

September 2008

# OIL AND GAS ROYALTIES

## The Federal System for Collecting Oil and Gas Revenues Needs Comprehensive Reassessment





Highlights of [GAO-08-691](#), a report to congressional requesters

## Why GAO Did This Study

In fiscal year 2007, domestic and foreign companies received over \$75 billion from the sale of oil and gas produced from federal lands and waters, according to the Department of the Interior (Interior), and these companies paid the federal government about \$9 billion in royalties for this oil and gas development. The government also collects other revenues in rents, taxes, and other fees, and the sum of all revenues received is referred to as the “government take.” The terms and conditions under which the government collects these revenues are referred to as the “oil and gas fiscal system.” This report (1) evaluates government take and the attractiveness for investors of the federal oil and gas fiscal system, (2) evaluates how the absence of flexibility in this system has led to large foregone revenues from oil and gas production on federal lands and waters, and (3) assesses what Interior has done to monitor the performance and appropriateness of the federal oil and gas fiscal system. To address these issues, we reviewed expert studies and interviewed government and industry officials.

## What GAO Recommends

Interior did not fully agree with the recommendations in our draft report, stating that an ongoing Interior study covered many of the issues we recommended they study. GAO maintains that a more comprehensive review is necessary and suggests that Congress consider directing Interior to (1) convene an independent panel to conduct such a review of the federal oil and gas fiscal system, and (2) establish procedures to periodically evaluate the state of the fiscal system.

To view the full product, including the scope and methodology, click on [GAO-08-691](#). For more information, contact Frank Rusco at (202) 512-3841 or [ruscof@gao.gov](mailto:ruscof@gao.gov).

# OIL AND GAS ROYALTIES

## The Federal System for Collecting Oil and Gas Revenues Needs Comprehensive Reassessment

### What GAO Found

In addition to having a low government take, the deep water Gulf of Mexico and other U.S. regions are attractive targets for investment because they have large remaining oil and gas reserves and the U.S. is generally a good place to do business compared to many other countries with comparable oil and gas resources. Multiple studies completed as early as 1994 and as recently as June 2007 indicate that the U.S. government take in the Gulf of Mexico is lower than that of most other fiscal systems. For example, data GAO evaluated from a June 2007 industry consulting firm report indicated that the government take in the deep water U.S. Gulf of Mexico ranked 93rd lowest of 104 oil and gas fiscal systems evaluated. Generally, other measures indicate that the United States is an attractive target for oil and gas investment.

The lack of price flexibility in royalty rates—automatic adjustment of these rates to changes in oil and gas prices or other market conditions—and the inability to change fiscal terms on existing leases have put pressure on Interior and the Congress to change royalty rates in the past on an ad hoc basis with consequences that could amount to billions of dollars of foregone revenue. For example, royalty relief granted on leases issued in the deep water areas of the Gulf of Mexico between 1996 and 2000—a period when oil and gas prices and industry profits were much lower than they are today—could cost the federal government between \$21 billion and \$53 billion, depending on the outcome of ongoing litigation challenging the authority of Interior to place price thresholds that would remove the royalty relief offered on certain leases. Further, royalty rate increases in 2007 are expected to generate modest increases in federal revenues from future leases offered in the Gulf of Mexico. However, in choosing to increase royalty rates, Interior did not evaluate the entire oil and gas fiscal system to determine whether or not these increases strike the proper balance between the attractiveness of federal leases for investment and appropriate returns to the federal government for oil and gas resources.

Interior does not routinely evaluate the federal oil and gas fiscal system, monitor what other governments or resource owners are receiving for their energy resources, or evaluate and compare the attractiveness of federal lands and waters for oil and gas investment with that of other oil and gas regions. As a result, Interior cannot assess whether or not there is a proper balance between the attractiveness of federal leases for investment and appropriate returns to the federal government for oil and gas resources. Specifically, Interior does not have procedures in place for evaluating the ranking of (1) the federal oil and gas fiscal system or (2) industry rates of return on federal leases against other resource owners. Interior also does not have the authority to alter tax components of the oil and gas fiscal system. All these factors are essential to inform decisions about whether or how to alter the federal oil and gas fiscal system in response to changing market conditions.

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## Abbreviations

BLM	Bureau of Land Management
DWRRA	Deep Water Royalty Relief Act of 1995
EIA	Energy Information Administration
FLPMA	Federal Land Policy and Management Act
FRS	Financial Reporting System
Interior	Department of the Interior
MMS	Minerals and Management Service
OCSLA	Outer Continental Shelf Lands Act
S&P	Standard & Poor's

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United States Government Accountability Office  
Washington, DC 20548

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September 3, 2008

The Honorable Jeff Bingaman  
Chairman, Committee on Energy and Natural Resources  
United States Senate

The Honorable Nick J. Rahall II  
Chairman, Committee on Natural Resources  
House of Representatives

The Honorable Steve Pearce  
Ranking Member, Subcommittee on Energy and Mineral Resources  
Committee on Natural Resources  
House of Representatives

The Honorable Mary L. Landrieu  
United States Senate

In fiscal year 2007, domestic and foreign companies received over \$75 billion from the sale of oil and gas produced from federal lands and waters, according to the Department of the Interior's (Interior) Minerals Management Service (MMS). The agency further reported that these companies paid the federal government about \$9 billion in royalties for such oil and gas development. Clearly, such large and financially significant resources must be carefully developed and managed so that the nation's rising energy needs are met while at the same time the American people are assured of receiving a fair return on publicly owned resources. In May 2007, we reported that, based on studies by industry experts, the amount of money that the U.S. government receives from production of oil and gas on federal lands and waters—the so-called “government take”—was among the lowest in the world. The government take that accrues to any government resource owner is largely determined by the government's oil and gas fiscal system—the precise mix and total amount of payments made to the government for the rights to explore, develop, and sell oil and gas resources. We also noted that several factors needed to be considered to determine whether adjustments to an oil and gas fiscal system are warranted, including the size and availability of the oil and gas resources in place; the costs of finding and developing these resources, including

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labor costs and the costs of complying with environmental regulations; and the stability of both the oil and gas fiscal system and the country in general.<sup>1</sup> Conceptually, a fair government take would strike a balance between encouraging private companies to invest in the development of oil and gas resources on federal lands and waters while maintaining the public's interest in collecting the appropriate level of revenues from the sale of the public's resources.

Governments and companies negotiate the exploration and development of oil and gas resources under terms of leases or contracts granted by governments. The terms and conditions of such arrangements are established by law and policy, or are negotiated on a case-by-case basis. An important aspect of these arrangements is the oil and gas fiscal system, which defines all applicable payments from the companies to the government resource owners.<sup>2</sup> Oil and gas fiscal systems vary widely across different resource owners, reflecting differences in the mix and weight of the various payments. U.S. federal oil and gas leases operate under a system in which the government transfers title to the oil and gas produced to a company for a period of time, generally in exchange for a lump-sum payment called a bonus bid. The company is then typically subject to the payment of rental rates, royalties, and taxes for any oil and gas that is eventually produced on the lease. In other oil and gas fiscal systems, such as "production sharing" or "profit sharing" systems, the host country and production company enter into a contract to apportion the production or profits between them rather than or in addition to royalty payments.

In recent years, and in response to increasing industry profits and other changing market conditions, many countries have re-evaluated or are re-evaluating their oil and gas fiscal systems. A number of countries have significantly increased their overall government take while others—typically those with marginal or less certain levels of oil and gas resources—have reduced their government take. According to Wood Mackenzie, an energy consulting firm that recently performed a

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<sup>1</sup>GAO, *Oil and Gas Royalties: A Comparison of the Share of Revenue Received from Oil and Gas Production by the Federal Government and Other Resource Owners*, [GAO-07-676R](#) (Washington, D.C.: May 1, 2007).

<sup>2</sup>In general, each country has at least one oil and gas fiscal system. Certain countries—for example, Canada and the United States—have a number of different oil and gas fiscal systems: a federal system that governs resource development on federal lands and other systems that govern resource development on provincial lands in Canada and state lands in the United States.

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comprehensive study of government take and other measures that determine the attractiveness of different countries to oil and gas investors, the most prominent trend in changing oil and gas fiscal systems has been the imposition of windfall profits taxes or other mechanisms to increase the resource owners' shares of oil and gas revenues from existing projects. Wood Mackenzie estimates that these changes will ultimately result in these countries' collecting additional oil and gas revenues of between \$118 billion and \$400 billion, depending on future oil and gas prices.<sup>3</sup> For example, the state of Alaska recently increased its government take and changed the terms of contracts to give Alaska larger shares of revenues as oil and gas prices increase. A second trend in changing oil and gas fiscal systems has been an increase in governmental control of resources. For example, Algeria, Russia, and Venezuela have rich resource reserves and have increased the state control over these resources, while increasing their government takes. Other trends include increasing variation of fiscal terms across and within countries to reflect differences in the value of the resources and other factors that affect the attractiveness of these resources to investors. For example, Papua New Guinea and Vietnam are offering terms to encourage production that reflect these countries' status as frontier areas for exploration, while Norway has provided incentives for exploration and continued production on fields with declining production.

A considerable body of legislation governs Interior's authority and obligations to manage resources on federal lands and within federal waters. For example, the Outer Continental Shelf Lands Act (OCSLA) and the Federal Land Policy and Management Act (FLPMA) direct Interior to ensure the United States receives fair market value on the development of its oil and gas resources. In 1976, an Interior report concluded that the government receives "fair market value" when lessees receive no more than a "normal" rate of return. In 1982—the last time Interior convened a task force to comprehensively review its "fair market value" procedures, the task force indicated that fair market value was not the value of the oil and gas eventually discovered or produced; instead it is the value of "the right" to explore and, if there is a discovery, to develop and produce the energy resource. In general, for offshore, Interior has the authority to change most components of the federal oil and gas fiscal system so long as no more than one component is set on automatically adjusting or "flexible"

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<sup>3</sup>The estimated additional revenues are the estimated reduction in the companies' share of remaining value of existing assets, when comparing fiscal systems in place at the start of 2002 and those in place in mid-2007, under a high-price scenario of \$75 per barrel of crude oil.

