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

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MINERAL REVENUES

Interior Used Reasonable Approach to Assess Effect of 1988 Regulations

143994

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United States
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Resources, Community, and
Economic Development Division

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The Honorable Sidney R. Yates
Chairman, Subcommittee on Interior
and Related Agencies
Committee on Appropriations
House of Representatives

Dear Mr. Chairman:

This report responds to your November 15, 1990, request that we examine the effect the Department of the Interior's March 1988 oil and gas product valuation regulations have had on royalties from Indian and federal onshore and offshore leases. This report (1) identifies the anticipated and actual effects of the revised regulations to the extent that data are available and (2) evaluates the reasonableness of the methodology that Interior's Minerals Management Service (MMS) used to assess the effect of these regulations.

Results in Brief

Effective March 1, 1988, MMS revised its regulations for valuing oil and gas for royalty determination purposes. During the development of the regulations, states and Indians voiced concern that the regulations would cause their share of royalties to decrease. MMS believed that the regulations would be revenue neutral; that is, the regulations would not cause a significant increase or decrease in royalties. To monitor the effect of the revised regulations, the House Committee on Appropriations requested that MMS report quarterly on royalties to determine whether the regulations are revenue neutral.

MMS' reports indicate that between March 1988 and February 1990, overall royalties, after adjusting for volume and price differences, have neither consistently increased nor decreased. MMS could find no clear evidence that the revised regulations have caused overall royalties to change. The reports also show that royalties from offshore, onshore, and Indian leases varied both before and after the revised regulations became effective. We believe that the methodology that MMS used to analyze the effect of the revised regulations on royalties was reasonable and accounts for the two measurable factors—volume and price—that could be expected to affect royalties.

Background

MMS is responsible for collecting and disbursing oil and gas royalties from Indian and federal onshore and offshore leases. For calendar year 1989, the most recent year for which data were available, the federal government collected about $2.6 billion in oil and gas royalties. States, with the exception of Alaska, receive 50 percent of royalties for oil and gas production on federal lands within their boundaries, and Indians receive all royalties for oil and gas production on their lands. Alaska receives 90 percent of royalties from its federal lands. Royalties from offshore leases, with the exception of those leases located within 3 miles of states' seaward boundaries, are not shared with states and Indians, but they are deposited in the U.S. Treasury. States receive 27 percent of oil and gas royalties from offshore leases located within 3 miles of their seaward boundaries.

The amount of royalties due on oil and gas production from federal and Indian leases is based on the volume and price of oil and gas sold and the royalty rate. Royalty payors are allowed to deduct transportation and processing costs (allowances) from the sales price to determine the value of production. The royalty rate is then applied to the value of production to determine royalty payments due the federal government.

MMS issued revised oil and gas product valuation regulations effective March 1, 1988. The purpose of the revision was to consolidate and clarify how production is valued for royalty determination purposes. Among other things, the regulations standardized the procedures for computing onshore and offshore gas processing allowances and established a uniform procedure for computing transportation allowances.

Before issuing the regulations, MMS analyzed the potential effect of certain provisions of the revised regulations that it believed could affect royalties. MMS concluded that while a provision of the regulations would likely increase offshore royalties, other provisions would likely decrease onshore and Indian royalties. MMS believed that increases in royalties from offshore production would offset decreases in royalties from onshore and Indian production, thereby making the overall effect of the revised regulations revenue neutral.

As of May 6, 1991, MMS had issued nine reports to the House Committee on Appropriations regarding how the regulations affected royalties. Each report generally covers the most current 3 consecutive months and the same 3 months each year back to 1985. MMS' ninth report also contains 5 years of annual data beginning with the period March 1985 to February 1986 and ending with the period March 1989 to February

1990. MMS plans to issue a final report, which it will begin developing in September 1991, that will cover March 1985 through February 1991.

Anticipated Effect of the Revised Regulations

In developing the revised regulations, MMS believed that certain provisions would affect onshore, offshore, and Indian leases differently, but that overall, changes in the regulations that decreased royalties would be offset by changes that increased royalties. Specifically, MMS believed that a change in the way processed gas is valued could decrease royalties from onshore leases, while changes in the way allowances are determined could either increase or decrease royalties from onshore, offshore, and Indian leases, depending on the type of allowance. States and tribes agreed with MMS regarding the effect of these specific regulatory changes on their royalties and also noted that a change in the way oil is valued could further decrease their royalties.

