market for the government. However, there were some concerns expressed over intrusive government if MMS were to get involved in downstream marketing. Additional concerns surfaced about MMS imposing artificial and impractical requirements on pipelines and gathering systems and about MMS not having the expertise to successfully market public resources.

All parties agreed that MMS should seriously consider utilizing private sector marketing expertise to potentially enhance revenues. The attendees further stated that this approach would actually reflect a less intrusive government due to letting the marketplace work rather than having the government second-guessing industry's marketing and sales decisions.

Mandatory Participation, Lease Selection, Aggregation, Contract Terms

Attendees were not opposed to MMS taking its production in kind on a mandatory basis, recognizing MMS's authority under lease terms to take royalties in kind. However, lessees stated their opposition to any attempt by MMS to select only those leases where it appears that the government would realize revenue enhancement. Rather, they would prefer that MMS take production from all leases in a given system or area, and take 100 percent of production from these leases. Independents encouraged MMS to take de minimis volumes in kind to relieve smaller producers from administrative burdens associated with paying royalties. All parties agreed that an RIK program should involve all working interests on a lease and all leases in pooling agreements.

The marketers in attendance stated that aggregation is not as important in oil as it is in gas, because: 1) refiners like to remain flexible, so they tend to stay away from term contracts; 2) anyone can buy anywhere based on NYMEX; and 3) you can sell in bulk at any onshore terminus.

All parties would like to see contracts of at least 2 years in length, with a 6-month to 1-year lead time prior to implementation. Producers stated that the lead time would be necessary for terminating existing contractual commitments for transporting, processing, and selling the royalty share of lease production. MMS was also encouraged to allow at least a 60-day lead time before reverting to in-value royalties, if the RIK program is subsequently phased out. The lessees would like the MMS RIK program to be "non-terminable" during the stated period; that is, neither the lessees nor the government should be able to switch back and forth between in-value and in-kind royalties.

Refiners participating in the current oil RIK program expressed concerns that they would be in competition for the best leases if MMS begins a new RIK program. They feel that the current program should take precedence, and that financial requirements (sureties, etc.) for a new program should be similar to those required in the current program.

Minimum Bids

Producers expressed concern over MMS establishing minimum bid values. This concern centered on the mistaken belief that MMS would attempt to turn royalty oil back to the lessee, if the minimum bid values were not realized on the spot market. MMS explained that in the RIK context the term "minimum bid" refers to a benchmark that would be used to evaluate and potentially reject bids for term RIK sales.

Some representatives expressed concern that MMS would use the value received in the competitive bidding process as a benchmark for in-value payments.

Participants had mixed comments concerning the role the proposed oil valuation regulations might play. Some stated that they could be used to establish minimum bid criteria, while others were concerned that their use as a basis for bids would not be representative of the marketplace.

Delivery Points and Transportation

The participants were unanimous in their desire that MMS take its royalties at the lease (wellhead or facility measurement point) for the following reasons:

- Most independents sell their production at the wellhead, and would be forced to enter into unfamiliar business practices if they had to transport royalty gas downstream;

- The further downstream MMS moves the delivery point, the more complex and burdensome it becomes for all concerned in areas such as balancing and processing;

- Lessee-negotiated transportation rates may be higher than those currently in place due to lack of experience, thus increasing costs and decreasing revenue;

- Downstream delivery points increase risks for lessees and creates more overhead costs; and

- Producers object to being required to "market" government oil free of charge so that MMS can enhance the value of its royalties.

If MMS takes its royalty oil in kind, it would have to expect to take all oil daily because the royalty share is mandatory upon severance of product from the reservoir.

Marketable Condition and Commingling

On the OCS, producers stated that MMS should not have any problems in encountering oil that is not in marketable condition. There was general agreement that it is the lessee's responsibility to get the production to conform to pipeline specifications, but opposition to "marketing" it downstream.

MMS would not have to worry about commingling issues if it sold its share of production at the wellhead.

Reporting and Balancing

Participants would like to see MMS reduce and simplify reporting requirements, and they expressed opposition to any increases in reporting burden as the result of RIK. From an accounting perspective, producers would need 90 days to convert their systems.

All parties agreed that any new reporting requirements result in a net decrease in overall reporting to MMS. That is, attendees cautioned that MMS should not replace its current reporting requirements with more burdensome requirements to support its RIK program. Attendees seem to agree that producers should report volumes, and either the marketer or MMS could report the value component.

Regarding balancing, producers stated that there are more balancing problems with distance from the lease. Under Option 3 with MMS taking oil at the lease, the marketer would likely be required to address balancing issues.

Quality Banks

MMS was reminded that on the OCS pipelines and producers have developed "quality banks" in which shippers are either rewarded or penalized based on the quality of oil blended together into the pipelines. In this way, the pricing effects of oil quality are equitably allocated to those using the pipeline. MMS would need to participate in quality bank agreements if it took its oil in kind.

Miscellaneous

Independents questioned what direction MMS was trying to go, since we are looking into simplifying things on the one hand with RIK, while we also have proposed "complex" new oil valuation rules.

Producers stated that MMS has a chance to make the royalty system more productive and cost effective, reduce government and industry burdens, and provide substantial benefits through RIK. It provides a chance for government and industry to "escape the endless morass of disputers and litigation, lessen audits, and reduce valuation disputes."

As an aside, independents also urged MMS to give serious consideration to taking onshore gas royalties in kind (specifically, from the San Juan Basin because it has an active spot market), and not disregard the idea because of the "complexities" involved. MMS stated that it will hold a workshop in Farmington, New Mexico, to address the special issues associated with onshore gas.

III. CRUDE OIL WORKSHOP - ONSHORE

Three options - ranging from conservative to aggressive in approach - were developed to reflect a spectrum of possible RIK programs for onshore crude oil (these options were similar to those presented above for offshore crude oil):

- Option 1: Enhancement of 1995 Pilot. MMS takes its crude oil at the lease and competitively sells it to the highest bidder, reserving the right to reject all bids.

- Option 2: MMS Crude Oil Marketing. MMS takes title to its crude oil at the lease, and aggregates, markets, and sells by competitive bid, with assistance of a marketing consultant.

- Option 3: Private Sector Marketing of U.S. Oil. MMS takes royalty crude at the lease, and retains one or several marketers to arrange for transportation, aggregation, marketing, and sales on a service basis.

The MMS study team held a public meeting/workshop on March 25, 1997, in Casper, Wyoming, to discuss and obtain input on the RIK options and associated issues involved in RIK programs for onshore crude oil. The meetings were announced in the Federal Register (FR 97-4350) on February 21, 1997. The following summarizes comments on MMS onshore crude oil RIK options made during the public workshop.

General Comments

The consensus of participants - producers and marketers - was that they were in favor of MMS taking its crude oil royalties in kind under either Option 1 or 3, subject to the comments below. The producers were not in favor of MMS marketing its own crude oil, a possibility developed in Option 2.

An IPAA representative made comments in support of RIK in general and stated that IPAA supports either Option 1 or 3, with the following suggestions:

- Lessees need 6 months to 1 year lead time before project begins;

- The MMS should take product at the lease;
- The term of the project should be at least 2 years;
- The MMS should take all production from an area;
- There should be less frequent payment terms for de minimis volumes; and
- Producers should not be forced to change business practices.

Proposed Regulations

Participants expressed concern about apparent MMS uncertainty and conflicting polices as reflected by the fact that RIK would simplify and streamline royalty payments, while the proposed oil valuation regulations attempt to measure value away from the lease and would be burdensome. They would welcome an RIK pilot, if it was:

- Strictly adhered to stated objectives of reducing costs for both industry and government and reducing valuation disputes.
- Designed to be as simple as possible.
- Adaptable and accommodated operational and market dynamics.
- Easy to phase out if it did not accomplish the stated objectives.

Mandatory Participation

Participants recognized that MMS has a right to take its production in kind. However, producers reserve the right to object to any additional requirements that may be imposed. They felt that they should not be subject to an RIK program that results in increased operational costs, added administrative burden, or reduced product values.

Producers also stated that they would need anywhere from 90 days to 1 year to terminate or amend contracts, because they enter into term contracts for certainty and increased value. They stated that this would not be a good year to start, because the market is volatile and there is uncertainty about what effects the “Alberta Express” will have on the Wyoming crude oil market.

Other recommendations included taking all working interest owner percentages from the lease to avoid value discrepancies and simplify operations and taking marginal producing properties in kind (but not trucked production).

Minimum Bids

There was considerable concern expressed about the concept of minimum bids, much of it because of the fear that MMS would require lessees to meet the minimum bid value in their gross proceeds royalty reporting if MMS decided to leave the lease in value. Also, the IPAA representative stated that IPAA would not support any RIK program whereby MMS rebills in-value paying lessees based on computed "minimum bid values." They strongly object to MMS using NYMEX as a comparison basis for "look back" price adjustments.

