

# **Fiscal Accountability of the Nation's Energy Resources**



**January 1982**

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Commission on Fiscal Accountability  
of the Nation's Energy Resources

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David F. Linowes  
Chairman

January 21, 1982

Michel T. Halbouty  
Mary Gardiner Jones  
Charles J. Mankin  
Elmer B. Staats

The Honorable James G. Watt  
Secretary of the Interior  
Washington, D.C. 20240

Dear Mr. Secretary:

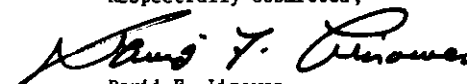
I am pleased to transmit to you the report of the Commission on Fiscal Accountability of the Nation's Energy Resources.

During the past six months, the Commission has investigated the serious allegations of massive irregularities in royalty payments due the Federal government, Indian tribes, and States; and the allegations of theft of oil from Federal and Indian lands. From the outset and throughout our deliberations, we have sought and obtained the active participation of all those having particular interests in our findings: State officials, Indian tribes, oil and gas companies, United States Geological Survey and others within the Department of the Interior, General Accounting Office, and committees of Congress, among others.

In its work, the Commission has maintained a position of independence and objectivity, giving full and balanced consideration to all points of view. We believe our findings give a comprehensive and fair analysis of the conditions and relationships that now prevail within and among the institutions involved in royalty management. It is the unanimous judgment of the Commission that if the accompanying recommendations are adopted, a major step will have been taken to bring full and proper accountability to the management of Federal royalties.

Participation in the work of the Commission has been a challenging opportunity to serve our Nation, and to join in the President's attack on fraud, waste and inefficiency in the Federal government. We appreciate having this privilege.

Respectfully submitted,

  
David F. Linowes  
Chairman



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January 21, 1982

Michel T. Halbouty  
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Charles J. Manick  
Emer B. Steals

The Honorable Edwin L. Harper  
Assistant to the President  
Chairman,  
*Council on Integrity and Efficiency*  
The White House  
Washington, D.C.

Dear Mr. Harper:

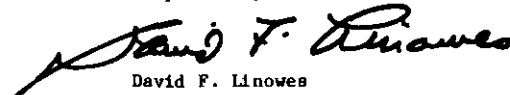
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Respectfully submitted,

  
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Chairman

## COMMISSIONERS

### David F. Linowes (Chairman)

Mr. Linowes is the Boeschstein Professor of Political Economy and Public Policy at the University of Illinois, and was Chairman of the U.S. Privacy Protection Study Commission from 1975 to 1977. He is former Chairman of the Trial Board, American Institute of Certified Public Accountants, and has headed economic development missions to Turkey, India, Greece, Pakistan, and Iran on behalf of the U.S. Department of State and the United Nations.

### Michel T. Halbouty

Mr. Halbouty is an independent oil producer and operator and holds advanced degrees in both geology and petroleum engineering. He has served as President of the American Association of Petroleum Geologists.

### Mary Gardiner Jones

Ms. Jones is a former Federal Trade Commissioner and is President of the Consumer Interest Research Institute. Currently she is Vice-President for Consumer Affairs for Western Union Telegraph Co. Ms. Jones is a lawyer and has served with the Department of Justice in New York City.

### Charles J. Mankin

Mr. Mankin is Director of the Oklahoma Geological Survey, Executive Director of the Energy Resources Center, and Professor of Geology at the University of Oklahoma. He was President of the American Geological Institute, and Chairman of the Board of Mineral and Energy Resources of the National Academy of Sciences.

### Elmer B. Staats

Mr. Staats was Comptroller General of the United States from 1966 to 1981. Previously he served as Deputy Director of the Bureau of the Budget and Executive Director of the Operations Coordinating Board of the National Security Council.

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Mr. Elkins has served for more than ten years as a senior manager in the Federal government. He has a degree from Yale Law School and is a member of the District of Columbia Bar.

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<sup>6</sup>On loan part-time from the U.S. Office of Management and Budget

<sup>7</sup>On loan part-time from the National Park Service, U.S. Department of the Interior

## TABLE OF CONTENTS

Preface .....	xi
Summary .....	xv
CHAPTER	
1 Introduction .....	3
2 The Problems .....	13
3 Internal Controls .....	43
4 Site Security .....	83
5 Enforcement .....	99
6 States and Indian Tribes .....	115
7 Organizational Issues .....	141
8 New Approaches to Royalty Management .....	165
9 Summary of Recommendations .....	237
APPENDICES	
A Charter of the Commission .....	271
B Witnesses Who Testified at Commission Hearings .....	275
C Congressional Hearings .....	285
D Selected Previous Studies of Royalty Management .....	291
E Selected Audits of Federal and Indian Leases .....	305
F Source and Disposition of Royalties .....	313

## PREFACE

### TABLE OF CONTENTS (CONTINUED)

G	Responsibilities of the Conservation Division, USGS .....	321
H	Responsibilities of the Bureau of Indian Affairs .....	325
INDEX .....		331

The Commission on Fiscal Accountability of the Nation's Energy Resources has completed the tasks established for it in its Charter of July 8, 1981. Those tasks were:

- ° To examine the allegations of massive irregularities in royalties on the Nation's energy resources which are owed to the Federal government, Indian tribes, and States;
- ° To investigate the allegations of theft of oil from Federal and Indian lands; and
- ° To make recommendations for improving fiscal accountability of the Nation's energy resources.

The Commission's findings and recommendations are set forth in this report. Each of the recommendations was adopted unanimously by the Commission.

The Commission could not have completed its work on these complex and urgent matters in a timely fashion without the active cooperation of a great many people and institutions. Throughout the life of the Commission, our activities were coordinated with the President's Council on Integrity and Efficiency in Government. We received unstinting help from the Department of the Interior; from other government agencies, such as the General Accounting Office, the Internal Revenue Service, and the Office of Management and Budget; as well as, from Members of Congress and their staffs.

The Commission was also aided immeasurably by States, Indian tribes, the oil and gas industry, and private citizens who appeared before the Commission at five sets of comprehensive public hearings. Many of those testifying provided followup assistance as well.

We are also indebted to scores of other individuals who gave their time and professional expertise. We particularly want to recognize the competent contributions and unfailing assistance of William L. Kendig, Director of Financial Management of the Department of the Interior, and Wiley W. Horsley, Jr. and Richard E. Powers of that office. Milton J. Socolar, John F. Simonette, Jeffrey C. Steinhoff, and Darby W. Smith of the General Accounting Office were most responsive to the Commission's needs. Dallas L. Peck, Doyle G. Frederick, R. Michael Gall, and J. Ronald Jones of the U. S. Geological Survey all cooperated generously and graciously.

Our staff, led by its Executive Director, Charles L. Elkins, performed with unusual devotion to our demanding schedule. Our sincere appreciation to each of them.

Finally, the Commission wishes to acknowledge that much of its effort rests on a body of work on oil and gas royalty management completed over the last twenty years by the General Accounting Office, the Department of the Interior, and various Congressional committees.

The Commission's charge broadly covers the Nation's energy resources, which include hard mineral energy resources such as coal and uranium as well as oil and gas. We are aware of problems in the management of coal and uranium royalties, and these are briefly addressed in Chapter Eight of this report. But for the present and the near future, oil and gas are dominant, providing 97 percent of the royalties from Federal and Indian energy resources. For this reason, this report essentially is focused on oil and gas.