Change in Valuing Processed Gas

MMS believed that a change in valuing processed gas could decrease onshore royalties. The old regulations required that when gas was processed, royalties would be paid on the higher of either (1) the value of the unprocessed gas or (2) the combined value of the processed gas and extracted liquid products, less the processing allowance. The revised regulations remove this dual calculation requirement for arm's-length sales transactions[1] and instead generally require that value be based on sales price. States cited the elimination of the dual calculation for valuing processed gas in arm's-length transactions as a regulatory change that could reduce their royalties. The dual calculation would still be used for processed gas from Indian leases that specify that dual calculation must be used.

Change in Determining Allowances

MMS believed that the revised regulations would decrease the amount of processing allowances, especially from offshore processed gas, but increase the amount of transportation allowances taken by royalty payors. Under both the old and revised regulations, when payors process gas they can deduct processing costs, including an allowable rate of return, from sales value before computing royalties due. The revised regulations prescribe a rate of return that is lower for offshore processed gas than the rate used in the past. MMS believed the lower rate

[1] An arm's-length transaction is between nonaffiliated parties with opposing economic interests regarding the transaction.

would decrease offshore gas processing allowances, thereby increasing royalties.

Before March 1, 1988, the regulations allowed, but did not specifically state, that transportation costs could be deducted from the value of production before computing royalties. Although the calculation of the transportation allowance is basically unchanged in the revised regulations, the regulations make it clear that this allowance can be deducted. MMS believed that, while some royalty payors were already deducting transportation costs, the clarification could result in more royalty payors taking this allowance, thereby decreasing royalties.

States and tribes also believed that a change in the way MMS determines transportation and gas processing allowances would further decrease their royalties. Transportation and processing allowances were, and are, cost-based. Before the revised regulations became effective, MMS determined the amount of transportation and gas processing allowances after a royalty payor submitted cost information. Under the revised regulations, payors annually submit to MMS a form listing the allowances they expect to claim during the next year. Payors do not have to provide cost justification up to a certain amount to obtain MMS' approval. States and tribes believe that payors could claim allowances that exceed actual costs. To the extent that allowances exceed actual costs, less royalties will be paid. MMS officials said that, because all allowances are subject to audit, excessive allowances resulting in royalty underpayments could be identified.

Change in Valuing Oil

Indian tribes and a state also were concerned that a change in the way oil is valued under the revised regulations could decrease their royalties. The old regulations required that royalties be based on either the general price offered for oil in an area, the highest price paid for the majority of oil produced in an area, or the actual sales price of oil. The revised regulations require using the actual sales price. However, MMS did not believe this change would significantly affect royalties because the differences between sales price and the other two prices are generally small.

Actual Effect of the Revised Regulations

MMS' reports provide no clear evidence that, after adjusting for differences in volume and price, the revised regulations have caused overall royalties to change. The reports also show that, after volume and price adjustments, royalties for onshore, Indian, and offshore leases varied both before and after the revised regulations became effective.

Figure 1, based on annual data from MMS' ninth report, shows that overall royalties were increasing before the revised regulations were implemented, increased slightly the year after the revised regulations took effect, and began to decrease the following year.