Participants felt that minimum bids wouldn't be necessary if MMS received several bids for a package, because the high bid would constitute market value. Also, if MMS didn't receive the minimum bid amount, it has the option of selling the crude oil on the spot market. There was support for using a consultant to sell the oil and building in a performance/incentive clause to help ensure that market value is received. If that were done, minimum bid amounts would not be necessary because the consultant would ensure that MMS was getting fair market value. Also, including a bonus for performance in the consultant's contract may help increase revenues.

Delivery Point and Transportation

The producers support keeping the delivery point at the lease. If the producer or MMS had to transport oil away from the lease, it would increase administrative costs (gravity and sulphur banks, line fill, line loss/gain, etc.).

Participants felt that onshore transportation rates could be negotiated easily. Almost all pipelines are common carrier from the custody transfer points downstream, and everyone is charged basically the same rate.

Marketable Condition

This is a very minor problem because crude is separated and the resulting oil is in marketable condition before measurement and title transfer. Also, Wyoming has very tight specifications, especially on water, that ensure marketable condition. Slop oil or oil skimmed from pits and tank bottoms could be a minor problem, but these grades also usually are put in marketable condition. There could be viscosity problems because some crude oils need blending to meet pipeline specifications, but that is a shipper's problem.

Contract Balancing

Balancing problems will be minimal if the oil is taken at the wellhead or first transfer point, except that trucked leases will have balancing problems if the same transporter is not used. Also, sliding/step-scale leases may pose a problem because royalty shares are not known until end of month. Balancing should be a matter between MMS and its marketer.

IV. NATURAL GAS WORKSHOP - ONSHORE

The same options as described above for natural gas were presented at the onshore natural gas RIK workshop, held in Farmington, New Mexico on May 14, 1997. The workshop focused on RIK potential for gas in the San Juan Basin. The following summarizes comments made during the public workshop.

General Comments

The consensus of participants - producers and marketers - was that they were in favor of MMS taking its gas royalties in kind, subject to the comments below. However, several attendees stated that the value of RIK programs in the San Juan would be much greater if Indian production could also be taken in kind.

Producers wanted to know if an RIK program would be a pilot or a "permanent, live program." Some small producers wanted to know if they could also use the government's marketer(s) if a program occurred so that revenues could potentially be enhanced.

Balancing

Some producers were concerned about adding another player to the agreements for balancing lease production volumes. Some said that having a split stream for two marketers where there is now one stream would be a complication. However, other producers and the gas marketers stated that split streams are already common.

The question of how to balance volumes with the government at the end of the RIK term and at the end of lease life came up, with no single solution offered. Generally, producers stated that MMS would simply be another working interest owner, or, alternatively, MMS could stipulate by regulation that it would simply be entitled to its royalty share entitlement with true-up every year.

Capacity Constraints

MMS was informed that there are now frequent capacity constraints on San Juan Basin pipeline systems, especially the gathering systems, and that these can be severe enough to curtail production. Some producers did not see this as a problem for MMS RIK, because there would not be any more production leaving the Basin. However, others thought that MMS in-kind production could be curtailed if producers decide to more fully utilize their own gathering contracts for expanded production.

Marketable Condition

This is a potentially major problem for RIK in the San Juan Basin due to the transportation and treatment costs associated with CO_2 in coalbed methane production. Currently, lessees incur costs to transport the coalbed methane with its CO_2 component to treatment plants where the CO_2 is removed at further cost. As a policy matter, MMS considers most of the cost to transport the

CO_2 and treat the coalbed methane for CO_2 removal to be costs to place production in marketable condition, a cost non-deductible from royalties. At the meeting, producers informed MMS that the non-deductible costs for CO_2 transportation and treatment average from 7 to 15 cents per MMBtu.

At the workshop, MMS representatives explored with the attendees whether there was a "win-win" solution under an RIK program in which: 1) lessees could be relieved of their duty to place product in marketable condition and 2) the United States could realize at least as much royalty revenue through RIK sales as currently received in value. Producers and marketers unanimously stated that there is no such win-win solution because the margins for re-sale of natural gas are only in the 1 to 2 cent range. MMS representatives stated that, without compensation for currently non-deductible costs, RIK for San Juan Basin gas would likely be revenue negative, and thus is not a good candidate for an RIK initiative.

Producers stated many leases have both conventional and coalbed methane production but that there is very little mixing before treatment plants. Producers also stated that they would object to the idea of the government only taking conventional gas in kind because of potentially increased costs to maintain two types of systems on the same properties and areas.

APPENDIX 4

WRITTEN STATEMENTS

The following statements were submitted to the MMS study team by the Texas General Land Office, Shell Offshore, Inc., and on behalf of two trade associations and 13 producers.

Texas General Land Office
Garry Mauro, Commissioner

Stephen F. Austin Building
1700 North Congress Avenue
Austin, Texas 78701-1495
(512) 463-5001

March 20, 1997

Mr. Greg Smith
Minerals Management Service
Office of Policy and Management Improvement
12600 West Colfax, Suite B440, MS 9130
Lakewood, Colorado 80215

Dear Mr. Smith:

Thank you for allowing the Texas General Land Office (GLO) an opportunity to comment on Minerals Management Service (MMS) programs. In response to your 1997 royalty in-kind (RIK) feasibility study, the GLO encourages MMS to strongly consider the following options for its program:

A. Outer Continental Shelf Oil RIK Option

Suggestion: Option 3 -- Aggregation of Royalty Oil Volumes and Marketing by an Agent

B. Outer Continental Shelf Gas RIK Option

Suggestion: Option 4 -- Aggregation and Aggressive Marketing at Various Onshore Locations

C. Onshore Oil RIK Option

Suggestion: Option 3 -- Aggregation of Royalty Oil Volumes and Marketing by an Agent

It is our belief that an aggressive marketing program is the best option to maximize revenue for the royalty in-kind program. The GLO is currently considering privatizing its in-kind gas program in order to expand sales under the end-user program and to maximize revenue for the gas sold on the spot market.

We also feel that MMS should consider a pilot program for the sale of gas to federal facilities. Our experience shows that more money is made on sales to end-users in comparison to sales at the wellhead. One option to consider is to take your royalty in-kind in incremental phases over a period of time as we will do if the program is privatized.

Finally, the federal government should consider allowing the states the option to receive revenue sharing in-kind. Again, we appreciate your inviting us to respond. We hope that our suggestions help you in your final analysis.

Sincerely,

Anthony Galindo
Manager, Energy Marketing

AG/dd

cc: Kerry L. Overton, Deputy Commissioner
Teresa Burr, Senior Marketing Representative

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Regulatory Affairs
Deepwater and Shelf

VIA AIRBORNE

June 23, 1997

THIS COPY FOR

Mr. Greg Smith
Mail Stop 9130
Minerals Management Service
P. O. Box 25165
Denver, CO 80401

Mr. Jim McNamee
Mail Stop 9130
Minerals Management Service
P. O. Box 25165
Denver, CO 80401

Gentlemen:

SUBJECT: MMS REVIEW OF NEW ROYALTY-IN-KIND (RIK) OIL AND GAS PROGRAMS

Shell Offshore Inc., Shell Deepwater Development Inc., Shell Deepwater Production Inc., and other affiliates of Shell Oil Company (all referred to collectively as Shell), are pleased to submit comments regarding the MMS's review of option for oil and gas RIK programs. We participated in the meetings held by the MMS during March and April 1997 and expressed many of our issues and concerns at those meetings. We recommend that the MMS carefully review any future changes since from our review it appears that both lessees and operators would be negatively impacted even though the MMS has stated that is not their intent. It is unfair to gather input from consultants, especially from potential RIK marketers/purchasers, on changes to a program or process that is to their economic advantage. RIK programs are not simple, the issues are very complicated and take significant time to understand and implement.

Based on the MMS statements made at the meetings and the report issued for the gas RIK pilot program (Royalty Gas Marketing Pilot, Final Report, September 1996), the MMS and Federal Government lost about 6% in revenues collected during the pilot program. Our observations of the approach the MMS is taking indicate that it will be very difficult to overcome this shortfall. To generate additional revenues (at least 5%) over the break-even point and to take into account RIK purchasers that default, penalties associated with nominations, cost of administering the program, fees/markups for marketers and consultants, etc., will be a substantial challenge. We also find it perplexing that the MMS is paying RIK marketers/purchasers and consultants to market the royalty product when lessees/operators are not allowed to deduct this as a cost of handling the royalty product at this time. In addition, we have not seen either the criteria or the qualifications of consultants/marketers that the MMS would contract.

Listed below are our key comments and issues that apply to both oil and gas RIK programs:

- An RIK program should be a voluntary program in which the lessee/operator can choose to participate in part or whole, or not to participate at all.

- RIK delivery of oil or gas should fully and completely satisfy all royalty obligations of the lessee. MMS must not later seek recovery of added dollars from the lessee if it determines it sold RIK too low.