The Commission has viewed its efforts as contributing to the prudent management of the country's energy resources, and to stopping any loss of revenues rightly due to the Federal government, the States, and Indians. Equally, we recognize that democratic institutions rest on a foundation of faith in the competence and accountability of government. We believe that the measures recommended by this Commission can help to strengthen that faith.

David F. Linowes  
Chairman

## SUMMARY

Management of royalties for the Nation's energy resources has been a failure for more than 20 years. Because the Federal government has not adequately managed this multibillion dollar enterprise, the oil and gas industry is not paying all the royalties it rightly owes.

The government's royalty recordkeeping for Federal and Indian oil and gas leases is in disarray. For this reason, the exact amount of underpayment is unknown. The results of individual audits, which have often uncovered large underpayments, suggest that hundreds of millions of dollars due the U.S. Treasury, the States, and Indian tribes are going uncollected every year.

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

The Nation can no longer afford mismanagement of royalties for its energy resources. The stakes are too high. With the rapid escalation of energy prices, oil and gas royalties have risen from less than \$500 million in 1971 to more than \$4 billion in 1981.

The government's royalty management system needs a thorough overhaul. This report of the Commission on Fiscal Accountability of the Nation's Energy Resources details 60 specific recommendations (listed in Chapter Nine of the report) for revising and rebuilding the system. Underlying these recommendations are some fundamental conclusions the Commission reached in the course of its intensive inquiry:



- ° The government's royalty management system must have qualified managers. The scientifically oriented Geological Survey, which now manages royalties, has never been able to supply the active, sophisticated management that is needed. It is largely for this reason that the Commission recommends removing the royalty management function from the Geological Survey. In a separate office with a clearly defined mission, royalty management could attract managers with the training and experience required.
- ° The Federal government should work more closely with States and Indian tribes. In fulfilling its royalty management responsibilities, it should cooperate much more than it has in the past with States and Indian tribes, sharing both information and specific tasks, such as auditing and site inspection.
- ° The Federal government should perform an oversight role. It must not waste its limited resources on tasks that are industry's responsibility. In managing royalty collection, it should not remain mired in bookkeeping details that rightly belong to the lessee. Instead, it should develop systematic, independent cross checks of royalties paid and reports submitted by companies, and it should impose meaningful penalties for false statements or gross errors. In helping to prevent theft, the government should not issue detailed, rigid regulations for security of lease sites. Rather, it should monitor the companies' performances in carrying out their own site security plans and should penalize violations.
- ° The oil and gas industry should carry out its obligation, as lessee, to pay royalties in full and on time. The industry, not the government, has primary responsibility for the detailed record-keeping needed to assure that all royalties are

paid. The industry also has the obligation to assure the security of lease sites. The industry, not the government, is best suited to develop effective site security plans, subject to the government's minimum standards.

If there is one concept that sums up the Commission's overall approach, it is accountability. Oil and gas companies must be held accountable for the obligations they undertake when they lease Federal and Indian lands for minerals production. The Federal government must be held accountable for fulfilling a public trust, that is, assuring that royalties for the Nation's energy resources are fully and fairly collected on behalf of the people of the United States.

The Federal government has not fulfilled this trust in the past 20 years. It is now taking steps to better its performance. Complex and demanding as the task may be, it is achievable if the internal controls, site security standards, and sanctions recommended here are made part of an improved royalty management system.

# CHAPTER ONE

## **INTRODUCTION**

# CHAPTER ONE

## INTRODUCTION

In 1981, the Federal government collected more than \$4 billion in royalties on oil and gas produced on Federal and Indian lands. As energy prices rise and the leasing of Federal lands accelerates, royalties will multiply.

Serious questions have been raised concerning the management of these royalty collections:

- o Is the Department of the Interior collecting all of the royalties which are owed by those who lease Federal and Indian lands for energy resource development?
- o Are Federal and Indian lease sites adequately protected to prevent the theft of oil?
- o If not, what corrective actions should be taken?

These, in essence, were the questions which the Commission on Fiscal Accountability of the Nation's Energy Resources was charged with answering.

In particular, the Commission was asked to investigate allegations of underpayment of royalties due to Federal and Indian landowners and the theft of oil from these lands, and to recommend changes to resolve problems which may exist. This report presents the Commission's findings and recommendations for corrective actions.

Underpayment of royalties is a longstanding concern, emerging repeatedly in government reports and audits over the last two decades. The General Accounting Office, the Interior Department's Office of Inspector General (formerly the Office of Audit and Investigation), the U.S. Geological Survey, and witnesses before Congressional committees and this Commission all have documented serious defects in the government's royalty collection system which have resulted in losses of revenues. More recently, outright physical theft of oil from Federal and Indian lands has come to light, raising serious doubts about the adequacy of site security measures.

Many aspects of royalty management are inherently difficult: complex price controls, complications introduced by the Windfall Profit Tax, division of responsibilities for lease management among various agencies, rapid growth in the production and value of the minerals, and an increasing number of widely scattered leases. The Commission recognizes that, given these complexities, no agency could perform perfectly. Nevertheless, major improvements in the Federal royalty management program should and can be undertaken.

Budget cuts and belt tightening by the Federal government underscore the importance of proper collection of royalties. While there is no way to measure accurately the revenue losses due to undercollection of royalties, some estimates place the loss as high as several hundred million dollars a year.

Effective collection of royalties has always been, and continues to be, an important matter of equity and good government. But the escalation of oil and gas prices has sharpened the issue in a very practical way. The barrel of oil that cost less than \$3 in 1971 is now selling for more than \$30. Federal oil and gas royalties have increased in much the same proportions, from less than half a billion dollars in fiscal year 1971 to an estimated \$5 billion in

fiscal year 1982. The Department of the Interior estimates that oil and gas and other mineral royalties could amount to more than \$8 billion in fiscal 1985 and well over \$14 billion in 1990.\*

At the same time that high oil prices have raised the value of the Federal and Indian resources, they have also increased the temptations for theft. For example, a few minutes spent loading a 100-barrel tank truck at an unsecured lease site could be worth as much as \$3,000 to a thief. The rewards for improper reporting of sales (or "paper theft") can be even higher, with less effort and risk on the part of the thief.

#### THE CONCERNS OF STATES AND INDIANS

States and Indian landowners have an important stake in the full and correct payment of royalties. States share half the royalties for mineral resources produced on Federal lands within their borders (Alaska receives approximately 90 percent). In fiscal year 1980, the States' share of royalties for onshore leases was \$315 million; Wyoming, the biggest beneficiary, collected \$115 million. Twenty-three States now share royalties from Federal onshore lands, using the money to provide essential government services.

Moreover, the States benefit from the \$900 million Federal Land and Water Conservation Fund. This fund

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\*On January 5, 1982, the U.S. Geological Survey revised downward its projections of future royalties, from \$6.5 billion in 1982 to \$5 billion, and from \$22 billion in 1990 to \$14.6 billion. This report uses the newly revised forecasts. The figures are for gross royalties, which include the Windfall Profit Tax.

is financed each year by a portion of Federal revenues from offshore oil and gas. The States receive grants from the fund to cover part of the cost of acquiring and developing recreation projects.

Indian tribes and individual Indian landowners (allottees) receive 100 percent of the royalties derived from mineral resource leases on their lands. These minerals, especially oil and gas, are today the most valuable property on Indian trust lands, and are highly significant sources of income to their owners. In fiscal year 1980, the Bureau of Indian Affairs reported that 33 tribes received \$164 million in oil and gas revenues and \$33 million in revenues for other minerals (such as coal, copper and uranium). By contrast, all of the 300 federally recognized tribes received \$117 million for forestry rights and \$55 million for grazing and other surface rights in 1980.