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terms, and so long as the Congress does not disapprove the change—pass a resolution of disapproval—within 30 days of receiving notice of Interior’s bidding system. However, only the Congress may change the tax components of the oil and gas fiscal system.

To provide more information to the Congress about the nature of the federal oil and gas fiscal system and the attractiveness of the United States as a place in which to invest in oil and gas development, we agreed to build on the information in our May 1, 2007, report, which compared the U.S. government’s take with the government takes of other resource owners throughout the world, by reviewing new studies on the subject and adding and updating other information. Specifically, this report (1) evaluates the government take and the attractiveness for investors in the federal oil and gas fiscal system for the Gulf of Mexico and the United States in general, (2) evaluates how the absence of flexibility in this system has led to large foregone revenues from oil and gas production on federal lands and waters as oil and gas prices have risen, and (3) assesses what Interior has done to monitor the performance and appropriateness of the federal oil and gas fiscal system in light of changing market conditions.

To evaluate the attractiveness of the United States for oil and gas investment, we reviewed the results of a study we procured from Wood Mackenzie, a leading industry consultant. In using this study, we reviewed the methodology and controls used by Wood Mackenzie to ensure the accuracy of the data used and the study results. We found the study results and the data that accompanied the study to be sufficiently reliable to meet the objectives of this report.<sup>4</sup> We also evaluated the results of various studies conducted by other industry experts and by MMS, the agency responsible for collecting oil and gas royalties from federal lands and waters. To evaluate the study results, we interviewed study authors and other industry experts to determine the studies’ methodologies and the appropriate interpretation of the results. Based on these interviews and our review of the results of the studies, we believe the general approaches taken by the authors of the studies was reasonable and that results of the studies are credible. However, with the exception of the Wood Mackenzie study, we did not fully evaluate each study’s methodology or the underlying data used to make the government take estimates. We also

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<sup>4</sup>In the Wood Mackenzie study, “Gulf of Mexico” results refer only to deep water areas of 400 meters or greater depth; Wood Mackenzie currently does not have a comparable database for shallower Gulf waters.



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purchased and evaluated data from a leading financial firm and evaluated data and information published by the Department of Energy's Energy Information Administration (EIA), the American Petroleum Institute, and other sources. We assessed these data for reliability and deemed them reliable for the purposes of this report. We reviewed academic and government studies that investigated the costs and benefits of various oil and gas fiscal systems, and we interviewed and gathered information from officials from MMS, other governments, and the oil and gas industry. To evaluate how the absence of flexibility in the federal oil and gas fiscal system has led to large foregone revenues from oil and gas production on federal lands and waters as oil and gas prices have risen, we relied on past work evaluating changes in federal oil and gas fiscal terms in the deep water regions of the U.S. Gulf of Mexico. We also evaluated Interior analyses that accompanied recent increases in royalty rates in the U.S. Gulf of Mexico. In addition, we reviewed the Wood Mackenzie study and accompanying data. We also interviewed company officials and industry experts to obtain information on their preferences regarding oil and gas fiscal system characteristics. To assess what Interior has done to monitor the performance and appropriateness of the federal oil and gas fiscal system in light of changing market conditions, we evaluated the extent to which Interior had collected the types of information and done the analysis needed to determine whether or not the oil and gas fiscal system should be changed in light of the recent changes in oil and gas market conditions. To do this, we reviewed Interior studies, policies, and guidance and interviewed officials from MMS; interviewed and collected views from oil and gas companies and industry groups; and evaluated analyses of oil and gas fiscal systems. We neither assessed Interior's overall management of the federal system, both on and offshore, nor did we attempt to evaluate the costs and benefits of any of Interior's specific changes to the system over time. We conducted this performance audit from May 2007 to September 2008 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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## Results in Brief

In addition to having a low government take, the U.S. Gulf of Mexico and other U.S. regions are attractive targets for investment because they have large remaining oil and gas reserves and the United States is generally a good place to do business compared to many other countries with comparable oil and gas resources. Multiple studies completed as early as

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1994 and as recently as June 2007 indicate that the U.S. government take in the Gulf of Mexico is lower than that of most other oil and gas fiscal systems. For example, data we evaluated from a June 2007 Wood Mackenzie report indicate that the government take in the deep water U.S. Gulf of Mexico ranked as 93rd lowest of 104 oil and gas fiscal systems evaluated. More broadly, other measures indicate that the United States as a whole is an attractive target for oil and gas investment. First, the deep water U.S. Gulf of Mexico and other U.S. oil and gas regions rank high in terms of remaining oil and gas reserves among countries that allow private oil and gas companies to operate on their lands and waters. Second, since 2002 as oil prices have risen and gas prices have remained high by historical standards, the number of oil and gas drilling rigs operating in U.S. lands and waters has increased much faster than in the rest of the world. Specifically, the number of rigs in use globally outside the United States increased by about 18 percent from an annual average of 998 in 2002 to 1,180 through the first 4 months of 2008, while the number of rigs operating in the United States increased by about 113 percent, from an annual average of 831 in 2002 to 1,829 rigs in April 2008. Finally, the United States ranks high among almost all other governments in terms of its general attractiveness for doing business. For example, the World Bank ranked the United States as the third most favorable place to conduct business of 178 countries analyzed in a 2007 study.

The lack of price flexibility in royalty rates and the inability to change fiscal terms for existing leases have put pressure on Interior and the Congress to change royalty rates on future leases in an ad hoc basis with consequences that could amount to billions of dollars of foregone revenue. For example, 1995 legislation granted royalty relief on certain leases issued in the deep water areas of the U.S. Gulf of Mexico between 1996 and 2000—a period when oil and gas prices and industry profits were much lower than they are today—could cost the federal government between \$21 billion and \$53 billion, depending on the outcome of ongoing litigation concerning the authority of Interior to place price thresholds that would remove the royalty relief offered on certain leases. A royalty relief provision also was included in the Energy Policy Act of 2005 on leases issued during the 5-year period beginning on the date of enactment of this act. Further, two royalty rate increases affecting future U.S. Gulf of Mexico leases were announced by Interior in 2007. These royalty rate increases are expected to generate modest increases in federal revenues from future leases offered in the U.S. Gulf of Mexico. However, in choosing to increase royalty rates Interior did not evaluate the entire oil and gas fiscal system to determine whether or not these increases strike the proper balance between the attractiveness of federal leases for

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investment and appropriate returns to the federal government for oil and gas resources. As a result, and because the new royalty rates are not flexible with respect to oil and gas prices, Interior and the Congress may again be under pressure from industry or the public to further change royalty rates if and when oil and gas prices either fall or continue rising. Finally, these royalty changes only affect U.S. Gulf of Mexico leases and do not address onshore leases at all, which should also be considered in light of the increases in oil and gas prices. Wood Mackenzie reports that the deep water U.S. Gulf of Mexico ranked in the bottom half of oil and gas fiscal systems in terms of stability based on recent changes to fiscal terms and on the relative lack of built-in flexibility that would allow the fiscal terms to adjust to market conditions. Oil and gas companies we communicated with stated a clear preference for stable fiscal terms, other things being equal. In general, while companies prefer lower government take, it is reasonable to expect that these companies would be willing to pay a higher share of revenues in return for greater assurance that the fiscal terms will not induce balancing changes when market conditions change, such as the windfall profits charges that a number of countries have recently imposed.

Interior does not routinely evaluate the federal oil and gas fiscal system as a whole, monitor what other governments or resource owners worldwide are receiving for their energy resources, or evaluate and compare the attractiveness of the United States for oil and gas investment with that of other oil and gas regions. As a result, Interior cannot assess whether or not there is a proper balance between the attractiveness of federal lands and waters for oil and gas investment and a reasonable assurance that the public is getting an appropriate share of revenues from this investment. Specifically, Interior does not have procedures in place for routinely evaluating the ranking of (1) the federal oil and gas fiscal system or (2) industry rates of return on federal leases against other resource owners. Further, Interior does not have the authority to alter the tax components of the oil and gas fiscal system. All these factors should inform any decisions about whether or how to alter the federal oil and gas fiscal system in response to changing market conditions. While Interior has made many specific changes to components of the oil and gas fiscal system over the years to adjust to changing market conditions, these changes were generally not done as part of a comprehensive review of the system that took into account the relative ranking of the U.S. government take or other comparisons with other countries or regions. In fact, the last time Interior conducted a comprehensive evaluation of the federal oil and gas fiscal system was over 25 years ago. Finally, the lack of a comprehensive re-evaluation of the federal oil and gas fiscal system stands

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in contrast to the actions of many other governments that have recently re-evaluated or are currently re-evaluating their systems in light of rising oil and gas prices and higher industry profits and rates of return.

Recent large increases in oil and gas prices and industry profits raise obvious questions about whether the public share of oil and gas revenues is appropriate. The fact that the recent studies show that the government take in the deep water U.S. Gulf of Mexico is relatively low and U.S. federal oil and gas regions are attractive places to invest also indicates that the federal oil and gas fiscal system may not strike a proper balance between maintaining competitive investment conditions and providing an appropriate share of revenues to the public from oil and gas sold on public lands and waters. Finally, because Interior has not comprehensively re-evaluated the federal oil and gas fiscal systems for over 25 years, such a comprehensive evaluation of the systems, both on- and offshore, is overdue. Comparing oil and gas fiscal systems and attractiveness for investment is inherently complex and Interior has not collected information needed to perform such a comprehensive review. In the draft report we sent to Interior for comment, we made recommendations to address these issues. In its response, Interior stated that it did not fully concur with our recommendations because it had already contracted for a study that will address many of the issues we raise. However, because Interior's ongoing study is limited in scope and is limited to a specific region in the Gulf of Mexico, rather than a review of the entire federal oil and gas fiscal system as we recommended, we do not find the agency's stated rationale for not agreeing fully with our recommendations to be convincing. Therefore, we believe that Congress may wish to consider directing the Secretary of the Interior to convene an independent panel to perform a comprehensive review of the federal oil and gas fiscal system. Further, in order to keep abreast of potentially changing market conditions going forward, the Congress may wish to consider directing the Secretary of the Interior to direct the Minerals Management Service and other relevant agencies within Interior to establish procedures for periodically collecting data and information and conducting analyses to determine how the federal government take and the attractiveness for oil and gas investors in each federal oil and gas region compare to those of other resource owners and report this information to the Congress.