- Based on our review, the RIK programs that the MMS is considering would require substantial regulatory changes and, in some instances, changes to the OCS Lands Act. Is the MMS going to initiate with the Congress any necessary changes to the OCS Lands Act? The only RIK program established in regulations is the oil RIK program for small refiners. The new proposals the MMS is considering are not an extension of the small refiner program that is very specific and we ask the MMS not to try to expand that program to cover other areas.

- The OCS Lands Act allows for RIK programs on a lease-by-lease basis. Lessees/operators believe that this should not be changed in order to "test a new royalty system".

- The unique and complex operational and marketing aspects of oil and gas require that the RIK purchaser must be obligated for daily takes of all oil and gas attributable to the royalty interest. The MMS and/or their marketer can not decide on a day-by-day basis that they don't want to take the royalty product.

- All RIK programs should call for delivery of hydrocarbons at the lease and not onshore. This will place the obligation to secure transportation on the RIK purchaser where it belongs. Under no circumstances should the MMS ask the operator/lessee to handle negotiations for the transportation of the product with the pipeline companies. Also, the lessee/operator should in no way be involved in litigation issues that may arise between the RIK purchaser/MMS/pipeline company such as default, non-payment, etc.

- The MMS should put in place a structured Bonding System for RIK purchasers similar to that required from lessees/operators prior to initiating any activities that would involve sales and transportation by RIK purchasers. What will the MMS do if a marketer/purchaser defaults with the RIK volume and has not made the payment?

- Many of the comments made in the MMS documents are disturbing since the revenue the MMS is collecting from royalties is for the Government and the people of the U.S. Specific comments made include: "gambling", "less potential to increase revenues", "involves risk and costs to the Government", etc.

- The MMS would have to establish a new department/group to handle the on-going work of bidding out RIK volumes, administering contracts, negotiating with RIK purchasers and pipeline companies, etc. This appears to go against the initiative to streamline government, including the MMS, and performing value-added functions.

- How will new leases/production be handled in the RIK system?

- Any expanded RIK program should be open to all third parties for purchase and/or bid.

- How will the MMS determine, in a timely manner, that they are receiving fair market value with the proposed lag in the bidding/auditing process (using the pilot program and comments made at the meetings, bids will be sent out to marketers 6 months prior to them taking the gas and it takes up to a year after the contract is completed to analyze the data)?

- The RIK programs that the MMS presented at the meetings as "success stories" are not similar to the OCS case which is being discussed by this MMS proposal. We saw many reasons why these should not be advertised as being analogs that can be adopted for the OCS.

Listed below are our key comments and issues that apply to specific oil RIK programs:

- The MMS and/or RIK purchaser will have to assume the liability for any adjustments in oil for quality, water content, shrinkage, lost product, meter error, transportation, etc.

- The MMS or its RIK purchaser must be responsible for all transportation past the designated sales point that we strongly believe should be the lease.

- The quality of the crude will change as recompletions are put on production, mix of crude changes, etc. How will the RIK purchaser make adjustments in the price paid to the MMS? How will crude quality be reported to MMS?

- Marketers/RIK purchasers should assume all reporting responsibilities to MMS (not just "limited reporting responsibilities" as discussed in the program proposals).

- MMS's comments that they may select production from high producing leases to demonstrate that an RIK program is successful caused us some concern. We don't believe that leases should be selected to try to "high-grade" an RIK program.

- The MMS or its RIK purchaser should have the liability and responsibility for any royalty oil spilled during the transportation. In this regard, will the MMS require that RIK purchasers demonstrate Evidence of Financial Responsibility by having the $35 to $150 million coverage and contractual arrangements with spill response companies or cooperatives?

- Will the MMS establish an auditing process for marketers/RIK purchasers to ensure MMS is receiving the appropriate price for the product?

- MMS and/or the RIK purchaser should be expected to pay fair commercial rates for transportation of the royalty product. MMS and the marketer need to keep in mind that for some locations there is only one route (pipeline) system that may have costs which are higher due to smaller volumes, higher capital and operating costs, etc.

- Any expanded oil RIK program should not, in present over supply market, be limited to small and independent refiners. The program should be open to all third party purchasers.

Listed below are our key comments and issues that apply to specific gas RIK programs:

- As a general rule, all royalty gas must be taken as produced. However, due to nominations and delivery restraints some imbalance may occur. In that event, the MMS marketer and/or RIK purchaser will become involved in gas imbalance issues. It is unclear what role would the MMS take in these situations. With the existing FERC 636 system that requires accurate gas nominations by the producer, penalties may be assessed which may be due by the RIK purchaser and/or MMS. How will this be handled?

- The preferred point of transfer of RIK gas is at the lease itself. However, RIK delivery points are designated with the lease and may vary dependent on the time of issuance of the lease. The location of the gas transfer is important and the MMS should not place additional burdens on the lessee/operator such as: transportation arrangements, liquid and gas plant arrangements, etc. The marketer, RIK purchaser, and/or MMS must be responsible for securing their own liquid processing agreement, liquids and liquifiables transportation arrangements, PTR replacement gas, and any imbalances associated with these products.

- On the deepwater environment, large volumes are produced from a small number of wells. It is important for the RIK purchaser to accept all RIK production as it is produced.

- Retrograde condensate received is often subject to specific balancing agreements. How will the RIK purchaser handle retrograde associated with RIK purchases?

- Any gas RIK program should be made specifically available for purchase by all third parties.

- Due to changes in wells/reservoirs being produced that occur as part of the production cycle, the marketers gas stream composition (BTUs, liquid volumes, etc.) may change during the contract period. The marketer and MMS should not expect the lessee/operator to provide information that is not required at this time.

- If a marketer/purchaser are unable to take the royalty gas stream, the lessee/operator should not be expected to handle and sell the royalty gas volume on short notice.

- The MMS and/or marketer must be aware that when gas and free condensate are transported together to different purchasers, transportation allowances for both streams may be required by the transportation contract.

- It is unclear how the RIK purchaser would process the gas since on-line gas plants require processing agreements. Purchasers may or may not have rights to process at such plants and physical bypasses are not always available.

We appreciate this opportunity to submit comments. If you have any questions or would like to discuss these issues, please don't hesitate to contact Mike Coney (504-588-4643) or myself (504-588-6982).

Very Truly Yours,

Peter K. Velez
Manager Regulatory Affairs

cc. M. E. Coney

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July 18, 1997

Via facsimile and Federal Express

Mr. Greg Smith
Minerals Management Service
Department of the Interior
12600 West Colfax, Suite B440
Lakewood, Colorado 80215

RE: COMMENTS ON MMS' ROYALTY IN KIND OPTIONS
(62 F.R. 8035)

Dear Mr. Smith:

A notice published in the Federal Register at 62 F.R. 8035 and subsequent meeting announcements notified interested parties of public meetings held by MMS to address the issue of federal royalty being taken in kind. MMS has invited comments on the subject. During the past several months, MMS has distributed several "options" being considered by MMS. Specifically, during the March and April 1997 meetings, MMS provided meeting participants with four RIK options for OCS gas, three RIK options for OCS oil, and three RIK options for oil produced onshore. (*see* Attachment 1.) Subsequently, MMS distributed other options for the small refiner RIK program. (*see* Attachment 2.)

The companies listed below produce a significant amount of the oil and gas from federal lands and are vitally interested in the issue of federal royalty being taken in kind. Therefore, these companies and trade associations offer the following written comments on the subject generally and on some of the MMS options in particular. Because many of the options contain common elements, it seemed appropriate to comment on what should be the guiding overall goals, elements and mechanics of a well-designed RIK program rather than to comment on each specific option being considered.

I. MMS' SUPPORT FOR RIK

In 1994, as a part of the Administration's efforts to streamline government, MMS Director Tom Fry instituted a pilot program for the taking of federal royalty gas in kind. In a MMS Press Release of June 30, 1994, MMS stated:

> *"The pilot project is in the spirit of the administration's National Performance Review (NPR), Fry said. The NPR is an effort by all executive departments to find methods that will simplify government procedures, streamline reporting practices, eliminate duplication and waste, and provide better services at reduced costs to taxpayers and other customers.*
>
> *Unlike MMS' Oil Royalty In Kind program, which is designed to assure an adequate supply of oil to small marketers and refiners, the Royalty Gas marketing effort will test an entirely new approach for collecting federal revenues."*

In a Press Release dated August 17, 1994, Acting Director Cynthia Quarterman added:

> *"This project represents the true spirit of MMS' answer to the President's call for reinventing government."*

In a joint MMS/Industry paper presented to the Rocky Mountain Law Foundation in July 1995, the MMS and Industry authors gave the objectives of the pilot:

> *"The objective of the pilot is to identify processes that will radically alter royalty collections in a manner reflecting changes that have occurred in the natural gas marketing environment. This objective promises increased efficiency and greater certainty in valuation without compromising revenue collection. Exhibit A displays anticipated efficiencies that will occur under the pilot."*[1]

Acting Director Quarterman commented on the pilot, in June 1996, before the House Subcommittee on Energy and Mineral Resources. She said:

> *"[T]he MMS had two objectives in conducting this pilot: (i) to find processes for streamlining royalty collections in a manner that reflects*

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[1] Butler, G. W., McNamee, J. A., Rollins, J. B., Dillon, B. J., Pate, M. L., *TESTING THE WATERS: A COOPERATIVE EFFORT TO DESIGN THE MMS'S ROYALTY-IN-KIND PILOT PROGRAM FOR NATURAL GAS*, presented to the Rocky Mountain Mineral Law Foundation Annual Institute, July 1995.