The Federal government shares the concerns of Indian landowners in the prudent management of their energy resources. Moreover, the Federal government has a special responsibility as trustee for proper management of Indian natural resources. However, concern about underpayment of royalties and oil theft has risen sufficiently among Indian landowners that several tribes have engaged their own investigators, technicians, and lawyers to protect what they consider to be their rightful claims.

The States, too, are anxious about the adequacy of the Federal government's royalty management effort and what the implications are for their share of the revenues. California has brought suit against the Federal government, demanding an accounting of royalties back to 1920, and the establishment of a more reliable royalty management system. Ten other States--Colorado, Arizona, Utah, New Mexico, Idaho, North Dakota, South Dakota, Montana, Nevada and Washington--have supported California as friends of the court.

Committees and Members of the Congress have been expressing concern. Within the last year, five Congressional committees and subcommittees probed the related issues of underpayment of royalties and oil theft.\* The news media--press, radio, and television--have also aired the allegations.

#### WHO HAS THE RESPONSIBILITY?

In the Mineral Leasing Act of 1920, the Congress assigned the responsibility of managing the development of mineral resources on public lands to the Department of the Interior. The Bureau of Indian Affairs (BIA) and the Bureau of Land Management (BLM) are in charge of leasing these lands for exploration and development. The U.S. Geological Survey (USGS)--specifically, the Survey's Conservation Division--oversees actual operations on the lease site. With regard to royalty management for oil and gas, the Conservation Division:

- Obtains reports on lease production, sales, and royalties paid;
- Collects and records royalties paid and due; and
- Monitors the lessee's activities for site security and production verification.

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\*Senate Select Committee on Indian Affairs; Senate Energy and Natural Resources Committee; House Committee on Government Operations, Subcommittee on Commerce, Consumer and Monetary Affairs; House Committee on Interior and Insular Affairs, Subcommittee on Mines and Mining, and Subcommittee on Oversight and Investigations.

The funds are placed in U.S. Treasury accounts and then are disbursed by the BIA and BLM to the Indians and the States. The Federal share remains in the U.S. Treasury.

#### HOW THIS REPORT IS ORGANIZED

Chapter Two of the report outlines the current problems of royalty collection and theft which have aroused government and public concern, and which led to the establishment of this Commission. The chapter is based upon the record before the Commission, including five sets of hearings with testimony from 129 witnesses; several onsite inspections; and reviews of major reports and additional material from the General Accounting Office, audits and other reports by the Department of the Interior, and hearings and reports by Congressional committees.

The remaining chapters deal with the Commission's findings and recommendations:

- Chapter Three: Internal Controls
- Chapter Four: Site Security
- Chapter Five: Enforcement
- Chapter Six: States and Indian Tribes
- Chapter Seven: Organizational Issues
- Chapter Eight: New Approaches to Royalty Management
- Chapter Nine: Summary of Recommendations

#### Introduction

These chapters weigh the testimony of the many knowledgeable people who appeared before the Commission, and consider proposals made in previous reports. They draw on the valuable advice of States and Indian tribes which have had experience in royalty management.

Each of the chapters presents recommendations for actions by the Executive Branch and the Congress to assure proper accountability of the management of the Nation's energy resources.

## CHAPTER TWO

### **THE PROBLEMS**

## CHAPTER TWO

### THE PROBLEMS

#### THE ROYALTY COLLECTION SYSTEM

Because of serious inadequacies in management, the Federal government is failing to detect underpayment of oil and gas royalties. As a result, the industry is not paying the full share of royalties it rightly owes for oil and gas removed from Federal and Indian lands.

Most of the scores of witnesses and dozens of documents examined by the Commission during its six-month inquiry concurred with the view set forth above. An exception was the oil industry. None of the industry witnesses agreed that underpayment of royalties is a significant problem. Industry witnesses did agree, however, that the Federal government's present system of royalty collection is in need of improvement.

The amount of underpayment is uncertain, since the government's royalty records are too unreliable to provide an overall estimate. Figures of about one hundred million to several hundred million dollars a year were suggested by officials of the Interior Department (the Inspector General and the Acting Director of the Geological Survey) and the Acting Comptroller General of the United States. But these estimates rest on a small base--individual audits that have been conducted by government agencies and a private company. The exact amount of money the Federal government, the States, and the Indians lose each year is unknown.



To recognize that royalty underpayment exists is not to say that oil and gas companies intentionally defraud the land owners. Underpayment often results from a defensible interpretation of a complex set of rules. Several witnesses before the Commission suggested that oil and gas companies may take the same approach that most people do with their taxes: where there is a doubt, they interpret the rules to their own advantage, guarding against overpayment.

But there are important differences between the way the Federal government collects taxes and the way it collects royalties. Taxes are paid to the Internal Revenue Service, which has a mature, sophisticated collection system; which withholds taxes through employers; which routinely cross checks taxpayers' returns and flags anomalies for possible audit; and which imposes interest and penalties--even criminal penalties--if taxpayers stray too far from the proper amount.

Oil and gas royalties are paid to the U.S. Geological Survey, an agency which is scientific in origin and outlook; which has not precisely defined or consistently applied a complex set of rules for calculating royalties; and which is overwhelmed with detailed recordkeeping on a rising number of leases and a proliferation of co-owners of leases.

The last point is a key one: the breakdown in Federal oil and gas royalty management is due in no small part to the Geological Survey's attempt to conform its royalty recordkeeping with the industry practice of dividing and subdividing ownership in leases, which means that the USGS accepts payments from a multiplicity of payors on one lease.

The Commission's inquiry focused on steps the U.S. Government should take to identify underpayments and collect royalties in full and on time. In their testimony and reports, USGS officials frankly acknowledged defects in the present royalty management

system. They described difficulties burdening the system, some of them not of the Survey's making--for example, the complications of fixing fair market value as a basis for royalties, the existence of varying royalty rates, and the proliferation of interests (ownership shares) on single leases. They emphasized that the Survey is planning a major overhaul of the royalty management system. The new system is not yet in operation in any of its phases, nor is it completely designed. At best, it will not be in full operation until 1984.

Because most of the Geological Survey's new royalty management system is still in the planning stage, the description in this chapter of major problems is based on the system as it operates now and has operated for decades. The major shortcomings of the present system are as follows:

- The USGS system does not verify data reported by the oil and gas companies;
- The Survey's lease account records are so unreliable that the agency often does not know which companies have paid the royalties they owe and which have not;
- Late payments are common;
- Lessees' records are seldom audited or critically reviewed; and
- Penalties for underpayment of royalties scarcely exist.

In short, the industry is essentially on an honor system.

Amount of Underpayment

Ten percent is often given as a rough estimate of the underpayment of oil and gas royalties. The source for this figure is the General Accounting Office's 1979 report on royalty collection. The report said: "Although we could not determine the exact amount of additional royalties the Geological Survey could collect by performing account reconciliations and audits, the examples disclosed during our review plus the experience of a large private oil and gas company which audits oil and gas leases led us to believe that additional royalties can be collected. Audits conducted by the private oil and gas company show that royalties due are normally understated by 7 to 10 percent." In its 1981 report, GAO said: "[H]undreds of millions of dollars owed the government may be going uncollected each year."