Figure 1: Total Adjusted Net Royalties for 1985-90, March Through February

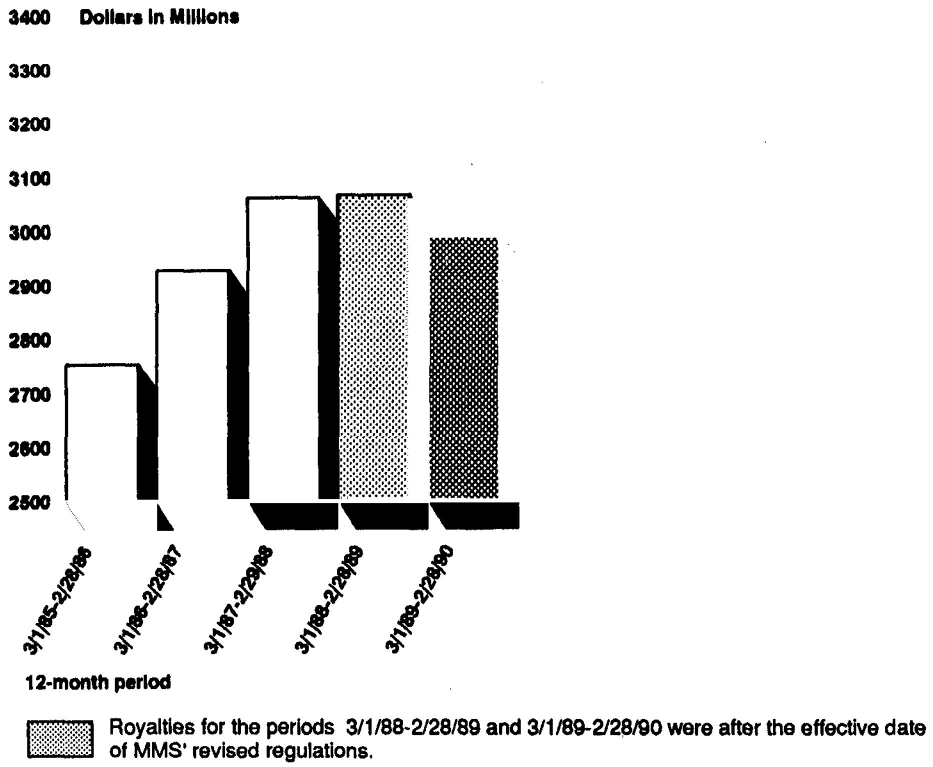


Figure 2 shows that onshore royalties were decreasing before the revised regulations and have continued to decrease after the revised regulations were implemented.

Figure 2: Adjusted Net Royalties for Onshore Leases for 1985-90, March Through February

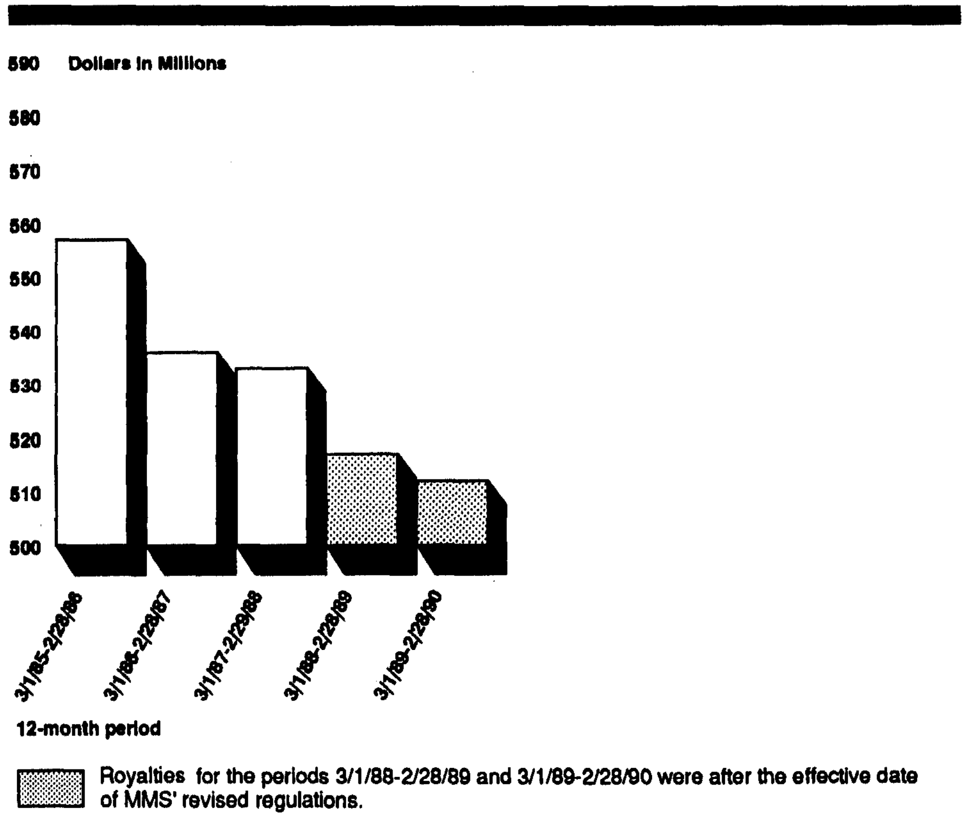


Figure 3 shows that Indian royalties varied before the revised regulations, increased the year after the effective date of the revised regulations, and then stabilized.