> *changes that have occurred in the gas market; and (ii) to test a process of royalty collection that promises increased efficiency and greater certainty in valuation. We are pleased with the results of the pilot. It has provided the information required by the Federal government to evaluate the potential of using in kind royalty collection for gas.*
>
> * * *
>
> *The MMS is testing the concept of removing itself from the complex practice of determining the appropriate value of production and auditing whether companies have paid royalties based on an appropriate value. We face additional complexity because of the problems inherent with calculating whether and to what extent certain costs incurred after production (e.g., transportation, processing, marketing) are deductible from the royalty value.*
>
> *The value procedure is simplified dramatically. Thus, production volumes become the sole focus of any audits.*
>
> * * *
>
> *The pilot was an operational success, proving that the concept is feasible."*[2]

In a further effort to streamline the government, Vice President Gore developed the National Performance Review. As part of that program, the Department proposed to substantially streamline their Royalty Management Program.[3] The reinvention proposal for MMS stated:

> *"The plan that the Department proposes as the starting point for consultations has five basic elements:*
>
> * * *
>
> 3. *For offshore lands, the Department would pursue more efficient collection systems, <u>including enhanced use of royalty in kind (RIK) collections</u>."*[4]

* * *

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[2]Testimony of Cynthia Quarterman, Acting Director, Minerals Management Service, before the House Resources Committee Subcommittee on Energy and Mineral Resources, June 27, 1996.

[3]The RMP responsibilities for offshore federal lands will be substantially streamlined through the royalty marketing in-kind and/or royalty stream sales and then transferred to another DOI Bureau. *See: A PROPOSAL TO DEVOLVE THE RESPONSIBILITIES OF THE MINERALS MANAGEMENT SERVICE, March 27, 1995.*

[4]*Id.*

The footnote to the above statement provides:

> *"To reduce the complexity and cost of royalty management and compliance enforcement, the majority of production could be taken in kind and sold immediately to marketing companies. Under such a scheme, the collection function would become primarily a production verification task."*[5]

In a March 27, 1997 letter from Assistant Secretary Bob Armstrong to constituents, he gave the intended actions to be taken under the reinvention proposal as follows:

> *"The Offshore Minerals Management Program will be transferred, intact, to another DOI agency after a sale of the offshore royalty stream has begun and the royalty gas marketing in kind pilot has been expanded."*

Further, the MMS has been committed under the reinvention proposal to simplification of the Royalty Management process. In testimony given on June 8, 1995 before the House Subcommittee on Energy and Mineral Resources, Sylvia Baca, Deputy Assistant Secretary, Land and Minerals Management, Department of the Interior, stated:

> *"Ongoing Efforts to Simplify Royalty Management*
>
> *Even before the Department announced this proposal ..., the MMS was committed to reducing the costs of collecting royalties. As part of the National Performance Review-Phase I, led by Vice President Gore, the bureau initiated a number of actions to simplify the valuation of gas production and reduce the overall costs of compliance ...*
>
> *Resolution of issues relating to valuation often lead to costly administrative appeals and litigation. If we can simplify the process for the valuation of gas production in a way which is fair to industry and the revenue recipient, we can reduce the overall cost of royalty management. The following initiatives represent some of the most important actions we have started to accomplish this goal.*
>
> * * *

[5] *Id.*

Gas Production Taken In Kind

The MMS has initiated a Royalty Gas Marketing Pilot, currently underway in the Gulf of Mexico. Although the pilot involves only offshore leases, we may be able to institute similar programs onshore in the future, and therefore are bringing this pilot to the Committee's attention today. The purpose of the pilot is to streamline and simplify the royalty collection process by taking the Federal royalty share in kind. In light of the potential benefits offered by this new approach to royalty collection, the Department officially designated the pilot as a National Performance Review Laboratory in 1994. Potential benefits of the pilot include:

- *Lessees will no longer determine the value of production for royalty purposes.*
- *Lessees will no longer have to submit as much information as they would on the normal royalty report.*
- *Audit streamlining will occur, a simpler compliance system will be created and there should be reduced litigation.*
- *MMS auditors or systems processing will only be responsible for confirming the delivery of the Federal royalty share of gas production to the marketer.*
- *Administrative costs should be reduced for both industry and MMS."*[6]

As the above statements demonstrate, the Department and MMS have supported an expanded royalty in kind program.

II. STATE SUPPORT FOR RIK

As some States have developed and participated in RIK programs, their findings have been laudatory on their effectiveness. In testimony before the House Subcommittee on Energy and Mineral Resources, a spokesperson for the State of Texas said:

[6]Testimony before the Subcommittee on Energy and Mineral Resources (House Resources Committee), June 8, 1995.

> *"While royalty in kind may not cure all of the disputes that arise between royalty owners and producers, our experience in Texas is that it does provide a means to substantially reduce royalty disputes, reduce costs to both the State and the lessee, and provide the royalty owner an opportunity to obtain an enhanced return ...*
>
> * * *
>
> *Over the past ten years, the Texas in kind program has enhanced royalty income for our Permanent School Fund by over $9.8 million in gas royalty and $4.8 million in oil royalty ...*
>
> * * *
>
> *Costs of transportation and other direct costs, together with a markup or "enhancement" and a set administrative fee are charged to the gas purchasers.*
>
> *Gas and oil producers on State lands have been almost uniformly supportive of both the gas and oil in kind programs. Although I do not have specific figures, the administrative savings and other benefits to both producers and the Land Office are clear. It is far easier to account for volumes of oil or gas physically delivered than it is to account for both the volumes delivered and the market value of those volumes. Delivery in kind relieves the producer of the obligation to account for the market value of the gas and relieves the Land Office from the burden of conducting financial audits of producers. Once accurate delivery is established, the producer no longer needs to be concerned that State auditors will dispute the prices that the producer received."*[7]

In 1995, the Valuation and Standards Division of the Royalty Management Program conducted a survey of State RIK programs. MMS found:

> *"[A]ll non-Federal mineral owners who currently take production in kind say they receive more revenues than if they had taken their royalties in-value."*[8]

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[7]Testimony of Stroud C. Kelley, Special Counsel Texas General Land Office Before the Subcommittee on Energy and Mineral Resources, Committee on Resources, United States House of Representatives, June 27, 1996.

[8]Memorandum, dated January 10, 1995 to Associate Director for Royalty Management Program, Deputy Associate Director for Valuation and Operations from Chief, Valuation and Standards Division, *Original signed by Deborah Gibbs Tschudy.*

III. RIK LEGAL FRAMEWORK

RIK Statutory Language.

The Minerals Lands Leasing Act of 1920 (Public Law No. 146 - February 25, 1920) contained the following royalty provision:

> "Section 19. ... *the royalty to be fixed in any lease thereafter granted thereon or any portion thereof shall be not less than 12 1/2 per centum of all the oil or gas produced ...*"

Public Law No. 853 of March 4, 1931 amended the 1920 Act and added more provisions for the United States to take its royalty in kind: *" ... royalty as may be fixed in the lease, which shall not be less than 12 1/2 per centum in amount or value of the production."*

Current Mineral Lands Leasing Act provisions state:

> *"All royalty accruing to the United States under any oil or gas lease or permit under this chapter on demand of the Secretary of the Interior shall be paid in oil or gas."*
>
> *"Upon granting any oil or gas lease under this chapter, and from time to time thereafter during said lease, the Secretary of the Interior shall, except whenever in his judgment it is desirable to retain the same for the use of the United States offer for sale for such period as he may determine, upon notice and advertisement on sealed bids or at public auction, all royalty oil and gas accruing or reserved to the United States under such lease."*[9]

The Outer Continental Shelf Lands Act also contains provisions for the purchase of federal royalty oil and gas. The Act provides:

> "Sec. 27(a)(2). *The United States shall have the right to purchase not to exceed 16 2/3 per centum by volume of the oil and gas produced pursuant to a lease issued or maintained in accordance with this Act, at the regulated price, or, if no regulated price applies, at the fair market value at the wellhead of the oil and gas saved, removed, or sold, except that any oil or gas obtained by the United States as a royalty or net profit*

[9]30 U.S.C. § 192.

share shall be credited against the amount that may be purchased.