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## Background

Interior, created by the Congress in 1849, oversees and manages the nation's publicly owned natural resources, including parks, wildlife habitats, and minerals, including crude oil and natural gas resources, on over 260 million surface acres and 700 million subsurface acres onshore

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and in the waters of the Outer Continental Shelf. In this capacity, Interior is authorized to lease federal oil and gas resources and to collect the royalties associated with their production, Interior's Bureau of Land Management (BLM) is responsible for leasing federal oil and natural gas resources on land, whereas offshore—including the U.S. Gulf of Mexico—Minerals Management Service (MMS) has the leasing authority. To lease U.S. Gulf of Mexico waters for oil and gas exploration, companies generally must first pay the federal government a sum of money that is determined through a competitive auction and evaluated by Interior against departmental economic and geologic models. This money is called a bonus bid. Companies are required to submit one-fifth of any bid for a lease tract up front at time of bid, and pay the remaining four-fifths balance of their bonus payment and their first year rental payment after acquiring a lease. After the lease is awarded and production begins, the companies must also pay royalties to MMS based on a percentage of the cash value of the oil and gas produced and sold or "in kind," as a percentage of the actual oil or gas produced. Royalty rates for onshore leases are generally 12.5 percent. Royalty rates for leases in the U.S. Gulf of Mexico, prior to 2007, ranged from 12.5 percent for water depths of 400 meters or deeper (referred to as deepwater) to 16-2/3 percent for water depths less than 400 meters (referred to as shallow). In 2007, the Secretary of Interior twice increased the royalty rate for future U.S. Gulf of Mexico leases—in January, the rate for deep water leases was raised to 16-2/3 percent and in October, the rate for all future leases, included those issued in 2008, was raised to 18-3/4 percent.

A considerable body of legislation has been enacted pertaining to the management of resources on federal and Indian trust lands and within federal waters. This legislation includes the Mining Law of 1872, Mineral Lands Leasing Act of 1920, 1947 Mineral Leasing Act for Acquired Lands, Outer Continental Shelf Lands Act of 1953, Federal Land Policy and Management Act of 1976, the Outer Continental Shelf Lands Act Amendments of 1978, Federal Oil and Gas Royalty Management Act of 1982, as well as the Federal Onshore Oil and Gas Leasing Reform Act of 1987, the Outer Continental Shelf Deep Water Royalty Relief Act of 1995, and the Energy Policy Act of 2005. The Outer Continental Shelf Lands Act, as amended (OCSLA) is, among other things, intended to ensure the public "a fair and equitable return" on the resources of the shelf. The law directs the Secretary of Interior to conduct leasing activities to assure receipt of fair market value for the lands leased and the rights conveyed by the federal government. In addition, the Federal Land Policy and Management Act indicated that, unless otherwise provided by statute, it is the policy of the United States to receive "fair market value" for the use of the public lands and their resources. In 1982, Interior's MMS

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convened a task force to review its fair market value procedures. Upon completion of the task force's work, the Secretary of Interior informed the Congress by letter in March 1983 that the Department had completed its analysis and validation of the process by which it will assure a fair return to the American people. The Secretary indicated in that letter that the process in place will assure the American people a full and fair return as it pertains to bonuses, rentals, royalties, and taxes. The 1983 Interior task force report also provided some clarity regarding a fair return, or fair market value. The report indicated that the market value of a lease is not the market value of the oil and gas eventually discovered or produced. Instead, it is the value of the right to explore and, if there is a discovery, develop and produce the energy resource.

Currently Interior has the legal authority to change most aspects of the oil and gas fiscal system. Specifically, Interior is allowed by statute to change bid terms for offshore leases including the royalty rate, the bonus bid structure, rental terms, and even the minimum 12.5 percent royalty rate, so long as there is only one variable or "flexible" term—such as a royalty rate that adjusts upwards or downwards with oil and gas prices—in the resulting system, and so long as Congress does not pass a resolution of disapproval within 30 days of Interior's changes to the system.<sup>5</sup> With regard to onshore leases, Interior is generally allowed by statute to change bid terms including the royalty rate, the bonus bid structure, rental terms, and the minimum royalty rate so long as the bid structure meets certain bid terms,<sup>6</sup> but with certain additional limits on flexibility than the offshore leases. Over the past 25 years, Interior has implemented several programs that adjusted royalty rates or other system components. Such programs included the net profit share leases, which were for offshore leases that based royalties on a percentage of net profits derived from production; sliding scale royalty rates, which was an onshore royalty rate system based on changing production levels; and royalty rate reduction for stripper

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<sup>5</sup>43 U.S.C. § 1337.

<sup>6</sup>With regard to onshore leasing, there are both competitive and noncompetitive leases. For competitive leases, 30 U.S.C. Section 226 stipulates that a national minimum acceptable bid of \$2 an acre be met and a royalty payment of not less than 12.5 percent be met, although Section 209 of the law allows the Secretary to waive or reduce rental rates or minimum royalty rates when he deems this is necessary to promote development or if the leases cannot be successfully operated under the terms provided; Section 226 of the law allows the Secretary to increase the \$2 an acre minimum bid, so long as he notifies the House and Senate Committees on Natural Resources 90 days before doing so. For noncompetitive leases, if there are no bonus bids made at an auction, or if all bids are less than the national minimum, the land is offered noncompetitively, with some exceptions.

wells and lower-grade, more viscous crude oil, where onshore oil wells producing less than 15 barrels of oil per day were eligible for royalty rate reductions. Interior officials told us they also “experimented” with a variety of flexible royalty rate and profit sharing systems in the early 1980s, but found them difficult to administer and validate the amount of payments due to MMS, which in Interior’s estimation more than offset any enhanced flexibility associated with a variable royalty rate.

## The Gulf of Mexico Has a Relatively Low U.S. Government Take and the United States Is an Attractive Place to Invest in Oil and Gas Development

Multiple studies completed as early as 1994 and as recently as June 2007 all indicate that the U.S. government take in the Gulf of Mexico is lower than most other oil and gas fiscal systems. Four recent studies by private consultants or resource owners indicate that the U.S. government take in the Gulf of Mexico is relatively low. For example, data we evaluated from a June 2007 report by Wood Mackenzie reported that the government take in the deep water U.S. Gulf of Mexico ranked as the 93rd lowest out of 104 oil and gas fiscal systems evaluated in the study. Other U.S. oil and gas regions are also listed in the Wood Mackenzie study and some but not all other studies. However, these regions are not uniquely under federal jurisdiction, so a direct comparison of the government take in these other regions cannot be used to isolate the federal oil and gas fiscal system. The results of the four studies are summarized below in table 1.

**Table 1: Summary of Four 2007 Studies Comparing Government Take Percentages**

Study	Rank (from highest to lowest) of Gulf of Mexico U.S. government take among oil and gas fiscal systems reviewed in each study	Government take percentages		
		Highest	Lowest	Gulf of Mexico
OUR FAIR SHARE: Report of the Alberta Royalty Review Panel, Sept. 18, 2007 (analysis done by the Alberta Department of Energy).	16/19	77.00	39.00	47.50
Cambridge Energy Research Associates: 2002 vs. 2007.	17/17	95.00	49.00	49.00
Van Meurs Corporation: Comparative Analysis of Fiscal Terms for Alberta Oil Sands and International Heavy and Conventional Oils, May 17, 2007.	25/28	92.00	25.00	47.00
Wood Mackenzie: Government Take: Comparing the Attractiveness and Stability of Global Fiscal Systems, Wood Mackenzie, June 2007.	93/104	98.04	18.05	44.09

Source: GAO analysis of four calendar year 2007 government take studies.

As we reported in May 2007, the results of five other studies completed between 1994 and 2006 had similar findings. The information reported by

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Wood Mackenzie and other such expert studies are used by resource owners and oil and gas companies alike to aid in making investment or policy decisions and these studies represent the best data on government take available. However, we recognize there are limitations with the government take studies and the relative ranking of government take alone is not sufficient to determine whether the federal government is receiving its fair share of oil and gas revenues. A number of other factors that are not part of the government take determine company decisions of where and how much to invest and how much to pay for access to oil and gas resources. These factors include the relative size of oil and gas resource bases in different regions and the relative costs of developing these resources. Thus government take is a major, but not sole factor in determining the attractiveness of a fiscal system for oil and gas development.

When other factors are taken into consideration, the U.S. Gulf of Mexico is an attractive target for investment because it has large remaining oil and gas reserves and the United States is generally a good place to do business compared to many other countries with comparable oil and gas resources. For example, once reserves that are entirely owned by governments are removed from the analysis, of the 104 remaining fiscal regimes ranked by Wood Mackenzie that allow some participation by international oil companies and that have remaining oil and gas reserves, the deep water U.S. Gulf of Mexico ranked 18th highest in terms of remaining oil and gas reserves. Three other U.S. regions were ranked in the top 18 in terms of reserves. These were the U.S. Rocky Mountains (8th), Alaska (14th), and U.S. Gulf Coast (15th), but these regions are not uniquely covered by the federal fiscal regimes, as state and private resource owners may also exist.

Wood Mackenzie also ranked oil and gas fiscal regimes in terms of their attractiveness for investment. Wood Mackenzie's measure of oil and gas fiscal attractiveness took into account both reward associated with factors such as resource size; and risk, including the extent to which government take includes bonuses. With respect to reward, Wood Mackenzie compared the levels of government take with the size of oil and gas fields governed by the various oil and gas fiscal systems. The risk ranking reflected whether or not the system included bonus payments, which increase the risk to investors because they must be paid whether or not economic volumes of oil and gas are eventually found on an oil and gas



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tract.<sup>7</sup> Risk also included a measure of the extent to which and the way in which the resource owner held an equity share in the resources being developed. The impact of the fiscal terms on the rewards and risks associated with a wide range of hypothetical new investments were assessed under the terms of each of the 103 oil and gas fiscal systems included in this section of the study. Based on these assessments, Wood Mackenzie ranked the deep water U.S. Gulf of Mexico fiscal system as more attractive for investment than 60 (about 58 percent) of the 103 fiscal systems ranked.