Figure 3: Adjusted Net Royalties for Indian Leases for 1985-90, March Through February

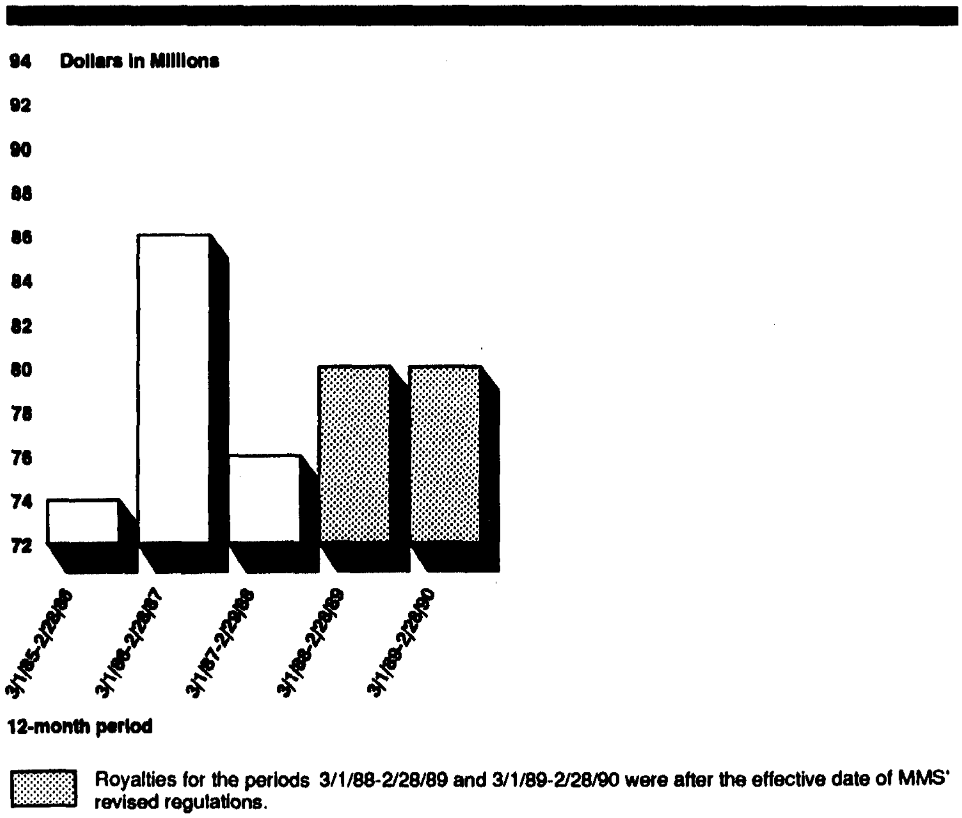
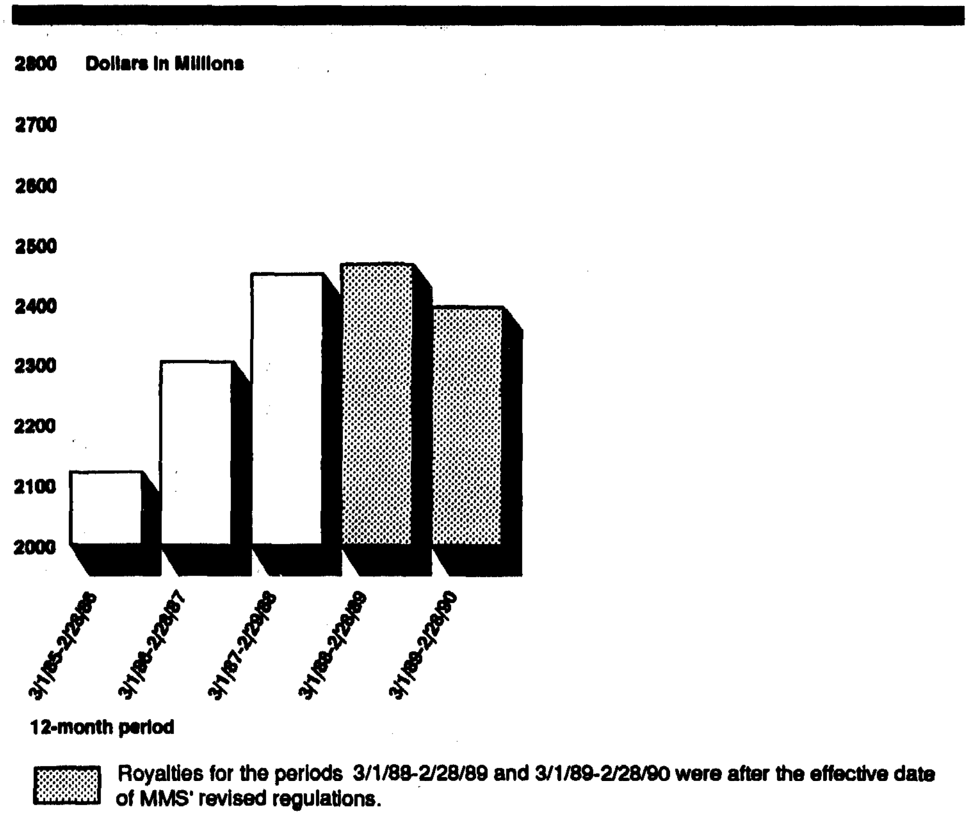