* * *

(b)(2). *Whenever, after consultation with the Secretary of Energy, the Secretary determines that small refiners do not have access to adequate supplies of oil at equitable prices, the Secretary may dispose of any oil which is taken as a royalty or net profit share accruing or reserved to the United States pursuant to any lease issued or maintained under this Act, or purchased by the United States, pursuant to subsection (a)(2).*"[10] *(emphasis added)*

The OCSLA defines "market value" as:

> *"[T]he value of any mineral (i) computed at a unit price equivalent to the average unit price at which such mineral was sold pursuant to a lease during the period for which any royalty or net profit share is accrued or reserved to the United States pursuant to such lease, or (ii) if there were no such sales, or if the Secretary finds that there were an insufficient number of such sales to equitably determine such value, computed at the average unit price at which such mineral was sold pursuant to other leases in the same region of the outer Continental Shelf during such period, or (iii) if there were no sales of such mineral from such region during such period, or if the Secretary finds that there are an insufficient number of such sales to equitably determine such value, at an appropriate price determined by the Secretary.*"[11]

In the joint MMS/Industry paper on the MMS Gas RIK Pilot, the authors stated:

> ***"[g] Legal restraints in the Outer Continental Shelf Lands Act (OCSLA) 43 U.S.C. 1351, et seq.***
>
> *There were concerns that the OCSLA provision regarding fair market value would preclude MMS from taking its offshore royalty gas in kind in a manner envisioned in the pilot. Specifically, Section 27 of the OCSLA requires that, if the Secretary exercise the right to take gas in kind, it must be done in such a manner that the price received is not more than the regulate price, or, if no regulated price applies, not less than its fair market value. Because of the way the OCSLA*

[10] 43 U.S.C. § 1353.

[11] 43 U.S.C. § 1331(o).

> *defines fair market value, this could be interpreted to mean that the Department, on a lease-by-lease basis, must make some sort of comparison to lessees' sales to determine if fair market value has been received for royalty volumes taken in kind. The basis for valuing lessees' sales would be as defined by the 1988 valuation regulations.*
>
> *Because the pilot is a one-time test of a concept being included as part of the Vice President's National Performance Review and overall "fair market" impacts could be considered prior to awarding contracts, MMS was able to move forward with the pilot while researching legislative and regulatory alternatives."*[12]

In its September 1996 Report on the royalty Gas Marketing Pilot, MMS stated:

> *"The SOL [Office of the Solicitor] has advised MMS that we may need to promulgate regulations before we can institute a permanent program to take our gas royalties in kind. In addition, it has stated that OCSLA "fair market value" provisions may preclude us from proceeding with a new pilot or program without a change in the OCSLA or a regulatory clarification of this provision's meaning (see page 5, Appendix 2)."*[13]

It should be noted here that Federal Oil and Gas Royalty Simplification and Fairness Act of 1996, introduced as H.R. 1975 and S. 1014, originally contained a provision (Section 10) which would have amended the OCSLA and MLLA RIK provisions. (*see* Attachment 3). MMS participated in the drafting of the RIK language in these bills and supported the RIK provisions of H.R. 1975 and S. 1014. Specifically, in a written statement about the RIK language in H.R. 1975, MMS said:

> *"The bill [H.R. 1975 Section 10] language amends language of the OCS Lands Act in a manner that will improve the MMS' ability to administer its current and future NPR RIK Gas Marketing Pilot. The bill also limits the lessee's record-keeping requirements related to royalty paid in kind. Basically, the lessee must only keep records for MMS inspection that are related to volumes of oil or gas produced and delivered."*[14]

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[12]*Supra*, Note 1 at § 19.02. Background -- MMS' Decision to Conduct a Gas Royalty-in-Kind Pilot Program.

[13]Minerals Management Service Royalty Gas Marketing Pilot Report, September 27, 1996.

[14]Summary of Revised Bill Language (H.R. 1975 -- draft dated August 31, 1995).

In a meeting between industry representatives and Acting Director Quarterman in late 1996, Quarterman reiterated MMS' support for the language contained in H.R. 1975.

IV. GOALS OF AN MMS RIK PROGRAM

MMS has stated that the goals of its RIK options are to:

- *Simplify the royalty collection process;*
- *Decrease administrative costs for both MMS and industry;*
- *Realize fair and equitable market value for the products;*
- *Provide certainty in royalty valuation;*
- *Decrease audit burden and appeal actions; and*
- *Provide MMS with alternative sources of data for use for in-value product valuation.*[15]

An MMS RIK program should emphasize simplicity, certainty, and efficiency in order to facilitate effective administration of the federal government's royalty program. Contrary to the Gas Pilot Program, the MMS oil RIK program is both administratively inefficient and burdensome to industry as well as the governmental entities involved. A well designed RIK program would encompass elements to eliminate the administrative difficulties as well as the feasibility problems that currently exist in the oil program. Elimination of the onerous burdens associated with the current oil program should be a focal point of any proposal RIK program.

The Federal Oil and Gas Royalty Simplification and Fairness Act of 1996 (FOGRSFA) amended the Federal Oil and Gas Royalty Management Act (FOGRMA) for leases on Federal lands and the Outer Continental Shelf. Consistent with the Department's goal of reinventing government, FOGRSFA sought to simplify and streamline royalty management practices and encouraged the Secretary to collect royalties rapidly and cost-effectively.[16]

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[15]62 Fed. Reg. at 8035, 1997.

[16]"In order to most effectively utilize resources available to the Secretary to maximize the collection of oil and gas receipts from lease obligations to the Treasury within the seven-year period of limitations and, consequently, to maximize the State share of such receipts, the Secretary should not perform or require accounting, reporting or audit activities if the Secretary and the State concerned determine that the cost of conducting or requiring the activity

It is upon these principles that any proposed RIK program must rest. Any future RIK program should accomplish the following goals:

- **a RIK program should provide certainty in royalty valuation and attempt to minimize disputes between the lessee and lessor. Lessees and the lessor should know with certainty what the royalty obligation is and that it has been satisfied. Audit burdens for lessor and lessee should be decreased.**

- **a RIK program should be practical and capable of administration by the MMS in an efficient and cost-effective manner.**

- **a RIK program should be practical and capable of compliance by lessees in an efficient and cost-effective manner.**

- **a RIK program should be capable of being applied to changing market conditions.**

- **a RIK program should promote simplicity in the royalty management program.**

A. A RIK Program Should Provide Certainty

Regulatory uncertainty and increasing changes in the market have resulted in increased disputes over the value of royalty due the federal government. A well designed RIK program would complement today's market, streamline the process and provide greater certainty and efficiency in the collection of royalties.

1. **Industry members support royalty in kind as a means of reducing valuation disputes and litigation and the costs and uncertainty related thereto. A properly thought-out and fairly administered RIK program could give the federal government and industry the best chance in decades to end the cycle of valuation audits, disputes, appeals and litigation and begin a new era of cooperation.**

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exceeds the expected amount to be collected by the activity, based on the most current 12 months of activity. ... To the maximum extent possible, the Secretary and delegated States shall reduce costs to the United States Treasury and the States by discontinuing requirements for unnecessary or duplicative information, relating to obligations due." [30 U.S.C. § 1724(g)]

2. To achieve the goal of certainty, the following essential elements must be the foundation of a proper and fair RIK program:

   a. The royalty delivery point must be same as the point of royalty settlement (measurement) and must be at or near the lease.

   b. The lessee's royalty obligation must be satisfied in full upon the tendering of the royalty share to the lessor. All duties under the lease, including the duty to market, will be satisfied upon tender of the royalty share to the lessor.

   c. The full royalty share should be taken in kind.

   d. The RIK program should commit lessors to a RIK program for a reasonable, fixed period of time.

   e. Upon tender of the royalty share in kind, the lessor will have the sole right and obligation to dispose of its product and any attendant reward or risk associated therewith.

These elements will be further discussed in Section V. below.

As evidenced by the number and value of audits, administrative appeals and lawsuits pending today, MMS' valuation regulations are unclear and subject to conflicting interpretations. When lessees make royalty payments, they do not know what value MMS will ultimately assign to the production until an audit is performed, often many years after royalties are paid. To make matters worse, MMS' interpretation of its regulations and valuation policies often change over time adding to the uncertainty of payment of royalty in value. Thus, numerous disputes, appeals and litigation result when federal royalty is paid in value. Valuation disputes could be avoided if the government took its royalty in kind. A properly thought out and fairly administered royalty in kind program, as an alternative to royalty payment in value, would reduce valuation disputes, appeals and litigation, as well as the costs and uncertainty related thereto.