Some witnesses before the Commission called the 10 percent figure too high. Richard Mulberry, Inspector General, Department of the Interior, cited recent audits of all the Federal and Indian leases held by two major oil and gas companies. One of the audits revealed royalty underpayments of \$10 million over 6-1/2 years, or 7 percent of the royalties paid, and the other, negligible losses. On this basis, Mr. Mulberry suggested that a royalty loss rate of 3-1/2 percent would probably be more accurate than 10 percent.

Nine major audits of offshore gas leases done by the Office of the Inspector General (or its predecessor, The Office of Audit and Investigations) from 1977 through 1979 revealed underpayments of \$11.1 million.\* In the five cases for which royalties actually

\*An assessment of \$484,000 in one of these cases was later overturned by the Interior Department's Office of Hearings and Appeals; three other cases are currently on appeal. In one of the nine cases, the audit showed a net overpayment of \$78,000 due to overcharges to customers.

paid on the leases were recorded in the audits, underpayments amounted to 46 percent. (Royalties paid on the leases in these five cases were \$24 million; additional royalties assessed after the audits were \$10.9 million.) It should be noted, however, that these leases were specially selected for audit. An overall review of the Geological Survey's handling of royalties on offshore oil and gas leases (done by the Office of Audit and Investigations earlier in 1977) had pinpointed undervaluation of gas as a probable important cause of royalty underpayments.

Lease reviews conducted by the Geological Survey have also disclosed a number of cases of substantial royalty losses. The largest was an underpayment of \$12 to \$13 million on two years' production of offshore gas.

None of the oil and gas company officials appearing before the Commission could offer an estimate of overall revenue losses due to underpayment. Instead, they discussed individual cases, some of which involved clerical or accounting errors, and others, differing interpretations of the rules for determining "fair market value" of oil and gas.

Other witnesses pointed to individual cases as evidence of substantial underpayments. The Shoshone and Arapahoe Tribes of the Wind River Reservation in Wyoming ordered an audit of several royalty accounts after oil thefts from the reservation were discovered. Subsequently, three major oil companies were found to have underpaid more than \$1 million in royalties over periods of one to nine years.

Wyoming officials are conducting audits of some of the oil and gas operations on Federal lands in the State, in cooperation with the Casper USGS Office. At an early stage of the program, auditors had already collected \$1.3 million in additional royalties.

On the subject of the extent of royalty underpayment, Don Kash, former Chief of the U.S. Geological Survey's Conservation Division, concluded:

The precise figure is probably both impossible to determine and in fact not terribly relevant. I have talked with no one who has looked, even in a cursory way, at the present accounting system who does not agree that substantial royalties are going uncollected. It certainly was our experience every time we looked at an individual case that we found major inadequacies. In almost every instance, the findings resulted in additional royalty monies being collected by the Geological Survey.

#### Keeping the Records Straight

The oil and gas lease accounts kept by the USGS are in disarray. Of the Survey's 26,769 total accounts, 19,487 had balances in 1980; about half showed underpayment of royalties, and the other half showed overpayment. But the balances (in both directions) are mostly erroneous. The accounts are so out of date and filled with errors that, as the USGS itself has said, the balances shown are virtually worthless. They cannot indicate whether companies and individuals holding interests in leases owe royalty payments, and if so, whether payments are overdue.

Some of the confusion in USGS royalty records reflects the fact that, in essence, the Survey has taken over a mammoth bookkeeping job from the industry, and has not been equal to the task. Under Federal and Indian leases, the lessee has the contractual obligation to pay royalties, fully and accurately, when due. It is

customary in the oil business to split up shares in leases and common to trade them frequently. The USGS accepts royalty payments, not just from the lessee or his agent, but also from any owner of an interest in the lease and also from other parties such as purchasers.

Under the present system, the USGS keeps its royalty records primarily on the lease as a whole; but very often, payment is made not on the lease as a whole, but by individual interests or other smaller units. Consequently, if royalties for a particular lease are underpaid, the USGS has no way of knowing which party is responsible (except by expensive time consuming after-the-fact audit). As many as 650,000 separate payments are possible. Thus the possibilities for confusion abound.

Moreover, because shares in leases change hands frequently and are not always reported, the USGS often does not even know who all the payors are on a lease. Auditors for the State of Wyoming, cooperating with the USGS in reviewing Federal leases in that State, are finding that "lost" payors are an important cause of nonpayment of royalties.

The situation has been likened to one where an apartment house owner collects rent from all his tenants, in cash, in one receptacle. If there is a shortage in the total cash collected, the owner will have great difficulty in determining who owes. In fact, the situation with oil and gas royalties is worse, for the Survey usually does not know whether there is a shortage in the money collected, much less who owes.

The confusion is compounded by errors in posting. The system now in use by the USGS still relies heavily on manual entries into its lease records, which gives rise to many errors (for example, credits to the wrong lease). Files and records are not kept

up to date. In addition, and most fundamentally, the USGS records are based upon unverified sales and royalty statements submitted by the lessee or other payors. (This problem is discussed in following sections.)

Considering the problems outlined above, it is not surprising that the USGS has been unable to assure that payments are made on time. The GAO estimated that in 1980 interest losses to the Federal Treasury due to late royalty payments were at least \$1.6 million. (Total mineral royalties collected that year were \$2.7 billion.)

Only recently has the USGS attempted to require prompt payment of royalties and to assess interest on late payments. For offshore leases, the Survey began to charge interest on late payments in September 1980. In July 1981, the USGS levied its first interest charge for late payments for onshore leases.

#### Unverified Production and Sales Data

A fundamental defect of the USGS system is that it does not verify the operators' reports on how much oil and gas they have produced and sold. Audits of individual leases show that underreporting of production may be a substantial factor in royalty losses.

The nine audits of offshore gas leases conducted by the Inspector General's Office in the late 1970's turned up two cases in which production volumes were understated, resulting in underpayments of \$172,000. In 1973, one USGS office analyzed 10 percent of its leases to verify production reports, and collected an additional \$362,000.

These cases of underreporting appeared to be accidental. But they demonstrated the government's lack of protection against errors and the potential for deliberate understatement.

There are opportunities to cross check data provided by the lease operator (i.e., the company or person actually producing the oil or gas) with information from other, independent sources. For example, observations by the USGS inspectors who periodically visit producing fields could be checked against production data submitted by the operator. Another possible source of independent data is the monthly statements compiled by many purchasers of oil and gas, which could be matched against the operators' production and sales reports. In addition, the company's own sales reports could be routinely compared to its production reports. A well-planned USGS program could make use of existing, but neglected, paper trails. Chapter Three of this report looks at the options in detail. Here, a brief description of a few missed opportunities may help to illustrate the problem.

Surprisingly, a cross check of two sets of company-furnished data--those for production and those for sales and royalties--can sometimes flag anomalies. Often, two quite separate branches of an oil or gas company prepare these two reports, so that entries in one may not necessarily match those in the other. A GAO review of one lease, for example, revealed that reported gas production did not equal reported sales; after investigation, the USGS was able to collect \$156,000 in additional royalties. Also, a comparison of company production and sales data led an investigator for the Shoshone and Arapahoe Tribes to the discovery that a major oil company had underpaid the tribes \$264,000 in royalties for 1980. (This was one of the three cases of underpayment on the Wind River Reservation, mentioned above.)