More broadly, other measures indicate that the United States is an attractive place to invest in oil and gas production. For example, since 2002 as oil prices have risen and gas prices have remained high by historical standards, the number of oil and gas drilling rigs operating in the United States has increased much faster than in the rest of the world, which indicates companies in recent years have continued to find the United States a conducive place to invest in oil and gas production. Specifically, according to data on crude oil rig counts from Baker Hughes, the number of rigs in use globally excluding the United States increased by about 18 percent from an annual average in 2002 of 998 to 1,180 through the first 4 months of 2008, while the number of rigs operating in the United States increased about 113 percent, from 831 rigs in 2002 to 1,768 rigs in 2007 and 1,829 rigs in April 2008. These increases coincided with the increase in oil and gas prices over the same period and indicate that the United States has remained an attractive place to invest in oil and gas as prices have risen.

While rig counts can reasonably be associated with the attractiveness of a region for development and production, they do not tell the whole story. For example, according to Baker Hughes, the Gulf of Mexico rig count fluctuated over the longer term and has decreased in recent years. Specifically, from 1973 to 1981, rig counts in the Gulf of Mexico increased, from 80 to 231, before generally decreasing to 45 in 1992. They then generally rose again until 2001. From 2001 to April 2008, the annual rig count in the Gulf of Mexico decreased from 148 to 58. This decline has occurred despite the Gulf of Mexico being generally considered an attractive target for investment, both from the perspective of the

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<sup>7</sup>Wood Mackenzie's evaluation of risk did not compare the likely resource risk from future drilling activities or include a risk comparison of technical and/or resource risks; it evaluated the risk to companies for conducting business under the specific fiscal system being evaluated.

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government take and because of the potential for significant oil and gas resources.

Other analyses report the oil and gas industry appears to have performed favorably in recent years compared with other industries.

- The Energy Information Administration reported in December 2007 that from 2000 through 2006, the return on equity, which compares a company's profit with the value of the shares held by the company's owners, for the major energy producers, referred to as Financial Reporting System (FRS) companies, averaged 7 percentage points higher than that of the U.S. Census Bureau's "All Manufacturing Companies."<sup>8</sup> According to the report, this reversed a trend where the return on equity for the major energy producers averaged 2 percentage points lower than All Manufacturing Companies from 1985 to 1999.
- The American Petroleum Institute, in a 2007 study, showed that from 2000 to 2005, the average return on investment for oil and gas production was about 61 percent higher than for the Standard & Poor's (S&P) industries.<sup>9</sup> However, the average return on investment for the industry has matched or exceeded the returns for the S&P industrials only in recent years; over the 25-year period from 1980 to 2005, the average return on investment for oil and gas production was about 18 percent lower than for the S&P industries.
- A GAO analysis found that the "upstream," or exploration and production segments, of the domestic oil and gas production companies also received higher rates of return than companies operating in other U.S. manufacturing industries from 2002 through 2006. We analyzed financial data from S&P's Compustat and EIA's FRS. From 2002 through 2006, the upstream segments of the domestic oil and gas production companies have averaged a 17.4 percent return on investment,<sup>10</sup> compared with 15.2

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<sup>8</sup>Energy Information Administration, *Performance Profiles of Major Energy Producers: 2006*, December 2007. A return of equity is another measure of company and industry profitability. A return on equity is net income divided by shareholders' equity.

<sup>9</sup>American Petroleum Institute, *America's Oil and Gas Industry: Putting Earnings into Perspective*, 2007.

<sup>10</sup>Return on investment is calculated by dividing net income by net investment in place.

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percent for all other manufacturing companies.<sup>11</sup> When both upstream and “downstream” the refining and marketing segments are included in the analysis, the oil and gas industry return on investment averaged over 20 percent during this period. This short term picture, however, contrasts with a longer-term analysis, which shows the oil and gas industry receiving a return on investment that is comparable, or slightly lower, than that received by other manufacturing industries over the past 30 years. Our analysis found that during this period, upstream oil and gas production has averaged 11.2 percent return on investment with the entire oil and gas industry receiving an average 13.7 percent return on investment. All other manufacturing companies have averaged 12.3 percent return on investment during this period. This recent improvement in financial performance from 2000 through 2006 coincided with rising oil and gas prices. Further, since 2006, oil and gas prices have risen even higher, while EIA’s most recent projections to 2030 are for oil and gas prices to remain much higher than they were for most of the period 1985 through 1999. In addition, the United States is also generally ranked favorably as a place to conduct business by the World Bank and by business media sources, including *The Economist*, and *AM Best*. For example, the World Bank ranked the United States as the third most favorable place to conduct business of 178 countries analyzed in a 2007 study.<sup>12</sup> *The Economist* in October 2007 ranked the United States as the ninth highest of 82 countries analyzed for projected favorability of business environment from 2008 to 2012. Finally, as of February 2008, the United States remained in the top tier—of five possible tiers—on *AM Best’s* countries for business risk index, meaning the United States generally posed the least risk for investors of the five possible levels assigned.

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<sup>11</sup>Our analysis differs from the other studies cited in this report because we examined return on investment for exploration and production only, instead of oil and gas industry-wide return on investment or return on equity. Additionally, our analysis of the manufacturing industry includes the universe of companies identified as manufacturers by Standard Industrial Classification code (excluding oil and gas companies) instead of an industry index as was used by the American Petroleum Institute and EIA studies. As a result, our return on investment differs from the other studies.

<sup>12</sup>World Bank, *Doing Business 2008: Comparing Regulation in 178 Economies*, Washington, D.C., 2007.

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## The Inflexibility of Royalty Rates to Changing Oil and Gas Prices Has Cost the Federal Government Billions of Dollars in Foregone Revenues

The lack of price flexibility in royalty rates and the inability to change fiscal terms for existing leases have put pressure on Interior and the Congress to change royalty rates in the past on future leases on an ad hoc basis. For example, in 1980, a time when oil prices were comparable in inflation-adjusted terms to today's prices, Congress passed a windfall profit tax, which amounted to an excise tax per barrel of oil produced in the United States. Congress repealed that tax in 1988 at time when oil prices had fallen significantly from their 1980 level. The tax attempted to recoup for the federal government much of the revenue that would have otherwise gone to the oil industry as a result of the decontrol of oil prices.

Further, in 1995—a period with relatively low oil and gas prices—the federal government enacted the Outer Continental Shelf Deep Water Royalty Relief Act (DWRRA). In implementing the DWRRA for leases sold in 1996, 1997, and 2000, MMS specified that royalty relief would be applicable only if oil and gas prices were below certain levels, known as “price thresholds,” with the intention of protecting the government’s royalty interests if oil and gas prices increased significantly. MMS did not include these same price thresholds for leases it issued in 1998 and 1999. In addition, the Kerr-McGee Corporation—which was active in the Gulf of Mexico and is now owned by Anadarko Petroleum Corporation—filed suit challenging Interior’s authority to include price thresholds in DWRRA leases issued from 1996 through 2000. Recently, the U.S. District Court for the Western District of Louisiana granted summary judgment in favor of Kerr-McGee concerning the application of price thresholds to those leases and this ruling is currently under appeal.<sup>13</sup> In our June 2008 report on the potential foregone revenues at stake in the Kerr-McGee litigation, we found that the value of future foregone royalties is highly dependent upon oil and gas prices, and on production levels.<sup>14</sup> Assuming that the District Court’s ruling is upheld, future foregone royalties from all the DWRRA leases issued from 1996 through 2000 could range widely—from a low of about \$21 billion to a high of \$53 billion,<sup>15</sup> depending on the outcome of ongoing litigation concerning the authority of Interior to place price

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<sup>13</sup>Six of the 25 companies that have received royalty relief to date have signed agreements with Interior to allow the inclusion of price thresholds for leases signed in 1998 and 1999. A list of U.S. and international companies that currently receive royalty relief, and who may be affected by the outcome of the legal challenge, is presented in app. II.

<sup>14</sup>GAO, *Oil and Gas Royalties: Litigation over Royalty Relief Could Cost the Federal Government Billions of Dollars*, [GAO-08-792R](#) (Washington, D.C., June 5, 2008).

<sup>15</sup>By foregone revenue, we mean the royalty revenue that would have accrued to the federal government had there been no royalty relief under the DWRRA.

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thresholds that would remove the royalty relief offered on certain leases. The \$21 billion figure assumes relatively low production levels and oil and gas prices that average \$70 per barrel and \$6.50 per thousand cubic feet over the lives of the leases. The \$53 billion figure assumes relatively high production levels and oil and gas prices that average \$100 per barrel and \$8 per thousand cubic feet over the lives of the leases. A royalty relief provision was also included in the Energy Policy Act of 2005 on leases issued during the 5-year period beginning on August 8, 2005.

In 2007, the Secretary of the Interior twice increased the royalty rate for future Gulf of Mexico leases—in January, the rate for deep water leases was raised to 16-2/3 percent and in October, the rate for all future leases in the Gulf, including those issued in 2008, was raised to 18-3/4 percent. Interior estimated these actions will increase federal oil and gas revenues by \$8.8 billion over the next 30 years. The January 2007 increase applied only to deep water Gulf of Mexico leases; the October 2007 increase applied to all water depths in the Gulf of Mexico. These royalty rate increases appear to be a response by Interior to the high prices of oil and gas that have led to record industry profits and raised questions about whether the existing federal oil and gas fiscal system gives the public an appropriate share of revenues from oil and gas produced on federal lands and waters. However, the royalty rate increases do not address these record industry profits from existing leases at all and high profits will likely remain as long as the existing leases produce oil and gas or until oil and gas prices fall. In addition, in choosing to increase royalty rates, Interior did not evaluate the entire oil and gas fiscal system to determine whether or not these increases were sufficient to balance investment attractiveness and appropriate returns to the federal government for oil and gas resources. On the other hand, according to Interior, it did consider factors such as industry costs for outer continental shelf exploration and development, tax rates, rental rates, and expected bonus bids. Further, because the new royalty rates are not flexible with respect to oil and gas prices, Interior and the Congress may again be under pressure from industry or the public to further change the royalty rates if and when oil and gas prices either fall or continue rising. Finally, these royalty changes only affect Gulf of Mexico leases and do not address onshore leases at all, which should also be considered in light of the increases in oil and gas prices.