B. A RIK program should be practical and capable of administration by the MMS and compliance by the lessee in an efficient and cost-effective manner

Almost as important as minimizing disputes and litigation is the concept that a properly implemented program should ease both reporting requirements and administrative burdens on the government and industry. One of the goals of the MMS should be to eliminate and streamline reporting requirements. If the lessor takes its royalty in kind, the reporting requirements should be limited to the information necessary to verify the volume produced

and tendered to lessor. This should have the concurrent effect of reducing the lessee's and lessor's administrative burden. The objective for reporting on RIK volumes should be for volume verification purposes only and not for purposes of comparing against royalty prices under in-value sales of production. Some of MMS's current proposals seem to require lessees to take on additional administrative or business functions without remuneration. We would object to any such proposals.

V. ELEMENTS OF AN EFFECTIVE RIK PROGRAM

To fully develop a workable RIK program, specific elements must be addressed that will effectively meet the goals discussed above. Reinventing the royalty collection program would achieve cost savings for the federal government, industry and taxpayers. A RIK program would eliminate reporting functions to further streamline the royalty collection process. An innovative RIK program would include measures directly related to meeting the objectives of streamlining, certainty and efficiency.

A. Production should be taken in kind by lessor at the lease. The royalty delivery point must be the same as the point of volume measurement and both must be at or near the lease

The value of production for royalty purposes is the value of the oil or gas at the lease. An effective RIK program will measure value appropriately by looking to a transaction between a willing buyer and a willing seller at or near the lease. RIK provides a definitive answer to the question of what is the value at the lease. Royalty value is what the MMS will receive from its willing purchaser for the product delivered at or near the lease. One of the significant benefits will be that neither the lessee nor lessor will be requested to account for the complexities of costs incurred away from the well. Establishing any RIK delivery point downstream of the facility measurement point, would add unacceptable complexity to the payment of royalty in kind. Disputes, appeals and litigation would likely arise regarding which costs must be shared by the lessee and lessor, and those which must be borne exclusively by the lessee.

B. Once production is rendered at the lease, the royalty obligation is fulfilled

Once royalty in kind is delivered, the lessee has fulfilled all its lease obligations. When the government takes its royalty in kind, it should not conduct a comparison with what proceeds it believes it might have received under the application of regulations for royalty in value. We believe that the lease clearly states that the Secretary shall receive royalties in value or in kind, not both.

C. The full royalty share should be taken in kind

If the lessor takes any of its royalty in kind from a lease, it should take its full royalty fraction in kind. As consideration for a bonus and a royalty free of production costs, the lessor has given up its right to operate the lease. Lessor has no right under the lease to defer its obligation or leave its production in the ground, nor does the lessor have the right to take a portion of production in kind and the remainder in value. Otherwise, lessees will be unfairly burdened by having additional production, operating, marketing and balancing problems with which to contend. Administrative efficiency for both lessor and lessee can only be maximized if the burden and complexities of royalty in value are not required for any part of the royalty stream from a lease.

D. The RIK program should commit to RIK for a reasonable, fixed period of time

If the lessor takes its production in kind, it must be committed for a certain length of time (we recommend multiple year programs) and must not move in and out of an RIK program for any given lease. Once a lessor seeks to discontinue a RIK program, the lessee must be given no less than three to nine months notice before the lessor begins taking in value. Administrative efficiency can best be realized if, once royalty is taken in kind, the lessor is required to maintain the RIK program for a substantial length of time. To require lessor's and lessee's to re-enter the complexity of royalty in-value would contravene the goals of certainty and streamlining of the royalty management program.

E. Once taken in kind, lessor will have all right, title, interest, and risk in the production

MMS is considering a number of different marketing arrangements. If a producer sells its production at the wellhead, then that producer should not be required to change its business practice by having to move production to a downstream delivery point. Whether the producer sells at the well or downstream of the well, lessee's obligation must be satisfied when production us delivered in kind at or near the lease.

When a lessee tenders RIK production at the delivery point, he is actually delivering to his lessor and performing under its lease agreement. The purchaser who takes delivery at the RIK delivery point is actually taking from the lessor and performing under a separate contract with the lessor, the RIK sales contract. The lessee and the lessor's purchaser have no contractual relationship with each other. There is concern that operational impacts may be felt by the purchaser, marketer and producer. An effective RIK program should not hold the lessee liable for the purchaser's failure to perform under the RIK contract, nor should it hold the purchaser liable for the lessee's or operator's failure to perform under the lease contract. In addition, the lessor cannot expect parties who have no contractual relationship to work out certain issues among themselves as if they could enforce contracts

on behalf of the lessor. For example, at 30 CFR 208.8(b) the provision "quality differentials between the royalty oil to which a purchaser is entitled and oil which is made available at the delivery point are matters to be resolved between the purchaser and the operator not only illustrates the inefficiencies which result from establishing the RIK delivery point downstream from the lease, but fails to recognize the fact that lessees and operators do not have the ability to require a purchaser under an RIK contract to perform, and vice-versa. In an effective RIK program, the lessor must ensure that the parties whom it has brought together under separate contracts actually perform their respective obligations, even when the recipient of the performance is a party who is merely standing in the shoes of the lessor.

F. State Involvement in the Process

At least one state, Wyoming, has been actively promoting the federal RIK concepts this year with the idea that States should be given the option of taking its 50% share of the federal royalties in kind. Given that States receive 50% of the federal royalty stream, States must be considered in development of a RIK program.

VI. MECHANICS OF AN EFFECTIVE RIK PROGRAM

A. Lease selection, location and participation issues

It would be beneficial if a RIK program identified leases, agreed to a geographic area and committed to take production from all leases within that area.

1. *Lease selection and location.*

   a. Aggregation of Volumes. It would seem to make sense for the lessor to aggregate large volumes either for themselves or their marketer to sell in order to maximize the price to be received. In order to aggregate sufficient volumes, lessor should take all production from a given area, e.g., the Gulf of Mexico (or a designated portion of the Gulf of Mexico). It may also make sense for lessor to consider taking all RIK volumes based on production tied to a certain pipeline or pipelines in a particular area.

   b. Once an area is selected, all leases should be able to tender RIK. Once an area is chosen, it makes sense for the lessor to take from all leases within that geographic area. Leases should not be involved in RIK on a company basis, but rather on an area basis. If a lessor has royalty

interests in a given unit, it should take all the production it has an interest in, not just the interest associated with a single producer. Lessor should take on a lease-wide basis and from an entire pooling agreement in order to reduce accounting problems and their effects.

2. *Participation.*

From an operational and administrative standpoint, a RIK program should seek full participation for a given area (*i.e.*, all working interest owners in leases for a given area should participate). Otherwise, there is a risk of establishing two separate accounting systems under a single lease, which can only lead to problems.

a. There may be a need for flexibility or exceptions to be built in for producers who have fixed contractual obligations or other contractual requirements that lessor's taking of RIK volumes may severely impact.

b. The Canadian Province of Alberta's RIK program requires one hundred percent (100%) participation. What Alberta found was that if there is less than 100% participation in a given lease or area, then there is a potential for oversight and criticism (and disputes/litigation) by comparing results between the RIK and in-value participation.

B. Timing considerations

A RIK program must give the producer sufficient notice (we recommend at least three to nine months) prior to actually taking a royalty stream in kind. Additionally, potential marketers must have sufficient time and information to provide proper bids. This includes mapping of actual flow, a longer time before purchasers have to submit bids to allow understanding of supply sources and cost data regarding non-regulated lateral lines owned by the producer.

1. The government must give itself and industry sufficient lead time to make the necessary adjustments (including operational adjustments and adjustments to computer and accounting systems once RIK becomes effective). Industry needs no less than three to nine months prior notice before initiating RIK for a given lease, especially considering producers' commitments to pipelines and purchasers.

2. Once lessor elects to take its production in kind from a given lease, it must be committed for a fixed length of time (we recommend no less than a

minimum of one year) and should not switch back and forth, without sufficient advance notice. We also recommend three to nine months transition time before discontinuance of any RIK program.

3. Lessor needs substantial lead time to develop the necessary lease data for its bid packages. Marketers need sufficient time to consider the bid package. Producers need sufficient lead time after a bid is accepted to prepare for in kind payment of royalties.

4. Consideration must be given for what would happen to a new lease coming on production mid-year in an area where lessor is taking its production in kind from all leases in the area.

C. Contractual and bidding issues

1. Bid packages -- Not only does the lessor need to develop timely lease data for the bid process, but it also must develop a complete bid package which details issues such as lateral lines, processing arrangements and contacts at various companies for information and agreements (recognizing that, in many cases, different types of agreements may be handled by different individuals within a company). Lessor needs to collect all of the pertinent lease and production data and provide it as part of the bid process so that lessees do not have to answer the same question multiple times from all the different bidders.