In another of the Wind River cases, observations by a field investigator triggered an examination of production, sales and royalty records, which showed that a major oil company had produced 450,000 barrels of oil from certain Indian tribal wells over 9 years, without paying royalties to the tribes. (In this case, the company said it had paid royalties to the wrong parties.) The tribes were later offered \$750,000 in compensation for lost royalties.

"Tribal investigators have uncovered literally hundreds of thousands of dollars of unpaid royalties simply by finding inconsistencies in the reports already on file with the USGS," said representatives of the Shoshone and Arapahoe Tribes. "This sort of reconciliation could and should be done by computer."

The payment discrepancies uncovered by audits and investigations point to inadequacies in the procedures of the oil companies, as well as that of the USGS. In particular, oil and gas companies seem to have difficulty in keeping abreast of changes in lease and royalty owners. In the case just mentioned, the company failed to observe, from 1972 to 1981, that the Shoshone and Arapahoe Tribes had withdrawn from an agreement to unitize the oil field in question (i.e., produce from several leases in one operation, and divide the proceeds among all the owners of interests in the several leases). Actually, the company had been told of the situation 11 years earlier, in 1970, when the USGS warned that the tribes had withdrawn from the unit arrangement and were failing to receive their royalties.

#### Fair Market Value

In 11 major audits conducted by the Interior Department's Office of Inspector General, undervalu-

ation of natural gas was the largest factor in royalty underpayments. Because of the growing importance of natural gas as a source of royalty income, proper valuation of gas is especially important. In 1980, gas accounted for 56 percent of all energy mineral royalties on Federal and Indian lands. According to Interior Department projections, it will contribute approximately 75 percent by 1990.

Federal and Indian royalties on oil and gas are based on "fair market value," which cannot be less than the sales price and may be more. The complexities of establishing this value leave a wide latitude for differing interpretations. The USGS routinely accepts the oil and gas companies' valuation of the product on which royalties are paid.

A major problem in setting fair market value for oil and gas is that large, vertically integrated companies in effect sell to themselves. These companies produce crude oil or natural gas, transport it, process it, and sell it, often to the final customer. The USGS rules require that integrated companies calculate royalties on crude oil or gas sold within the company on the basis of "market value," equal at least to what an independent buyer would pay.

Government price controls and longterm contracts for natural gas add complications. Oil price controls were lifted by President Reagan in January 1981, but natural gas price controls for interstate sales still exist and are scheduled to last until 1985. The controlled prices differ greatly according to the date production began, with old prices far below current prices. Likewise, old prices are frozen into some longterm gas contracts even where price controls do not apply. There are currently 27 different controlled prices for interstate sales of natural gas, a situation which allows many differences in interpretations of value.

The existence of "old" and "new" prices makes it especially difficult to establish a fair market value for sales within vertically integrated companies. For example, one such company, allowed for several years to set its own valuation for sales to its own refinery of natural gas it had produced, was later audited and charged with \$2.2 million of royalty underpayments over ten years from 1966 to 1976. The underpayment amounted to about 30 percent of royalties actually paid (\$6.9 million).

The allowance of deductions for certain expenses adds to the difficulty of setting fair market value. For example, companies may deduct from the fair market value the costs of transporting oil or gas to a point of sale off the lease; or they may deduct the costs of processing natural gas, that is, removing liquids and impurities. A review of allowable costs for processing natural gas was the one, mentioned above, which led to the recovery of more than \$12 million for two years' royalty payments on offshore gas leases.

Since 1977, the USGS has used for some gas sales a simpler method of determining the quality of gas for valuation purposes, based on the thermal (BTU) rating of the gas. This method is not problem free, however. For example, one major gas producer failed to test the BTU rating of a gas well for nine months after it began to produce. When the gas was finally tested, it proved to have a higher rating than the norm on which royalties had been based.

In commenting on valuation of oil and gas, industry representatives tended to discuss specifics of cases in which their companies' valuations had been challenged in audits. They expressed some concern, however, on a lack of guidance from the Geological Survey on pricing. William K. Dietrich, for example, Manager, North American Production, Conoco, commented on a "lack of consistency in guidelines and instruction for royalty reporting between the various USGS areas as well as personnel within the same area

office." Glenn E. Downing of Conoco, enlarging on the point, said that "retroactive ruling as to price [which] may vary from one region of the Survey to another" increases the companies' work burden. Harrauld H. Lines, Vice President, El Paso Natural Gas Company, referring to the case in which offshore gas producers were assessed \$12 million in royalty underpayments, said that the producers had asked both the USGS and the Federal Energy Regulatory Commission for guidance on allowances for gas pricing, but had not received it.

#### Audits and Lease Reviews

Because the USGS has no routine systematic controls for cross checking operators' reports with other data, it has relied almost entirely on after-the-fact audits to serve the purpose of verifying the companies' reports. Yet these audits have been infrequent and unsystematic. They have not sufficed.

The Geological Survey Manual (written in response to the 1972 GAO report criticizing the royalty management system) recommends that the USGS perform audits of its lease accounts on a regular schedule--from once every year for large accounts down to once in five years for small ones. The USGS audits and lease reviews are in fact far less frequent. In fiscal 1980, for example, only 5 percent of lease accounts were examined; however, the few audits and lease reviews were beneficial. They identified \$7.7 million in unpaid royalties.

The Interior Department's Office of the Inspector General is planning to supervise a four-year program to audit the 25 largest Federal and Indian payors, which account for 83 percent of the royalties collected. Two recent audits, one of El Paso Natural Gas Company and the other of Conoco (for natural gas production), led to claims of \$10,044,243 and \$572,498 in added royalties. These two audits took 10 staff

years of effort; they produced revenues equal to the amount needed to run the Office of the Inspector General, which employs 200 people, for one year. (In fact, the recovered royalties do not go to the Inspector General's Office, but go to the U.S. Treasury.) Mr. Mulberry said that if the audits continue to prove "cost effective," they will be pursued.

In addition to "look-back" audits of past accounts, a well-run royalty management system needs a continuing program of planned, systematic audits.

Several oil industry representatives suggested that the USGS did not perform audits regularly enough. Harrahd Lines, of El Paso Natural Gas Company, commented that the major private companies in the field conduct more frequent and more extensive audits of each other than the Survey does of lessees.

#### THEFT AND FRAUD

Whether oil theft is a serious widespread problem was a matter of disagreement in the Commission's hearings. The Commission concludes that oil thefts from Federal and Indian leases are occurring, that they deserve serious national attention, and that their exact extent and amount are unknown. Lax security at Federal and Indian lease sites is well-documented and is an open invitation to theft.

Reports of oil theft came to public notice in June 1980. A USGS inspector working in the Thermopolis, Wyoming area, stopped a tanker loaded with crude oil and asked for a "run ticket," which is evidence of rightful possession of the oil. The driver was unable to produce one. In the investigation that followed, four men were indicted on charges related to oil theft. All of them pleaded guilty, two for

theft of oil from the Wind River Reservation, one for stealing natural gas condensate from a Federal lease, and the fourth for mail fraud in connection with oil stolen from private land. The FBI and the Interior Department's Office of the Inspector General are now investigating other cases of oil theft and fraud in Wyoming.

Oil thieves have also been apprehended and convicted in Oklahoma, New Mexico, and Kern County, California. In Kern County, four men have been convicted of theft. So far, trials of three more men are pending, and the Kern County sheriff's office expects to make at least 15 to 20 more arrests. Some of the oil stolen in these cases came from Federal lands.