Figure 4 shows that offshore royalties increased both before and after the revised regulations, but decreased in the period March 1989 to February 1990.

Figure 4: Adjusted Net Royalties for Offshore Leases for 1985-90, March Through February



Appendix I provides the data used to develop figures 1, 2, 3, and 4. Appendix II discusses how MMS derived the data and adjusted for volume and price.

MMS' Methodology to Assess the Effect of the Revised Regulations on Royalties Was Reasonable

We believe that MMS' methodology to assess the effect of the revised regulations on oil and gas royalties was reasonable. However, states and tribes that we contacted expressed concern that the reports do not analyze data by individual state and tribe.

MMS' Methodology Was Reasonable

To assess the effect of the revised regulations, MMS compared actual royalty dollar and volume amounts reported to MMS for a current period (usually 3 months) with adjusted royalty dollar and volume amounts for comparable periods for each year back to 1985, the first year for which reliable automated royalty data were available. The most current period served as the base period to which previous years' data were compared. Because both volume and price are measurable factors that can be expected to affect royalties, MMS adjusted the past years' royalty data to account for them. MMS first adjusted past years' royalties so that the volumes associated with the royalties would be equal to the base year volume. Then, to adjust for price, MMS multiplied the royalties (already adjusted for volume) by oil and gas price factors calculated from data provided by the Department of Energy's (DOE) Energy Information Administration. Finally, MMS deducted actual processing and transportation allowances from the adjusted royalties. MMS compared the resulting data to detect changes in royalties after the revised regulations became effective. (See app. II for further explanation of MMS' methodology.)

We believe that MMS used a reasonable methodology to assess the effect on royalties from changes in the revised regulations in that it accounted for changes in the price and volume of oil and gas sold—the two measurable factors that could be expected to affect royalties. The House Committee on Appropriations also requested that DOE review and concur with the methodology used by MMS. In response, MMS prepared a report covering March 1988 to February 1989, in which DOE concurred with MMS' methodology. This same methodology has been used in subsequent reports.

Other factors besides price and volume differences have likely affected royalties because adjusted royalties varied before the revised regulations became effective. Although MMS officials believe such factors exist, they believe that identifying them would require analyzing data on a lease-by-lease basis, which would require a prohibitively large amount of resources.

Data Are Not Analyzed by Individual State and Tribe

States and tribes expressed concern that MMS' first three reports did not analyze the regulations' effect on royalties by land category, that is, by onshore, offshore, and Indian leases. In response to these concerns, MMS' fourth and subsequent reports have provided royalty data by land category.