2. Producer-owned lines -- One of the problems highlighted by the RIK Pilot Project related to the lack of knowledge that certain bidders had of non-jurisdictional, producer-owned lines (laterals) and the rates charged in connection therewith. The lessor and any potential bidders must be made aware of those producer-owned lines which will be involved in the taking of certain production. They will have to negotiate rates with the owner of the lateral line for its use. Other issues include whether the lease can participate in the RIK program if the parties cannot reach agreement on the rates for use of the lines.

3. Contract volume balancing -- An acceptable solution to deal with imbalances will need to be determined in advance of production.

   a. Imbalances are a daily operational activity and the MMS should be a part of the process. Also, the resulting paperwork corrections from after the fact adjusted allocations can be extreme or

potentially impossible when talking about unrelated entities being impacted by the allocations. It would be inequitable for the MMS to be allowed after the fact balancing based upon the concept of keeping it whole for its share of production forecasts. The lessee should not be required to settle imbalances in value as described in one of the proposals. This settlement of imbalances, what the MMS contracted for and what their purchaser received, should be settled between the MMS and their purchaser. Imbalances should be dealt with through future production or, in the event there is no future production at that location, from mutually agreeable source(s) or alternatively at the value the lessee received at the source.

b. Penalties for failure to deliver royalty oil are unnecessary if the royalty volume is based on the percentage of actual production. As currently drafted, one proposal requires the lessee to first meet the lessors' needs without consideration for production and operation issues, certainly not achieving the goal of fairness.

4. Plant processing agreement -- Plant processing agreements are contracts between producers and the operators/owners of plants. To the extent that the lessor elects to take its royalty gas in kind, the lessor, its agent/marketer or its purchaser will have to make its own processing arrangements.

5. Use of marketer -- In the interest of a more streamlined royalty program, consideration should be given to MMS performing its royalty in kind activities in a manner similar to the Canadian Province of Alberta. Essentially, Alberta takes its own production in kind via third party marketers. In the MMS options, this would be similar to Option #3. Industry members believe that the program established by the Province of Alberta appears reasonable. Alberta's system establishes benchmarks for the marketers and, if the marketers do not meet these benchmarks, they are simply deleted from future participation in the program. Importantly, however, Alberta does not force marketers not meeting the benchmarks to retroactively revalue the production sold and pay the difference to Alberta; nor does it penalize producers for failures by the marketer to meet the benchmarks. Alberta's program seems to support the concept of minimizing disputes and litigation between the parties.

D. Cost considerations

1. Imposing marketing costs beyond the lease delivery point on the lessee will be completely at odds with what industry believes should be one ofthe main purpose behind RIK -- the minimization of disputes between the parties. If such costs are attempted to be imposed upon the lessee in an RIK, disputes between the parties will arise and litigation will certainly ensue.

2. Based on some of the RIK options proposed, why should MMS be allowed to take deductions for a marketing fee, but producers not be allowed to take the same deduction?

VII. MMS RIK GAS PILOT

In a joint MMS/Industry paper delivered to the Rocky Mountain Mineral Law Foundation, the MMS and Industry authors commented on various aspects of the OCS RIK Gas Pilot. They said:

> *"Prior to the pilot, the only experience MMS and industry had with federal royalties being taken in kind was the oil RIK program, administered under the regulations at 30 C.F.R. 208. Concerns were expressed that a gas RIK pilot program would be similar to the existing oil RIK program, which is viewed as not being lessee-friendly because delivery of royalty oil does not necessarily satisfy the lessee's royalty obligation ...*
>
> * * *
>
> *... The royalties under the oil RIK program are valued in accordance with the 1988 valuation regulations at 30 C.F.R. 206. The royalty oil is allocated to eligible refiners through a lottery rather than by competitive bid, and the refiners pay MMS based on the value of the lessee's share of its production. Because of these and other design factors, the gas marketing pilot bears virtually no significant resemblance to the oil RIK program except that lessees deliver the royalties to the purchasers at designated Points of Delivery. The valuation of royalties that is done [sic] in the oil RIK program is not occurring in the gas RIK pilot.*

> *Because of the fundamental differences in intent and objectives between the oil RIK program and the gas RIK pilot, MMS decided not to use the framework of the oil RIK program to design the gas pilot. Instead, MMS teamed with volunteer lessees to design the gas pilot. No aspects of the oil in kind program were adopted in the gas pilot. In this way, the gas pilot would better mirror the current gas marketing environment."*

In its September 1996 Report on the 1995 OCS RIK Gas Pilot, MMS found that RIK was "an operational success." However, "the pilot team conducted an analysis of the royalty revenue impact of its pilot, and concluded that royalties collected under the pilot were less than they would have been had MMS continued to collect the royalty in value.

In its audit of the MMS Pilot, the Department's Office of Inspector General stated:

> *"Based on our audit results, we found that several reasons accounted for the low bid prices that produced the revenue shortfall. We believe that the primary cause was that some marketers reduced bid prices to offset their increased costs to transport gas on privately owned lateral pipelines that connected the Pilot leases to trucklines ...*
>
> *Despite these concerns, we believe the Service should continue to explore the royalty in kind process and that future pilots can be designed to address the identified problems.*

Industry members have expressed a concern in the methodology used in MMS's evaluation of revenue impact, and expressed an interest in participating with MMS in understanding and accurately estimating the revenue impact of the Gas Pilot RIK. Regrettably, industry was not provided an opportunity to work with MMS on the revenue impact or review the September, 1996 report prior to its release.

VIII. INDUSTRY SUPPORT FOR RIK

In recent comments filed with the MMS on May 28, 1997 on MMS' proposed rule on the valuation of crude oil, a number of commentors addressed the issue of royalty in kind. Attached hereto as Attachment 4 is a compilation of the recently filed public comments pertaining to royalty in kind.

IX. CONCLUSION

We appreciate the opportunity to comment on this important issue and we look forward to continued participation with MMS.

Sincerely,

INDEPENDENT PETROLEUM ASSOCIATION OF MOUNTAIN STATES
ROCKY MOUNTAIN OIL AND GAS ASSOCIATION
AMOCO PRODUCTION COMPANY
ANADARKO PETROLEUM CORPORATION
BURLINGTON RESOURCES OIL AND GAS COMPANY
CHEVRON U.S.A. PRODUCTION COMPANY
COASTAL STATES MANAGEMENT CORPORATION
CONOCO, INC.
DUGAN PRODUCTION CORP.
MARATHON OIL COMPANY
MURPHY EXPLORATION & PRODUCTION COMPANY
OXY U.S.A., INC.
PHILLIPS PETROLEUM COMPANY
TEXACO EXPLORATION AND PRODUCTION INC.
THE LOUISIANA LAND AND EXPLORATION COMPANY

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OCS Gas RIK Contract Marketer Analysis

The revenue impact analysis of the proposed OCS gas RIK option used nine leases and one agreement that were included in the 1995 Gas RIK pilot. These properties were selected due to the detailed information that was available. The sample months are December 1995, January 1996, June 1996, and July 1996

Page 1 is a summary of all ten properties by sales month and shows the weighted average price per MMBtu, total theoretical revenues, and the revenue and percentage difference as compared to the lessee's actual gross proceeds. Pages 2 - 5 are summaries by month for all ten properties.

OCS Gas RIK Contract Marketer Analysis

10 Lease Sample Utilizing 1995 Gas Pilot Leases

OCS Gas RIK Options	Dec-95 Total	Jan-96 Total	Jun-96 Total	Jul-96 Total	Grand Total	Revenue Difference from Contract Marketer
1/6 Royalty Volume (MMBtu)	2,130,691	1,994,752	1,801,595	2,076,804	8,003,842	
Contract Marketer	(marketer data, mix of NY/Chi city gate and w/h prices)					
Theoretical Royalty Revenue	$4,760,490	$6,315,406	$3,828,331	$4,978,450	$19,882,677	
Avg Price per MMBtu	$2.23	$3.17	$2.12	$2.40	$2.48	
Lessee's Actual Gross Proceeds	(MMS-2014 or 1995 pilot 5/6 data)					
Actual Royalty Revenue	$4,386,460	$5,092,252	$3,941,534	$5,049,742	$18,469,988	-$1,412,689
Avg Price per MMBtu	$2.06	$2.55	$2.19	$2.43	$2.31	
Price over (under) Contract Marketer	-$0.18	-$0.61	$0.06	$0.03	-$0.18	
Percent Difference	-7.9%	-19.4%	3.0%	1.4%	-7.1%	

Notes:

Contract Marketer

Used pricing and transport data as supplied by a major gas marketer, does not include potential NGL uplift --

1) NY/Chicago city gate price less:
   a) pooling charge from offshore to onshore (no pooling charge for 4 leases)
   b) mainline transport (full rate in winter. 31% of full rate in summer)
   c) mainline transport fuel charge
   d) surcharges and commission charges from pooling area to city gate

2) W/h price: Inside Ferc index less:
   a) pooling charge from offshore to onshore (no pooling charge for 4 leases)

Calculated "winter" and "summer" month prices by lease, used the average of:

For Dec-95 and Jan-96, assumed 3/4 of volume went "north" and used city-gate price and 1/4 of volume went "south" and used W/h price.
For Jun-96 and Jul-96, assumed 1/4 of volume went "north" and used city-gate price and 3/4 of volume went "south" and used W/h price.