In addition, Wood Mackenzie reports that the deep water U.S. Gulf of Mexico ranked in the bottom half of countries in terms of oil and gas fiscal system stability based on repeated changes to fiscal terms for future leases and on the relative lack of built-in flexibility that would allow the fiscal

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terms to adjust to market conditions. Specifically, the Wood Mackenzie study ranked the deep water U.S. Gulf of Mexico fiscal terms as lower than 71 (about 72 percent) of the 103 oil and gas fiscal systems. In contrast, among the key trends among governments in recent years has been to make fiscal terms more responsive to market conditions. By adding such progressive features to oil and gas fiscal systems including royalty rates that increase with oil and gas prices, these other entities are making their systems more stable over time by reducing incentives for industry or the public to push for ad hoc changes in fiscal terms as future prices change. Wood Mackenzie's measure of fiscal stability combines two criteria: recent history of changes to fiscal terms and built-in flexibility. As discussed previously in this report, changes to royalty rates occurred in the Gulf of Mexico three times since 1995, with the royalty relief in the mid 1990s and the two increases in royalty rates in 2007. However, as noted above, the study was conducted before the second 2007 increase in royalty rates, so the government take would likely have increased but the U.S. stability rating could have fallen in the intervening period. Built-in flexibility reflects the relative degree to which a fiscal system is regressive or progressive, with more progressive systems being more flexible. A flexible system does not mean changing the fiscal terms of existing contracts but having a system in place that automatically adjusts to changing economic and market conditions.

Oil and gas companies we communicated with stated a clear preference for stable fiscal terms, other things being equal. Overall, oil and gas companies may be more willing to invest in flexible systems, given that they tend to be inherently more stable and therefore are less likely to be arbitrarily changed on a recurring basis. Oil and gas companies and industry trade associations we contacted provided us a range of views on the advantages and disadvantages of various oil and gas fiscal systems, and generally indicated that one of the most important features of any system is its stability and predictability. Stability of fiscal terms is important because oil and gas companies are making very long-term investments and uncertainty about whether or not the resource owner will change the fiscal terms during the lifetime of the investment adds to the investment risk. The respondents also said that the terms of the oil and gas fiscal system should consider industry exploration and development costs, the likelihood of discovery, and political and economic risks. While companies surely prefer lower government take, all else constant, to the extent that stability is also preferred, a more stable system may be able to remain competitive for investment while resulting in a higher government take than a less stable system. In particular, companies may be willing to pay a larger average share of oil and gas revenues if they believe that oil

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and gas fiscal systems will not change when market conditions change, such as the windfall profits charges that a number of countries have recently imposed. Such willingness to accept lower expected profits in exchange for lower risk is a common feature of investment markets.

In addition to the potential trade-off between oil and gas fiscal system stability and government take, companies may be willing to pay higher average shares of revenues if governments bear some of the risk that companies take on when they purchase the rights to explore for oil and gas. For example, in the United States as well as for a number of other governments, leases are awarded through a bidding process that requires companies to pay bonus bids for the rights to explore and develop leases. With regard to bonus bids, there are advantages to requiring such bids. First, when companies have to compete with one another to win a lease, the lease is more likely to be awarded to a company with the expertise and resources to properly explore and develop the resources on the lease than if leases are awarded using some other rationing mechanism that does not take into account how much companies are willing to pay for the lease. In addition, it guarantees the public some revenue early on in the exploration and development process, which can take a number of years to complete. However, the use of bonus bids pushes a great deal of risk onto oil and gas companies and requires them to estimate many uncertain factors, including the amounts of oil and gas that will ultimately be produced on the lease, the costs of that production, and the prices of gas and oil over the entire working life of the lease. In general, by increasing the risk that companies bear, these companies will have to expect to receive a higher rate of return to be willing to take on the project. In fiscal systems requiring bonus bids or other up-front payments, the companies bear the risk that leases will not generate economically significant oil and gas production. In fact, in the United States, a large proportion of leases that companies have paid for do not generate economic levels of production and the companies, after purchasing the lease, and paying rent for the duration of the initial term of the lease and whatever resources they spent on exploring for oil and gas, simply let the lease revert back to the government when the initial term expires.

Some oil and gas fiscal systems mitigate the risk associated with up-front company expenditures by allowing the companies to recover exploration and development costs prior to starting higher royalty payments. For example, Alberta, Canada, has used such fiscal terms. Other fiscal systems share risk with companies by more strongly linking government take to company profits. In such oil and gas fiscal systems, government take is low in early years of a lease, when exploration and early development are

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being undertaken, but increases if production increases or if oil and gas prices increase once production begins. The state of Alaska has recently changed its fiscal terms to increase its government take and to increase the linkage between government take and company profits. Both Alberta and the state of Alaska have higher government takes than the U.S. Gulf of Mexico according to the Wood Mackenzie study.

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## Interior Does Not Have a System in Place to Evaluate Whether the Federal Fiscal System Is in Need of Reassessment

Interior does not routinely evaluate the federal oil and gas fiscal system as a whole, monitor what other resource owners worldwide are receiving for their energy resources, or evaluate and compare the attractiveness of the United States for oil and gas investment with that of other oil and gas regions. As a result, Interior cannot assess whether or not there is a proper balance between the attractiveness of federal lands and waters for oil and gas investment and a reasonable assurance that the public is getting an appropriate share of revenues from this investment. This is true of the U.S. Gulf of Mexico as well as other federal oil and gas producing regions. Interior does not have procedures in place for routinely evaluating the ranking of (1) the federal oil and gas fiscal system against other resource owners or (2) industry rates of return on federal leases compared to other U.S. industries which could factor into any decisions about whether or how to alter the fiscal systems in response to changing market conditions. Interior officials told us that they have a “bid adequacy review process” for offshore leases that determines whether the bonus bid meets criteria designed to ensure fair market value of the leased tract but that onshore leases do not have a similar bid adequacy provision. Moreover, Interior maintains it has been responsive to changes in market conditions through revisions to lease terms, including changes in minimum bonus bid levels, fluctuating royalty rates, and price thresholds. However, as we have discussed previously in this report, bonus bids have both positive and negative sides with respect to their likely impact on overall government take. Further, frequent adjustments to fiscal terms are not looked on favorably by industry, especially when they involve increases in royalty rates or other charges. Interior indicated, in commenting on the report draft, that it is in the process of evaluating other fiscal approaches such as sliding scale royalties for some oil and gas leases.

We did not evaluate the effectiveness of the bid adequacy review process in terms of its intended goal of ensuring bonus bids on offshore federal leases are competitive. However, even assuming that these bids are competitive, we do not think that this is sufficient to ensure that the other elements of the system are appropriately balancing the interests of taxpayers and oil and gas companies. In light of the complexity of oil and



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gas fiscal systems, the great deal of uncertainty surrounding the volumes and future prices of oil and gas, and the costs of producing it, oil and gas companies cannot be expected to accurately forecast all the factors that will ultimately determine the value of a lease at the time that lease is sold. As a result, oil and gas company profits have tended to rise and fall over time with oil and gas prices, putting pressure on Interior to alter fiscal terms in a reactive rather than a strategic way. Further, the fact that Interior does not apply the same or a similar bid adequacy process for onshore leases raises questions about how Interior, overall, is providing reasonable assurance that even the bonus bids it receives are competitively determined in all publicly owned oil and gas producing regions.

While Interior has made many specific changes to components of the federal oil and gas fiscal system over the years to adjust to changing market conditions, these changes were generally not done as part of a comprehensive review of the fiscal system that took into account the relative ranking of the U.S. government take or other comparisons with other countries or regions. The last time Interior conducted a comprehensive evaluation of the oil and gas fiscal system was over 25 years ago. The lack of a recent comprehensive re-evaluation of the U.S. federal fiscal system stands in contrast to the actions of many other governments that have recently reevaluated or are currently re-evaluating their fiscal systems in light of rising oil and gas prices and higher industry profits and rates of return. For example, as previously discussed in this report, a number of countries have recently imposed windfall profits taxes or other mechanisms to increase the resource owners' shares of oil and gas revenues from existing projects. Wood Mackenzie estimates that these changes will ultimately result in these countries' collecting additional oil and gas revenues of between \$118 billion and \$400 billion, depending on future oil and gas prices.

In evaluating an oil and gas fiscal system, all components of the system, including bonus bids, land rental rates, royalties, and oil and gas company taxes, must be considered. However, while Interior has a great deal of expertise and data from years of administering and collecting revenues from oil and gas leases on federal lands and waters that would be essential for any review of the federal oil and gas fiscal system, they do not have the authority to change taxes and, therefore, cannot fully revise the system without legislative action by the Congress. Further, it is essential to keep federal leases competitive with other potential investments governed by different fiscal systems. Therefore, in addition to input from Interior, oil and gas industry experts must also be consulted in any comprehensive

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review of the federal oil and gas fiscal system. For example, when Alberta recently reviewed its oil and gas fiscal system, it convened a panel that included experts from academia, energy research and consulting firms, and the energy industry and also hired a consultant to evaluate the system and make specific recommendations. Following this review, Alberta increased some elements of the oil and gas fiscal system. However, prior to this review, Canadian government corporate taxes were reduced, which made Alberta more attractive for investors. In any comprehensive review of the U.S. oil and gas fiscal system, taxes may need to be part of the discussion. Therefore, congressional action may be needed to change the federal oil and gas fiscal system, if changes are ultimately determined to be appropriate.