Following the reports of theft in Wyoming and attendant publicity, the USGS launched a crash inspection effort in September 1980 of all Federal and Indian leases. The USGS reported that by the end of November 1981, there had been 17,812 inspections, which found 6,095 violations of the Survey's rules. Of these, 4,986 (82 percent) were related to site security. The numerous serious breaches of site security found in the program underscored the point that abundant opportunity for theft exists on the 17,500 widely dispersed, often isolated leases on Federal and Indian lands.

#### Prevalence of Theft and Fraud

None of the industry spokesmen appearing before the Commission--officials of six major oil and gas companies and three large independent crude oil producers--believed that oil theft was widespread or significant. All were satisfied with their own arrangements for security against theft. They believed their interest in preventing theft was greater than that of the Federal or Indian landowners, because they collect seven-eighths of the proceeds from sales, while the

landowners collect one-eighth. (This argument is discussed further below.)

A number of witnesses were convinced, to the contrary, that oil theft is extensive. These witnesses, many with first hand experience in the field, included present and former employees of the Geological Survey, private security investigators, and representatives of some States and Indian tribes. They described a "new world" of marked changes in oil field practices which suggested theft was occurring: storage tanks were left unlocked; valves were not sealed; seals were tampered with; large amounts of oil suddenly appeared in waste oil pits and just as rapidly vanished; and more trucks were being seen in the field.

Some of these witnesses thought that oil theft is organized, at least informally, on a fairly large regional scale. Theodore Rosack, former head of the Denver office, Federal Bureau of Investigation, described organized thievery of oil field equipment, in which an "order" is placed for a particular item--a complete wellhead, for example--that may then be stolen in Wyoming and "ends up in Oklahoma being taken to what I believe to be a warehouse for stolen property." He mentioned that the Houston police department has recovered 75 to 100 different types of valves in one location. These valves are from several different States but "they end up in one spot."

Although crude oil is not identifiable and traceable in the same way as equipment, Rosack said that large scale theft is also occurring with crude oil. He added: "I am not talking about organized crime that you see on the TV shows. I am talking about criminals that are organized to the extent that they cross jurisdictional boundaries."

None of the witnesses before the Commission could offer an estimate as to amounts of oil that are being stolen, or royalties lost due to theft. Mr. Rosack told the Commission that he knew of a recent case

in which a medium-sized private oil company reported losses of \$70,000 worth of crude oil in one week. He estimated that such losses were equal to 6 percent of the company's production.

A former oil thief who turned State's evidence in Kern County, California, told the Denver Post that he had personally stolen or hired others to steal \$1 million worth of crude oil in a three-month period. And he was not alone. He said there were times when he was "Number 11 in line waiting to unload" in the yard of a broker who has since been indicted for receiving stolen oil, and is now awaiting trial. According to the Kern County sheriff's office, oil thefts in the county amounted to millions of dollars per year.

Private oil field security investigators estimated to the Denver Post that 2 to 6 percent of all crude oil produced in the United States is being stolen. The Denver Post quoted two industry representatives (officers of the Permian Basin Petroleum Association and the North Texas Oil and Gas Association) who thought that at least 3 percent and possibly as much as 6 percent of crude oil production is being stolen.

It should be noted that most of the discussion of theft before the Commission concerned oil (not gas) from onshore (not offshore) leases. Onshore leases produce less than 40 percent of the total volume of oil from all leases; royalties for oil from onshore leases amounted to \$649 million in 1981.

Whatever the total amount of stolen oil may be, losses can be serious from the point of view of individual owners. For example, for Indian tribes heavily dependent on oil revenues, the theft of oil and consequent nonpayment of royalties can be a serious financial blow.

On the other hand, even very substantial losses due to theft may be acceptable, from a cost effectiveness



point of view, to corporations which are among the largest in the world. Six oil companies are among the top ten industrial companies in the United States; their 1980 sales ranged from \$26 billion up to \$103 billion. By way of comparison, California, the most populous of the 50 States, had a budget of \$22.4 billion in 1980. For a company taking in \$25 billion a year, losses on the order of \$25 million, for example, would amount to only one-tenth of one percent of sales.

#### Motives for Theft

Testimony by oil company officials on theft mostly concerned thievery by outsiders, possibly with the collusion of an oil company employee such as a pumper. High oil prices supply the motive for this kind of theft. Moreover, it is easy to sell stolen oil. Oil is easily transportable; and in many States, documents showing legal ownership of oil are not required for sales to refiners, brokers, and reclaimers.

In some cases, purchasers may be in collusion with oil thieves. One of the four men convicted in the Wyoming oil theft cases was the president of an oil processing company (i.e., a reclaimer), who pleaded guilty to conspiring with an independent contract pumper to obtain oil stolen from various leases. In Kern County, California, an oil broker was indicted for receiving stolen property, and is now awaiting trial.

While it is true that the oil industry as a whole has more to lose from theft than Federal and Indian landowners, the same may not be true of an individual, dishonest operator. For example, the fractionated ownership of many onshore leases could provide the opportunity for a dishonest operator to sell oil illicitly, at the expense of the other interest

owners in the lease, and of the royalty owner as well. Suppose, for example, that an operator obtains a Federal lease and sells 95 percent of the interest in it to other parties, keeping only 5 percent for himself. He could then falsify the record of production on the lease, sell the oil, and keep 100 percent of the proceeds, rather than 5 percent less royalties.

The Windfall Profit Tax might also provide a motive for "insider" theft. In some cases, the tax may amount to as much as 70 percent of the "windfall profits." A dishonest operator wishing to escape the tax might falsify records and fail to report oil production and sales. Obviously, landowners (including the Federal government and Indian tribes) do not collect royalties on sales of oil which are not reported.

In a situation where the operator himself is dishonest, the argument that the "industry" has more interest than the Federal government in stopping theft does not apply.

#### Opportunities for Theft

Crude oil production is generally measured not at the wellhead, but at the point of sale. Oil is usually pumped from several wells into a battery of treatment facilities and storage tanks, where it is held until sold. Most leases with large production use a Lease Automatic Custody Transfer meter (LACT meter), which automatically measures the sale. On smaller production leases, measurements are done manually by gauging the depth of the oil in the tank before and after a sale (with adjustments for temperature, gravity and impurities).

LACT meters themselves are nearly tamper-proof. Automatic, sequentially numbered printouts from these meters are a basic record of production volume. However, oil may be diverted before it passes through the LACT meter, or before it is hand gauged, thus

understating production and leading to a loss of royalties. Diversions can be arranged in several ways: by pumping oil through an unsealed valve out of a tank and trucking it away; by installing pipes that bypass LACT meters; by emptying good oil into waste oil pits to be removed by a vacuum truck and carried away from the site.

The USGS rules are intended to guard against diversions of this sort. But the USGS crash inspection program of September 1980 to January 1981 showed the rules are often violated. For example, 24 of 25 violations found on the Wind River Reservation during the program involved the possible diversion of oil: 13 were for failure to have locks and seals on appropriate valves; 7 were for unauthorized connections of piping; and 4 involved excess oil in waste pits. A USGS Quality Assurance Team, which visited lease sites in Oklahoma, Colorado, Montana, and California in the fall of 1981 reported that Wyoming was by no means the worst area for site security. Team members said the Oklahoma area was "poor," and the problems were "pretty bad" in the Grand Junction, Colorado area as well.