Lessee's Actual Gross Proceeds

MMS-2014 royalty data used for exclusively for 1-96, 6-96, and 7-96. For 12-95, if 100% of production was not dedicated to the pilot, used weighted average of non-volunteer's MMS-2014 data and the lessees 5/6 gross proceeds data. For 12-95, if 100% of production was dedicated to the pilot, used lessee's 5/6 gross proceeds data. All MMS-2014 and lessee's gross proceeds data is unaudited.

OCS Gas RIK Contract Marketer Analysis
Sales Month: Dec-1995
Prices per MMBtu

Lease/Agre Number -->	540040640	540030870	540026650	7543930230	540020510	540028120	540011960	550005720	5400'259	540096510	Totals/	1/6 royl vol and Pct over (under) Cont Mktr
Block Number -->	MU 739	MI 638	BA 133	HI 384	EC 286	GB 237	SM 61	EI 193	S¯ 176	PL 6	Averages	Revenues
6/6 Volume Reported (MMBtu)	285,736	1,247,286	4,228,709	1,438,189	618,238	569,815	3,021,180	243,215	316,378	815,398	12,784,144	2,130,691
Contract Marketer	$1.848	$2.022	$2.277	$2.317	$2.168	$2.061	$2.178	$2.345	$2.211	$2.178	$2.160	
(utilized marketer data)												
Theoretical Royalty Revenue	$88,034	$420,315	$1,605,116	$555,420	$223,383	$195,742	$1,164,809	$95 067	$116,582	$296,022	$4,760,490	
Lessee's Actual Gross Proceeds	$1.960	$1.923	$1.958	$1.985	$2.113	$2.265	$2.168	$1.443	$2.063	$2.041	$1.992	
(MMS-2014 or 1995 pilot 5/6 data)												
Contract Marketer price Over (Under)	-$0.112	$0.099	$0.319	$0.332	$0.055	-$0.204	$0.010	$0 902	$0.148	$0.137	$0.169	
Percent Difference	-5.7%	5.1%	16.3%	16.7%	2.6%	-9.0%	0.5%	62.5%	7.2%	6.7%	8.5%	
Royalty Impact	-$5,320	$20,563	$224,871	$79,596	$5,650	-$19,384	$5,092	$36 564	$7,762	$18,636	$374,030	
Actual Royalty Revenue	$93,354	$399,752	$1,380,245	$475,824	$217,733	$215,126	$1,159,717	$58 503	$108,820	$277,386	$4,386,460	-7 9%

OCS Gas RIK Contract Marketer Analysis
Sales Month: Jan-1996
Prices per MMBtu

Lease/Agre Number -->	540040640	540030870	540026650	7543930230	540020510	540028120	540011960	550005720	5400[illegible]259	540096510	Totals/	1/6 royl vol and Pct over (under) Cont Mktr
Block Number -->	MU 739	MI 638	BA 133	HI 384	EC 286	GB 237	SM 61	EI 193	S[illegible]176	PL 6	Averages	Revenues
6/6 Volume Reported (MMBtu)	273,629	925,390	4,179,069	1,291,953	937,425	508,497	2,599,483	201,499	280,686	770,882	11,968,513	1,994,752
Contract Marketer	$2.542	$3.012	$3.176	$3.426	$3.199	$2.996	$3.101	$3.470	$3.670	$3.101	$3.169	
(utilized marketer data)												
Theoretical Royalty Revenue	$115,932	$464,685	$2,212,702	$737,810	$499,873	$253,986	$1,343,682	$116,567	$171,697	$398,472	$6,315,406	
Lessee's Actual Gross Proceeds	$2.000	$2.000	$2.070	$2.950	$2.788	$3.460	$3.009	$2.900	$3.222	$2.600	$2.700	
(MMS-2014 or 1995 pilot 5/6 data)												
Contract Marketer price Over (Under)	$0.542	$1.012	$1.106	$0.476	$0.411	-$0.464	$0.092	$0.570	$0.448	$0.501	$0.469	
Percent Difference	27.1%	50.6%	53.4%	16.1%	14.7%	-13.4%	3.1%	19.7%	13.9%	19.3%	17.4%	
Royalty Impact	$24,704	$156,160	$770,635	$102,473	$64,243	-$39,306	$39,780	$19,156	$20,953	$64,356	$1,223,154	
Actual Royalty Revenue	$91,228	$308,525	$1,442,067	$635,337	$435,630	$293,292	$1,303,902	$97,411	$150,744	$334,116	$5,092,252	-19.4%

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OCS Gas RIK Contract Marketer Analysis
Sales Month: Jun-1996
Prices per MMBtu

Lease/Agre Number -->	540040640	540030870	540026650	7543930230	540020510	540028120	540011960	550005720	5400'259	540096510	Totals/	1/6 royl vol and Pct over (under) Cont Mktr
Block Number -->	MU 739	MI 638	BA 133	HI 384	EC 286	GB 237	SM 61	EI 193	ST 176	PL 6	Averages	Revenues
6/6 Volume Reported (MMBtu)	178,058	773,336	3,894,675	1,332,764	701,438	422,827	2,279,124	177,733	302,480	747,132	10,809,567	1,801,595
Contract Marketer	$2.082	$2.233	$2.018	$2.230	$2.172	$2.058	$2.168	$2.250	$2.247	$2.168	$2.163	
(utilized marketer data)												
Theoretical Royalty Revenue	$61,796	$287,842	$1,310,356	$495,443	$253,971	$145,080	$823,802	$66,675	$113,301	$270,055	$3,828,331	
Lessee's Actual Gross Proceeds	$2.073	$2.117	$2.156	$2.029	$2.247	$2.190	$2.279	$2.358	$2.313	$2.305	$2.207	
(MMS-2014 or 1995 pilot 5/6 data)												
Contract Marketer price Over (Under	$0.009	$0.116	-$0.138	$0.201	-$0.075	-$0.132	-$0.111	-$0.108	-$0.066	-$0.137	-$0.044	
Percent Difference	0.4%	5.5%	-6.4%	9.9%	-3.3%	-6.0%	-4.9%	-4.6%	-2.9%	-5.9%	-2.0%	
Royalty Impact	$265	$14,929	-$89,401	$44,656	-$8,770	-$9,283	-$42,058	-$3,188	-$3,328	-$17,025	-$113,203	
Actua Royalty Revenue	$61,531	$272,913	$1,399,757	$450,787	$262,741	$154,363	$865,860	$69,863	$116,629	$287,080	$3,941,534	3.0%

OCS Gas RIK Contract Marketer Analysis
Sales Month: Jul-1996
Prices per MMBtu

Lease/Agre Number -->	540040640	540030870	540026650	7543930230	540020510	540028120	540011960	550005720	54001259	540096510	Totals/	1/6 royl vol and Pct over (under) Cont Mktr
Block Number -->	MU 739	MI 638	BA 133	HI 384	EC 286	GB 237	SM 61	EI 193	ST 176	PL 6	Averages	Revenues
6/6 Volume Reported (MMBtu)	319,605	677,566	3,890,920	1,257,196	1,205,042	480,812	2,995,941	556,500	236,135	841,108	12,460,825	2,076,804
Contract Marketer	$2.344	$2.510	$2.303	$2.520	$2.465	$2.288	$2.398	$2.538	$2.540	$2.398	$2.430	
(utilized marketer data)												
Theoretical Royalty Revenue	$124,905	$283,539	$1,493,958	$528,128	$495,070	$183,410	$1,197,767	$235,437	$99,964	$336,272	$4,978,450	
Lessee's Actual Gross Proceeds	$2.321	$2.262	$2.395	$2.313	$2.454	$2.496	$2.596	$2.613	$2.537	$2.144	$2.413	
(MMS-2014 or 1995 pilot 5/6 data)												
Contract Marketer price Over (Under)	$0.023	$0.248	-$0.092	$0.207	$0.011	-$0.208	-$0.198	-$0.075	$0.003	$0.254	$0.017	
Percent Difference	1.0%	11.0%	-3.8%	8.9%	0.4%	-8.3%	-7.6%	-2.9%	0.1%	11.8%	0.7%	
Royalty Impact	$1,246	$28,046	-$59,478	$43,382	$2,109	-$16,648	-$98,736	-$6,967	$98	$35,656	-$71,292	
Actual Royalty Revenue	$123,659	$255,493	$1,553,436	$484,746	$492,961	$200,058	$1,296,503	$242,404	$99,866	$300,616	$5,049,742	1.4%

OCS Gas RIK Contract Marketer Analysis
Sales Month: Jul-1996
Prices per MMBtu

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