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## Conclusions

Oil prices have increased in recent years to levels not seen since the late 1970s and early 1980s when adjusted for inflation. Natural gas prices have also been high by historical standards in recent years. These high prices have coincided with rising oil company profits. Moreover, the EIA's long-term outlook projects these prices to remain much higher than what they had been for much of the past 25 years. Our work indicates that federal oil and gas leases in the deep water U.S. Gulf of Mexico and other U.S. regions are attractive investments and that the government take in the U.S. Gulf of Mexico ranks among the lowest across a large number of other oil and gas fiscal systems. Our work further indicates that other measures, including fiscal attractiveness and rates of return, indicate the U.S. Gulf of Mexico and other U.S. oil and gas producing regions are attractive places to invest. However, the regressive nature of the U.S. federal fiscal systems and other factors have caused these fiscal systems to be unstable over time and this adds risk to oil and gas investments and may reduce the amount oil and gas companies are willing to pay in total for the rights to explore and develop federal leases. Because of these facts and because Interior has not re-evaluated its oil and gas fiscal system in over 25 years, a comprehensive re-evaluation is called for. While Interior could collect data and commission studies to re-evaluate the federal fiscal system, the agency does not currently have the information to fully compare the federal fiscal system with those of other governments, including states or foreign countries. In addition, Interior does not have the authority to make changes to all elements of federal fiscal system if such changes were found to be desirable. Finally, because of the complexity of evaluating oil and gas fiscal systems and the importance of striking a balance between remaining an attractive place for investment and providing revenue to the federal government, it is important that independent experts also be consulted as well as representatives from the oil and gas industry.

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## Matter for Congressional Consideration

In the draft report we sent to Interior for comment, we made recommendations to address these issues. In its response, Interior stated that it did not fully concur with our recommendations because it had already contracted for a study that will address many of the issues we raise. However, because Interior's ongoing study is limited in scope and is limited to a specific region in the Gulf of Mexico, rather than a review of the entire federal oil and gas fiscal system as we recommended, we do not find the agency's stated rationale for not agreeing fully with our recommendations to be convincing. Therefore, we believe that Congress may wish to consider directing the Secretary of the Interior to convene an independent panel to perform a comprehensive review of the federal oil and gas fiscal system.

Further, in order to keep abreast of potentially changing market conditions going forward, the Congress may wish to consider directing the Secretary of the Interior to direct the Minerals Management Service and other relevant agencies within Interior to establish procedures for periodically collecting data and information and conducting analyses to determine how the federal government take and the attractiveness for oil and gas investors in each federal oil and gas region compare to those of other resource owners and report this information to the Congress.

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## Agency Comments and Our Evaluation

The Department of the Interior provided us comments on a draft of the report. Overall, the department agreed that it is important to reassess the federal oil and gas fiscal system but did not fully concur with either of our two recommendations to (1) perform a comprehensive review of the system using an independent panel and (2) adopt policies and procedures to keep abreast of important changes in the oil and gas market and in other countries' efforts to adjust their oil and gas management practices in light of these changes. We disagree with Interior's rationale for its lack of full concurrence with our recommendations and have, therefore, elected to reframe the recommendations into Matters for Congressional Consideration in the final report.

In response to our first recommendation, Interior indicated that it would be premature and duplicative for the department to undertake such a review because it had recently contracted with an outside party to conduct a 2-year study of the policies affecting the pace of area-wide leasing and revenues in the Central and Western Gulf of Mexico. We disagree that our recommended review is either premature or duplicative with this Interior study effort. First, a comprehensive review is overdue, given that Interior has not performed a comprehensive evaluation of the oil and gas fiscal system in over 25 years and in light of the dramatic increases in oil and gas

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prices and industry profits in recent years. Further, as documented in this report, many other oil and gas owners have been re-evaluating and changing their oil and gas fiscal systems in response to these recent market conditions. The Congress and the public are justifiably concerned about whether the federal government is getting a fair return for its energy resources as oil and gas company profits have reached record levels. In addition, our recommended review would not be duplicative with Interior's ongoing study, which is geographically limited to only two sections of the Gulf of Mexico. In contrast, we recommended that Interior review all its oil and gas fiscal systems, both onshore and offshore. Nor does Interior's ongoing study cover the full scope of review that we recommended, including looking at how other resource owners are managing their oil and gas fiscal systems. Further, Interior's ongoing study does not explicitly look at the stability of the system as we recommended and this appears to be a critical factor influencing changes to oil and gas fiscal systems globally. Finally, Interior's ongoing effort does not utilize an independent panel. We believe it is essential to empanel an independent body, representative of major stakeholders, including those representing the interests of industry and the public, in order to develop recommendations that strike an appropriate balance between remaining and attractive place for investment and providing revenue to the federal government.

In response to our second recommendation, Interior implied that such an effort was unnecessary because Interior agencies that lease federal minerals already keep abreast of current literature on fiscal systems of other resource owners. During our work, we identified only one Interior study done over the past 25 years that provided information on the U.S. government take compared to other fiscal systems. While that one Interior study issued in 2006 showed, similar to our work, that the U.S. government take was low compared to other fiscal systems, it is also worth noting that the study itself relied on dated 1994 government-take information. Therefore, we do not believe that Interior has adequately kept abreast of important trends in oil and gas management, especially as it relates to how other resource owners are managing these resources. In addition, our recommendation went further than simply keeping abreast of current literature. In particular, our recommendation sought to have Interior monitor and report on how the federal government's fiscal terms for oil and gas development compare with the terms of other resource owners worldwide.

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Interior's full letter commenting on the draft report is printed as appendix III, and our detailed response follows. In addition, Interior made technical comments that we have addressed as appropriate.

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As agreed with your offices, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the date of this report. At that time, we will send copies to appropriate congressional committees, the Secretary of the Interior, the Director of MMS, the Director of the Office of Management and Budget, and other interested parties. We will also make copies available to others upon request. In addition, the report will be available at no charge on GAO's Web site at <http://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at (202) 512-3841 on [ruscof@gao.gov](mailto:ruscof@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made major contributions to this report are listed in appendix IV.



Frank W. Rusco  
Acting Director, Natural Resources  
and Environment

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# Appendix I: Scope and Methodology

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We performed our work at the Department of Interior's (Interior), Bureau of Land Management's (BLM), and Minerals Management Service's (MMS) offices and in Washington, D.C. from May 2007 to September 2008 in accordance with generally accepted government auditing standards. We focused our analysis of government take and industry rates of return on the U.S. Gulf of Mexico because it represents approximately 79 percent of oil and 50 percent of gas production on federal leases, and because there are complicating factors for onshore oil and gas leases, such as state and local taxes or fees that may differ by locality, which the available studies do not fully address. We did evaluate information that applied more broadly to the United States, specifically with respect to overall measures of the attractiveness of the United States for oil and gas investment. However, we cannot infer from our review of the Gulf of Mexico federal oil and gas leases how the data on federal government take or industry returns to investment are applicable to federal onshore leases. In general, the results of this review can compare the federal system associated with the U.S. Gulf of Mexico to that of other oil and gas fiscal systems but cannot provide specific prescriptive recommendations for how to change the federal fiscal system to achieve a fair return for the public from sale of oil and gas on public lands and waters. We also compared the federal oil and gas fiscal system to all types of fiscal systems around the world to encompass the range of choices that oil and gas companies are faced with when deciding where to invest.

To determine the degree to which the federal government is receiving a fair return, our work included reviewing various pieces of energy resource management legislation enacted over the last several decades. This included, among others, the Outer Continental Shelf Lands Act of 1953 (OCSLA) and its amendments and the Federal Land Policy and Management Act of 1976 (FLPMA) and its amendments. We also collected and analyzed various pieces of Interior energy resource policy and management information. To evaluate how the U.S. government take compares to those in other countries, we reviewed the results of a study procured from Wood Mackenzie, a leading industry consultant, and recent studies conducted by other private consultants or resource owners. We also collected and analyzed various studies generated by MMS, the agency responsible for collecting oil and gas royalties from federal lands and waters and interviewed private consulting firm officials. In evaluating the study results, we conducted interviews with study authors and an industry expert to discuss the study methodologies and the appropriate interpretation of the results. Based on these interviews and our review of study results, we believe the general approach that these study authors took was reasonable and that the results of the studies are credible. However, we did not fully evaluate each study's methodology or the

underlying data used to make the government take estimates. Overall, because all the studies came to similar conclusions with regard to the relative ranking of the U.S. federal government, and because such studies are used by oil and gas industry companies and governments alike for the purposes of evaluating the relative competitiveness of specific oil and gas fiscal systems, we are confident that the broad conclusions of the studies are valid. To assess the extent to which the United States' oil and gas fiscal system is able to remain stable as market conditions change, we relied heavily on the study and data we obtained from Wood Mackenzie. We interviewed industry experts and gathered information regarding the types of fiscal systems and the relative stability offered with each. We interviewed company officials and industry experts to obtain information on their preferences regarding fiscal system characteristics.

We also purchased data from Compustat and analyzed that data and data published by the Energy Information Administration. The financial data we procured are widely used by private companies and governments for purposes of comparing company and industry rate of return over time, because Interior in the past used rate of return as a credible measure to evaluate the profitability of the Gulf of Mexico for firms conducting oil and gas exploration there versus the relative profitability of other manufacturing firms operating in the United States. We also evaluated data reported by the American Petroleum Institute and other sources. Further, we reviewed various reports prepared over the last 2 years by private sources on the profitability of oil and gas companies operating in the U.S. versus operating elsewhere in the world. We also spoke to industry officials regarding aspects of the various fiscal systems in which they operate. Finally, we discussed the issue of a "fair return" with various Interior, BLM, and MMS officials, as well as members of the oil and gas industry. To determine what steps Interior takes to get reasonable assurance that the federal government take provides a fair return to the public, we reviewed Interior studies and procedures, and interviewed officials from MMS.