Because most oil production is not measured directly but is derived, mostly from sales records, thefts of oil are more difficult to detect than thefts of many other goods. If oil is diverted and stolen before sales are recorded (either by LACT meters or by hand gauging), thefts in moderate amounts might well escape notice. The situation is analogous to that of a store where the storekeeper has a general idea, but no exact record, of his inventory. Leases where security is lax are like a store where the doors are unlocked and the window left open--and there is no precise way of knowing whether some of the stock is missing.

Further possibilities exist for "paper theft." If the run ticket (made out by the purchaser or his

agent) overstates the amount of impurities (basic sediment and water) in a truckload of oil, the value of the oil will be understated, and royalties will suffer correspondingly. Operators might show improper "corrections" to the volume of oil production officially reported. A dishonest operator might fail to report completion of the well, and thus skip paying royalties on the first days of production, when flow rates are often exceptionally high.

#### ENFORCEMENT

The present USGS royalty management system lacks fundamental enforcement tools. No royalty management system can work effectively without adequate monitoring for compliance with the rules and fair, consistent application of penalties for violations. Neither exists today.

Under the present system, the USGS imposes no penalties (beyond ordinary interest charges) even for gross, repeated underpayment of royalties. Failure to file reports has been penalized, but with no consistency. (One USGS area office was responsible for 93 percent of assessments for failure to file in fiscal 1981.) Nor has the USGS imposed any but a few scattered sanctions for serious, repeated violations of site security rules. As for monitoring, the present USGS system also fails the test. Field inspectors are too few, and many of them are inexperienced and untrained.

The need for adequate government inspection to oversee site security and thus deter theft is clear. Perhaps less obvious is the vital connection between field inspection and overall financial management (not necessarily related to fraud or theft). One of the field inspector's essential jobs should be to verify production: for example, to check producing

wells periodically and see that all are noted in the operator's monthly production reports; or, to check meters periodically and see that they are accurately measuring sales. The few detailed analyses that have been done of Federal and Indian leases show the magnitude of errors that field checks on production can reveal.

### Inspection

In 1982, there were 63 USGS field inspectors for 17,522 onshore leases and more than 55,000 wells. For the 1,240 offshore leases, there were 75 people performing inspections. The USGS is planning to hire 37 more petroleum engineering technicians for inspection of onshore leases. However, only about 20 percent of their time will be spent on checking site security and verifying production.

At present staff levels, inspections for security violations and improper practices are bound to be infrequent. Some remote leases may not be inspected even once, even briefly, in the course of a year. The Survey's planned increase to a force of 100 onshore inspectors will still leave each inspector 175 leases to visit, on the average, each year.

Assuming the USGS obtains enough staff and organizes staff time so that each lease site can be visited reasonably often, the Survey must still assure effective, systematic use of field inspector's reports. At present, the Survey's financial management system makes little use of field reports.

The GAO's 1979 report on USGS royalty collections recommended that field inspectors work with accountants in cases where inconsistencies in data are noted, or questionable activities are observed in the field. A 1981 report by GAO found "no indication

that field inspectors and accountants have worked together to verify production," or that accountants are "apprised of the results of field inspections." With the centralization of the USGS royalty payment system into one office rather than eleven, communication between inspectors and accountants could be more difficult than before.

At least some oil companies do employ field reports as part of their system of internal controls. Daily production data, figured from gaugers' reports and meter readings, are matched against run tickets. The data are also reviewed by several levels of production people, including engineers who know what the wells and the field should "make" (as oil men say) on the basis of well tests and the expected decline curve of production.

The USGS cannot, of course, analyze each lease in the detail that operators do. What it can do is to spot check company production data on a planned basis, and to set up clearly defined lines of communication between field inspectors and accountants and auditors.

Systematic cooperation between the two functions would help solve the problem reported by one USGS employee. "[I]f a field technician finds a problem in the field," he said, "we did not get to see any paperwork which would involve this problem until about two months later, and by that time we had so many other things to do that particular problem got lost in the shuffle."

Equally important is clear and consistent application of the rules, from the petroleum engineering technician in the field, up through district supervisors, area supervisors, and USGS headquarters.

The testimony before the Commission of some USGS field inspectors, and even of their supervisors, indicated that the man in the field may find himself on his own. He may not always be sure, in confront-

ing industry people who are violating USGS rules or possibly even committing a crime, that he has the backing of his superiors.

A field inspector in the Thermopolis, Wyoming area, was having trouble with a company which persisted in dumping fresh oil in waste pits, contrary to USGS regulations and to the inspector's warnings. In the pit, the oil was open to theft. It was also becoming too contaminated to go back into the tank and through the meter. The inspector wrote several Incident of Non Compliance (INC) notices. His district supervisor told the oil company to disregard the notices. The supervisor said he believed that application of USGS rules in this case was inappropriate.

A district engineer, also in Thermopolis, reported to his supervisor in the Casper area office numerous instances of finding reported basic sediment and water values too high, thus putting too low the value of the oil and the corresponding royalties. The supervisor apparently did nothing to follow up on the reports.

Some industry witnesses suggested that certain USGS rules are inconsistently applied, or impractical. In the Commission's judgment, the rules both for site security and for submission of production, sales and royalty statements can be framed to give fair, firm, consistent guidance, without imposing rigid, unnecessarily detailed requirements.

### Sanctions

It is remarkable that USGS royalty collection functions at all, considering that there are virtually no teeth to the system. If a taxpayer underestimates or fails to pay his taxes, for example, the Internal Revenue Service charges interest and may levy a penalty as well, depending on the degree of negligence or fraud involved.\*

In the royalty management system, meaningful penalties are rarely imposed, and even interest charges for late payment are a recent development. Until the Survey responded to GAO suggestions and began to charge interest (in 1980 for offshore leases, and in 1981 for onshore leases), lessees were able to pay months late with no interest at all--a remarkable privilege in a time of recordbreaking high interest rates. Interest charges, it should be noted, are not truly a penalty. They are an ordinary cost of borrowing.

At present, the government's legal authority to impose sanctions for late payment or nonpayment is limited. The same is true for infractions of lease security rules. Thieves may be prosecuted under Federal and State criminal laws, but violations of site security rules which leave the lease open to theft are simply noted in INC's (Incidents of Non Compliance).

Strictly speaking, there is no provision for civil penalties for failing to comply with USGS rules

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\*Civil penalties range from one-half of one percent per month (to a maximum of 25 percent) for failure to pay the amount shown on the tax return, to 50 percent for fraud.

for onshore leases, but only for "liquidated damages." The present limits to damages are low (\$50 a day per violation on a Federal lease, and \$500 a day on Indian leases), and actual assessments of damages by most USGS offices have been negligible. According to USGS data provided to the Commission, only one USGS area office is currently assessing more than token damages for infractions of royalty management rules. Assessments for violation of site security rules scarcely exist.

From October 1, 1980 to September 30, 1981, the Survey assessed liquidated damages of \$371,271 on Federal onshore leases, and \$40,550 on Indian leases. Ninety-three percent of these assessments were made by one USGS office (Roswell); most were for failure to file production and sales reports, or for repeated late filing. Civil penalties assessed on offshore leases totalled \$388,000 in fiscal 1981; none were related to royalty management or site security.

As reported by USGS, all of the other Survey offices assessed damages totaling only \$19,271 on Federal leases, and \$9,050 on Indian leases, for fiscal 1981. Of all the damage assessments, a total of only \$150 was reported for site security violations (for three cases of broken seals, at \$50 per violation.)