States and tribes that we contacted also expressed concern that the reports do not analyze data by individual state and tribe. MMS officials said that adjusted royalty data could not be provided by state and tribe because oil and gas prices by individual state and tribe are not always available. MMS officials also said that the same factors that have likely affected royalties overall would likely affect a given state's or tribe's royalties. The revised regulations may increase royalties disbursed to certain states and tribes while decreasing royalties disbursed to others. Thus, the revised regulations may or may not be revenue neutral from an individual state or tribal perspective.

In performing this review, we held discussions with MMS officials and reviewed documents on the development of the 1988 product valuation regulations and the methodology used to assess the effect of the regulations on royalties. We also contacted DOE concerning its analysis of MMS' methodology. We did not verify the accuracy of the source data used in MMS' reports.

Finally, we discussed with representatives from four states (California, North Dakota, Utah, and Wyoming) and three tribes (Jicarilla Apache, Navajo, and Southern Ute) the potential effect of the 1988 regulations on individual state and tribal revenues. The states and tribes we contacted had not determined the regulations' effect on their overall share of royalties.

We conducted our review from February through April 1991 in accordance with generally accepted government auditing standards. We met with MMS officials in Lakewood, Colorado, and Washington, D.C., to discuss the facts in this report, which they agreed with. As requested, we did not obtain official agency comments on a draft of this report.

We are sending copies of this report to interested parties and will make copies available to others upon request. Please contact me at (202) 275-7756 if you or your staff have any questions concerning this report. Other major contributors to this report are listed in appendix III.

Sincerely yours,

James Duffus III

James Duffus III
Director, Natural Resources
Management Issues

Contents

Abbreviations

DOE	Department of Energy
GAO	General Accounting Office
MMS	Minerals Management Service

Adjusted Net Royalties by Land Category for 1985-90, March Through February

Dollars in millions

	Adjusted net royalties			
Time period	**Offshore**	**Onshore**	**Indian**	**Total**
3/1/85-2/28/86	$2,121	$557	$74	$2,752
3/1/86-2/28/87	2,304	536	86	2,926
3/1/87-2/29/88	2,450	533	76	3,059
3/1/88-2/28/89[a]	2,467	517	80	3,064
3/1/89-2/28/90	2,396	512	80	2,988

[a]The first period after the revised regulations were in effect.

Source: Minerals Management Service, First Quarterly Report of Fiscal Year 1991, Revenue Neutrality Under the Revised Oil and Gas Product Valuation Regulations - January 1991 (issued May 6, 1991).

Interior's Analysis of Royalty Data

To analyze the effect of the Department of the Interior's 1988 oil and gas product valuation regulations on royalties, Interior's MMS has prepared nine reports. These reports compare historical royalties back to 1985, adjusted for volume and price and net of allowances, with a current period, generally 3 months.

To determine adjusted net royalties, MMS used royalty data from its automated Auditing and Financial System. To adjust royalties for differences in volume in each time period, MMS multiplied the current period's production by the average unit royalty value for each time period. The average unit royalty value for each period was determined by dividing the royalties for each period by the volume of production upon which the royalties are based. By multiplying current production by historical average unit royalty value, MMS adjusted the historical periods' royalties for volume so that variability in volume would not affect the final analysis.

To adjust royalties for differences in price for each time period, MMS obtained the average monthly oil and gas prices for each period from the Monthly Energy Review published by DOE's Energy Information Administration. MMS calculated a price factor for each historical period by dividing the current period's average price by the historical period's average price. The resulting price factor for each year multiplied by the corresponding historical period's royalties adjusted for volume, as above, gave each year's royalties adjusted for price.

After adjusting for both volume and price, the current period's royalties should be on a comparable basis with historical royalties for comparison purposes. As a last step, MMS deducted actual transportation and processing allowances contained in its Auditing and Financial System from the adjusted royalties to determine adjusted royalties net of allowances.

In its first four reports, MMS adjusted allowances for volumes transported and processed before subtracting them from royalties adjusted for volume and price. However, MMS believed that this method provided misleading results, because allowance volume differences reported before and after implementation of the revised regulations were masked by making such adjustments. Therefore, starting with its fifth report, MMS subtracted unadjusted allowances from royalties adjusted for volume and price.

The resulting adjusted net royalties can be compared to analyze the effect of the revised regulations on royalties. However, other factors that are not readily measurable may affect royalties and cannot be accounted for in this type of analysis.

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