We conducted this performance audit from May 2007 to September 2008, in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

# Appendix II: Companies Receiving Royalty Relief in the U.S. Gulf of Mexico

According to Interior, companies operating in the U.S. Gulf of Mexico had received more than \$1.3 billion in royalty relief through September 30, 2007. Table 2 lists the companies that have received royalty relief under DWWRA and the amounts of that relief. Six companies had signed agreements with Interior, allowing thresholds to be placed for royalties to be paid in the future. Those companies are BP Exploration and Production; ConocoPhillips & Burlington Resources Offshore, Inc.; Marathon; Shell; Walter Hydrocarbons; and Walter Oil and Gas. According to Interior information dated February 4, 2008, ConocoPhillips & Burlington Resources Offshore, Inc., had not received royalty relief.

**Table 2: Amounts of Royalty Relief Received by Companies**

Company	Ownership	Royalty Relief Received to Date	Signed agreement with Interior to include price thresholds
ATP Oil & Gas Corporation	Public – United States	7,080,958	No
BHPBilliton	Public – Australia	6,480,679	No
BP Exploration & Production	Public – United Kingdom	172,508,633	Yes
Chevron USA/Texaco/Union Oil	Public – United States	4,003,495	No
Devon Energy Corporation/Ocean/Santa Fe	Public – United States	143,808,801	No
Dominion Exploration	Public – Italy	126,504,055	No
EnCana Gulf of Mexico	Public – Canada	43,908	No
ENI Deepwater	Public – Italy	27,176,887	No
Howell Group	Public – United States	46,867	No
Anadarko Petroleum Corporation/Kerr McGee/Offshore Shelf/Westport	Public – United States	142,406,788	No
Marathon Oil Corporation	Public – United States	1,393,586	Yes
Mariner Energy, Inc.	Public – United States	44,050,427	No
Marubeni	Public – Japan	26,477,247	No
Newfield Exploration Corp.	Public – United States	10,338,890	No
Nexen Inc.	Public – Canada	129,518,866	No
NI Energy Venture	Public – Japan	406,747	No
Nippon Oil Exploration	Public – Japan	22,897,836	No
Noble Corp.	Public – Cayman Islands	1,137,105	No
Occidental Petroleum Corp.	Public – United States	109,653,662	No
Petrobras America	Semipublic – Brazil	13,354,061	No
Pioneer Natural Resources Co.	Public – United States	128,068,000	No
Pogo Producing Co.	Public – United States	7,414,106	No
Royal Dutch Shell	Public – Netherlands	27,399,688	Yes



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**Appendix II: Companies Receiving Royalty Relief in the U.S. Gulf of Mexico**

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<b>Company</b>	<b>Ownership</b>	<b>Royalty Relief Received to Date</b>	<b>Signed agreement with Interior to include price thresholds</b>
Total E&P	Public – France	171,648,800	No
Walter Oil & Gas Corp./Walter Hydrocarbons	Private – United States	1,286,768	Yes
<b>Total</b>		<b>1,325,106,861</b>	

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Source: GAO analysis of Interior data dated February 4, 2008.

Note: Numbers do not add exactly due to rounding.

# Appendix III: Comments from Department of the Interior

Note: GAO comments supplementing those in the report text appear at the end of this appendix.



## United States Department of the Interior

OFFICE OF THE SECRETARY  
Washington, D.C. 20240

AUG - 8 2008

The Honorable Frank Rusco  
Director, Government Accountability Office  
441 G Street, NW  
Washington, D.C. 20548

Dear Mr. Rusco:

Thank you for the opportunity to review and comment on the Government Accountability Office draft report "Oil and Gas Royalties: The Federal System for Collecting Oil and Gas Revenues Needs Comprehensive Reassessment" (GAO-08-691). We appreciate the efforts of the GAO and have consistently worked closely with the GAO on this and previous reports over the years. We agree that it is important to review the Federal oil and gas fiscal system, but we do not fully concur with the recommendations in your draft report. The GAO's recommendations to conduct more reviews attest to the complexity of evaluating the Federal oil and gas fiscal system.

### Background

In June 2006, Congress asked the GAO to review royalties on Federal oil and gas production and provide advice on what changes if any should be made to ensure that the public is receiving fair value. The GAO lists three objectives in its draft report: 1) evaluate the attractiveness for oil and gas investors of the Federal oil and gas fiscal system; 2) evaluate how the absence of flexibility in this system has led to large forgone revenues from oil and gas production on Federal lands and waters; and 3) assess what the Department of the Interior (Interior) has done to monitor the performance and appropriateness of the Federal oil and gas fiscal system. As noted in the draft report, comparing fiscal systems for oil and gas is inherently complex. The Minerals Management Service agrees with the implications of the GAO report that we should evaluate fiscal system designs that are responsive to market conditions and keep informed of what other countries are doing in their fiscal systems; however, we have concerns with other findings and statements in the GAO draft report, which are discussed below.

### Areas of Concern

In addressing the first objective noted above, the GAO draft report relies heavily on measures of Government take, but does not clarify the link between Government take and investment attractiveness to investors, nor does the draft report relate the significance of Government take to the purposes of the Outer Continental Shelf Lands Act and the Federal Land Policy and Management Act.

See comment 1.

See comment 2.

The second objective of the GAO study appears to lead to a predetermined conclusion. The report's conclusion that inflexibility in the system is responsible for significant reductions in Federal receipts is not supported by the GAO's analysis presented in the draft report. The example cited by the GAO concerns the deep water leases issued in 1998 and 1999. At the time, the MMS was implementing the special requirements of the Deep Water Royalty Relief Act. The MMS acted in a flexible and creative way to set the elements of the fiscal terms of its leases in a manner consistent with anticipated technical, as well as market, conditions at time of sale. The GAO also states that the MMS did not evaluate the entire oil and gas fiscal system to determine whether or not the two royalty increases provided the proper balance between the attractiveness of Federal leases for investment and appropriate returns to the Federal Government. Interior did evaluate components of the Federal leasing system, including tax and production losses from imposing the resulting royalty increases that, in large part, were a prudent and incremental response to emerging market conditions.

See comment 3.

The GAO does not credit the MMS for efforts related to the third objective, which is monitoring the performance of the Federal fiscal system. Even though Interior may not have conducted a "comprehensive evaluation" of the Federal oil and gas fiscal system as defined by the GAO, the MMS evaluates the expected OCS resources and market conditions in light of our organic statutes and tax laws when setting the fiscal terms for each lease sale and analyzing the results following each sale.

See comment 4.

Onshore Federal royalty issues, while not directly addressed by the GAO in this report, differ from offshore due to the intermingling of Federal, State, Indian, and private lands. The Federal take is severely limited by the revenue split with States. Bonus money paid for onshore leasing is, by law, the result of competitive bidding with a minimum acceptable bid set by Congress of not less than \$2.00 per acre. Multiple bids received at onshore lease auctions are an indication of market value, with the high bidder generally being awarded the lease. The price of natural gas is set by the domestic market, and, generally, higher royalty rates will be passed on to consumers as higher gas prices.

See comment 5.

Senior Departmental officials have consistently interpreted the mandates of the OCSLA as receipt of fair market value, expeditious exploration and development, encouragement of competition, protection of human health and the environment, resource conservation, etc.—not maximization of Government receipts as the GAO implies. We believe Interior bureaus have succeeded in achieving the purposes of the OCSLA and FLPMA. In its oversight role, Congress should hold Interior to the standards encompassed in existing statutes. Maximizing Federal mineral revenues or achieving some worldwide ranking of government take are not purposes in the existing laws guiding Federal oil and gas programs.

See comment 6.

The MMS analyzes fiscal terms before each lease sale and reviews the results of each sale. The analysis includes the level and extent of bidding activity to determine if fiscal terms are operating as intended. Studies and literature are reviewed related to fiscal terms and potential economic, fiscal, and geologic outcomes in different countries and regions operating under different fiscal terms. The two recent Gulf of Mexico royalty rate increases were made by the MMS incrementally in response to expected oil and gas prices. These royalty rate increases are

See comment 7.

consistent with the statutory objective to achieve fair market value. Additionally, both the MMS and the Bureau of Land Management are investigating sliding royalty options for future oil and gas leasing. The BLM is focusing on a variable royalty structure for onshore oil shale and the MMS is analyzing additional variable royalty and rental structures for the Federal OCS.

The MMS recently contracted with a panel of academic oil and gas industry experts to conduct a 2-year study on issues that, to a large extent, overlap those being recommended by the GAO for a comprehensive study and independent panel. Entitled "Policies to Affect the Pace of Leasing and Revenues in the Gulf of Mexico," the study is analyzing a variety of fiscal arrangements, including fixed and sliding royalty terms much like those discussed or implied in the GAO report. A considerable part of this study is designed to cover important fiscal issues now being raised by the GAO. Interior believes it is premature and duplicative to conduct another comprehensive study of fiscal terms and convene another panel of experts until the recommendations of this panel are reviewed and evaluated.

See comment 8.

We agree that total revenue allocated to the Government (Government take) varies greatly among countries and resource owners. In many of the fiscal systems that rank higher in Government take in the studies cited in the GAO report, governments own and produce the resource. It is important to point out that global companies have choices where they make capital investments. Their investment choices are affected by many variables, including the fiscal system of rents, royalties, and bonus bids, as well as the cost of capital, risk, and the attractiveness of alternative investments. An increase in Government take through higher royalties, taxes, or other aspects of the fiscal system may result in less domestic oil and gas production than would occur at more favorable economic terms. Thus any increases in Federal revenues through higher fiscal terms must be carefully weighed. The public receives significant direct, indirect, and induced economic benefits from domestic oil and gas leasing and development in the form of jobs and economic growth, as well as less dependency on foreign energy sources.

See comment 9.

We disagree with the GAO assertion that Interior cannot properly and effectively conduct the mineral leasing programs without explicitly ranking Federal mineral leasing systems and assessing industry rates of return compared to leasing systems employed worldwide. While Government take rankings may be a comparison measure, Interior operates under a management and leasing policy defined by Congress in the OCSLA and FLPMA. Through the evaluation of varied fiscal terms, the MMS has made changes within the authority granted to the Secretary under the OCSLA and in response to subsequent legislative requirements. The OCSLA in particular describes the purposes of the offshore oil and gas program, which include expeditious exploration and development, encouraging competition, receipt of fair market value, etc.

See comment 10.

Interior notes that the report does not mention the deep water royalty relief mandated by Congress in the Energy Policy Act of 2005. The Administration has actively sought repeal of this provision. Since the GAO's findings for leasing in the OCS focus almost entirely on deep water leases in the Gulf of Mexico, the impact of the law should have been taken into consideration.

See comment 11.

**Conclusion**

The Department of the Interior does not fully concur with the two recommendations made to the Secretary of the Interior. While we agree that it is important to review the Department's oil and gas lease terms, Interior's existing procedures are adequate to evaluate alternative fiscal terms and systems in the context of the stated purposes, goals, and objectives of the statutory requirements. Many of the fiscal systems used by other countries are not allowed in the United States.

See comment 12.

The first recommendation, with which we do not fully concur, is that the Secretary of the Interior direct the MMS, the BLM, and other relevant agencies within Interior to conduct a comprehensive review of the Federal oil and gas fiscal system using an independent panel that includes private sector experts and oil and gas industry representatives to collect and evaluate the necessary information to make informed conclusions. Recently the MMS commissioned an outside, independent group of energy industry experts from the University of Rhode Island to conduct a related 2-year study entitled, "Policies to Affect the Pace of Leasing and Revenues in the Gulf of Mexico." Accordingly, it would be premature and duplicative for the MMS to undertake another comprehensive study, and convene another group of experts prior to completion of the current study. On any study, the Secretary will involve partners, as appropriate. The MMS and the BLM will continue to evaluate program requirements and analyze options for determining the most appropriate mineral leasing fiscal systems subject to the authorizing legislation.

See comment 13.

The second recommendation, with which we do not fully concur, is for the Secretary of the Interior to direct the MMS, the BLM, and other relevant agencies within Interior to establish procedures to periodically evaluate the Federal oil and gas fiscal system in relation to those of other resource owners and report the findings to Congress. Interior would respond to any Congressional request. The MMS and the BLM have conducted internal control reviews of key components of their fluid minerals management programs. The MMS evaluates the fiscal terms before each OCS lease sale and will continue to balance the requirements of the OCSLA and continues to respond to emerging market conditions. Interior agencies that lease Federal minerals already keep abreast of current literature on fiscal systems of other resource owners. Therefore, we believe that what other resource owners may do is useful to know, but what they do is not the most important factor to consider in designing appropriate fiscal terms for mineral leases issued by the Department of the Interior.

Through our leasing program, we continually update, evaluate, and review the fiscal terms of leases. We are always open to suggestions to clarify procedures in order to assure their effectiveness. We will closely examine those procedures internally.

5

Technical comments are enclosed. If you have any questions, please contact Andrea Nygren,  
MMS Audit Liaison Officer, at (202) 208-4343.

Sincerely,

A handwritten signature in black ink, appearing to read "C. Stephen Allred". The signature is fluid and cursive, with the first name being the most prominent.

C. Stephen Allred  
Assistant Secretary

Enclosure

The following are GAO's comments on the Department of the Interior's letter dated August 8, 2008.

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## GAO Comments

1. Regarding Interior's statements that (1) the draft report relies heavily on measures of government take but does not clarify the link between government take and investment attractiveness, and (2) the draft report does not relate the significance of the OCSLA and FLPMA laws, we disagree. The report on page 1 states that several factors need to be considered, including the size of availability of the oil and gas resources in place; the cost of finding and developing these resources, and the stability of other the oil and gas fiscal systems and the country in general. Also on page 2, we note that a fair government take would strike a balance between encouraging private companies to invest in the development of oil and as resources on federal lands and waters while maintaining the public's interest in collecting the appropriate level of revenues from the sale of the public's resources. Further, we devote a significant portion of our discussion of objective one to how the attractiveness of the U.S. oil and gas fiscal system compares with those of other resource owners, and concludes that U.S Gulf of Mexico and other U.S. places are attractive places to invest. With regard to the significance of the OCSLA and FLPMA laws, on page 3 of the report we discuss the provisions of the OCSLA and FLPMA laws and how they relate to the management of the federal oil and gas fiscal system.
2. Interior commented that the report's conclusion that inflexibility in the federal oil and gas fiscal system is responsible for significant reductions in the federal fiscal take is not supported. We maintain that the inherent inflexibility of the federal fiscal system means that government receipts from the production of oil and gas on federal lands and waters have not tracked with the prices of oil and gas. This lack of flexibility explains, in part, why the Congress enacted the Deep Water Royalty Relief Act in 1995, a time when oil and gas prices were much lower than they are today. The lack of flexibility of the royalty rates for some of the leases issued under this Act, as implemented by Interior, will end up costing the public billions of dollars in foregone revenues. Further, the recent increases to royalty rates that Interior references in its comments do nothing to address the bulk of leases already held and for which industry profits have increased as high as they have precisely because neither the royalty rates, nor other components of the oil and gas fiscal system were sufficiently flexible to allow federal revenues to increase automatically when oil and gas prices and industry profits increased. Overall, Interior should strive to

achieve fair market value over time, not simply evaluate market conditions at the time leases are issued.

3. With regard to Interior's comments that although it has not conducted a comprehensive evaluation of the federal oil and gas fiscal system, it has evaluated expected resources and conditions on the Outer Continental Shelf (offshore) tracts, we agree that Interior takes some steps to evaluate offshore leases but the objective addresses a broader evaluation of how Interior monitors the performance and appropriateness of the entire federal oil and gas fiscal system, including offshore and onshore, and also including assessing performance over time rather than at the time a lease is sold. Interior officials told us they evaluate offshore tracts before the issuance of a lease for prospectivity of the lease and use such measures to determine an adequate minimum bid for the lease. However, as Interior makes note in its own comments, Interior officials have not systematically reviewed the bid outcomes of offshore tracts.
4. We agree that onshore and offshore leases can be very different and for the reasons stated in Interior's comments. That is why we recommended a comprehensive review of the entire federal oil and gas fiscal system, including onshore and offshore. We also recommended that the results of this comprehensive review be presented to the Congress so that it can act appropriately in the event any existing laws or regulations that govern the leasing and collection of revenues from federal oil and gas leases could be improved in light of the recommendations of the independent panel.
5. Interior states that the report implies that Interior maximizes government receipts from oil and gas leases. We disagree that the report implies this and can find no place in the report where we believe a reader would make such an inference.
6. We disagree with Interior's statement that it "analyzes fiscal terms before each lease sale and reviews the results of each sale." Interior's analysis of prospective leases is for offshore leases only and, according to Interior officials, is an analysis of the prospectivity of the offshore tract, designed to set minimum adequate bids. It is not a review of "fiscal terms," as Interior states in its comments. With regard to the two recent royalty rate increases for future oil and gas leases in the Gulf of Mexico, these increases do not resolve fair market value for past leases issued with inflexible fiscal terms and are themselves inflexible. Therefore, if future oil and gas prices turn out to be different than what Interior expected when they made the changes, the resulting



outcome will again not reflect a fair return and could be too high or too low, depending on what happens in the oil and gas markets.

7. With regard to Interior's comment that it recently contracted with a panel of academic oil and gas industry experts to conduct a study of fiscal arrangements including fixed and sliding royalty terms, please see our general response to Interior's comments on page 24.
8. We agree with the statements Interior makes in this paragraph, and note that these concepts are also well represented in our report. For example, we note that investment choices are affected by many variables, including the fiscal system of rents, royalties, and bonus bids, as well as the cost of capital, risk, and the attractiveness of investments; indeed, we designed the job to discuss the first range of issues in our first objective, and the second range of issues in the second objective. We conclude, and Interior agrees, that any increases in federal revenues through higher fiscal terms must be carefully weighed; however, Interior has not done this "careful weighing" in making its royalty rate increases. That is why we recommended a comprehensive review of the federal oil and gas fiscal system.
9. With regard to Interior's comment that it operates under a management and leasing policy defined by the Congress in the OCSLA and FLPMA, we agree and this is reflected on page 3 of the draft report. However, Interior cannot effectively conduct the mineral leasing programs without evaluating federal mineral leasing systems and assessing industry rates of return and other factors discussed in this report. Interior must keep abreast of these issues and developments in fiscal regimes elsewhere, and advise Congress on developments in the competitiveness of the federal oil and gas fiscal system versus those employed by other resource owners. Further, our audit work shows that Interior has responded to oil and gas market changes in a reactive, rather than strategic and forward-looking manner, and we believe the Congress needs to be kept abreast of changes affecting federal oil and gas leasing and revenue generation.
10. Interior comments that the draft report does not mention the royalty relief mandated by the Congress in the Energy Policy Act of 2005, and its decision to seek repeal of this provision, and that the impact of the law should have been taken into consideration. We agree that the draft report did not discuss the 2005 law explicitly but note that the results we report do implicitly take this law into consideration. Our results on the government take and attractiveness of investment in the deep water Gulf of Mexico derive largely from a 2007 study done by Wood Mackenzie that took into account the impact of the existing laws at the

time of the study. We have added language to make explicit acknowledgement of the Energy Policy Act of 2005

11. See our general response to Interior's comments on page 24-25 of this report.
12. See our general response to Interior's comments on page 24-25 of this report.
13. See our general response to Interior's comments on page 24-25 of this report.

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# Appendix IV: GAO Contact and Staff Acknowledgments

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## GAO Contact

Frank Rusco, (202) 512-3841 or [Ruscof@gao.gov](mailto:Ruscof@gao.gov)

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## Staff Acknowledgments

In addition to the individual named above, Jon Ludwigson (Assistant Director), Robert Baney, Ron Belak, Nancy Crothers, Glenn Fischer, Michael Kendix, Carol Kolarik, Michelle Munn, Daniel Novillo, Ellery Scott, Rebecca Shea, Dawn Shorey, Barbara Timmerman, and Maria Vargas made key contributions to this report.

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