If violations of site security rules or failures to pay royalties are flagrant and persistent enough, the lease can be cancelled. This severe penalty has never been imposed for violation of site security rules or royalty underpayment on Federal lands. In a few cases, the Department of the Interior has canceled Indian leases when asked to do so by Indian tribes.

#### MANAGEMENT ABILITIES

This brief review of the problems in collecting royalties and preventing theft leaves no doubt that royalty management has become a demanding, complicated job. It is especially difficult for an agency such as the USGS which has an overriding scientific and research mission that has nothing to do with royalty management. One kind of activity must compete for people and funds against the other. The decisions on how to allocate resources within the agency are made, by and large, by scientists and engineers. As a result, royalty management has not attracted the funding or high level managerial attention it requires. Moreover, scientists and engineers with little financial or enforcement experience are usually the top managers of royalty collection and lease condition enforcement. It is not surprising, therefore, that the problems of managing Federal oil and gas royalties have been outstanding for more than 20 years.

Recently, the USGS has begun to address these problems. It mounted a crash inspection program after oil thefts were reported, and is taking the first laborious steps to revise its royalty management system.

The following chapters evaluate these efforts. They consider problems and make recommendations for the improvement of the Federal government's royalty management systems.

## CHAPTER THREE

# **INTERNAL CONTROLS**

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### INTERNAL CONTROLS

The Geological Survey's royalty management system lacks the basic internal controls needed to assure that oil and gas royalties are paid in full and on time. The result, according to several witnesses before the Commission, is that hundreds of millions of dollars owed the government may be going uncollected each year. Because the present system is in disarray, it is impossible to determine the exact amount of royalties that are being lost each year. But large losses have been discovered in the past, and the potential for continued losses is clearly present.

After more than two decades of minimal response to repeated criticism, the Geological Survey has recognized the problems and has begun to address them. The new royalty management system now being developed by USGS represents an important step toward establishing control over a \$5 billion enterprise, which is projected to be worth over \$14 billion a year by 1990. However, because the design of the new system is not complete, it is too early to tell whether the system will include all the internal controls needed.

The Commission is concerned that (1) the managers of the Federal royalty program will not begin to exercise effective control until the new system is entirely in place, several years hence, if then, and (2) certain crucial internal controls will not be provided for in the new system.

The fundamental defects in the present system have been well-documented over the years:

- o The Geological Survey relies almost entirely on production and sales data reported by the oil and gas companies. It makes virtually no effort to verify the data the companies supply.
- o The Survey's recordkeeping is in a condition of breakdown; royalty records are so inaccurate that the Survey often does not know how much companies owe.
- o Few audits have ever been conducted.
- o Penalties have not been imposed for underpayments, late payments, or error-ridden reports.

In effect, the oil and gas companies are on an honor system to compute and pay royalties fully and accurately. They do not always do so, as the few audits that have been conducted indicate. The Geological Survey's response has been to assume more and more of the burden of routine bookkeeping needed to compute royalties and determine what the correct payments should be. In this way, USGS has in essence become an extension of the bookkeeping departments of the companies which lease public lands. As a consequence, the Survey has not devoted enough resources to oversight and has slighted this central responsibility.

Companies that lease Federal land for the production of minerals (the lessees) enter into a contractual obligation with the Federal government to report and pay royalties accurately and fully. The Commission believes this contract should be the cornerstone of the government's royalty collection program. The primary responsibility for reporting and paying should rest with the industry. The government should assist the companies in meeting this responsibility, should see that they do so, and should levy appropriate penalties if they do not.

Central to the necessary change in the relationship between the industry and the Federal government is the institution of a system of internal controls. In general, internal controls are a system of checks and balances that protect an organization's assets. Effective internal controls give reasonable assurance to management that no misstatement of accounts, either accidental or deliberate, is occurring.

Internal controls for the Federal royalty management system should assure that royalty payments are made in full and on time. Internal controls built into the system should:

1. Assure that the Federal royalty managers have a record of new production as soon as it begins;
2. Show accurately royalties paid, any royalties due, and who is responsible for payment;
3. Obtain enough information that the Federal royalty managers can verify company statements concerning amounts produced, amounts of product sold, and its value; and
4. Provide adequate penalties to undergird accurate and timely reporting requirements.

The present royalty management system is so inadequate that it has none of these minimum internal control requirements.

The new royalty management system, as planned, offers no guarantee that new production will be recorded as soon as it starts, nor does it provide for penalties for underpayment. It is being designed to meet the second requirement, to show accurately what royalties



have been paid, what are due, and who owes. As for the third requirement, the Commission is unable to determine how the system will verify production since that part of the system is not yet designed.

The recommendations of the Commission in this report cover all of the four internal controls outlined above. All of them are needed for effective royalty management.

There is no reason why many of the measures the Commission recommends cannot be adopted now. Indeed, they are long overdue. An example is the guidance that the Federal royalty managers should give to the industry on establishing the value of products for royalty purposes. Other measures, such as cross checks on company production reports, must be built into the new system, but can be adopted now--at least in part--on a sample basis. (See Chapter Eight.)

A word about penalties is appropriate here. Detailed discussion of the subject appears in Chapter Five, Enforcement. It should be noted, however, that meaningful penalties are essential for effective royalty management, just as they are for tax collection. As the discussion in Chapter Five points out, the majority of companies and individuals paying royalties are honest and intend to pay them fully. Penalties would keep the careless or dishonest payors from obtaining an economic advantage over their competitors who comply in good faith. Moreover, for all payors, penalties deter careless mistakes or an interpretation of the rules which is overly advantageous to themselves. Appropriate penalties encourage investment in adequate controls to keep mistakes to a minimum.

#### PROBLEM: KNOWING WHEN PRODUCTION STARTS

The Department has no systematic way of finding out when new production on a lease has begun. The operator must report to the USGS when a new oil or gas well is completed, and must report the calculated production from each well in the Monthly Report of Operations (Production Report) required for each lease. But operators are not now required to report the key fact of actual start-up of production. If USGS District Offices want to keep track of new wells on a current basis, they must resort to a weekly industry publication, Petroleum Information, which reports new wells but does not identify them by lease number.

Prompt notification that a well has started to produce is essential for effective royalty management. In the first days of production, output is often exceptionally high--"flush production," as the industry calls it. If a careless or dishonest operator fails to report the first days of production, royalty losses to the Federal government could amount to thousands of dollars. (A single good onshore well may produce as much as 500 barrels a day. At \$30 a barrel the oil produced in one week would be worth about \$100,000 of which some \$12,500 would go to the Federal government royalty owner, assuming a 12-1/2 percent royalty rate.)

In particular, field inspectors need to have prompt reports on when new wells start to produce. Then, when they visit lease sites, the inspectors can check to see that all producing wells have in fact been reported. Under the present system, the Monthly Report of Operations reaches the field inspector several weeks after the production covered in the reports took place.

## RECOMMENDATION

1. That the Department require an operator to notify it by telegram or equivalent means on the first business day after new production begins on a lease. Failure to comply would subject the operator to a penalty equal to the value of the total production between the start of production and the date of notification, except in those rare cases when extenuating circumstances require an exception.

### PROBLEM: KEEPING TRACK OF PAYORS AND LEASE INTERESTS

The Geological Survey has no complete, up-to-date records of all the individuals and companies who pay royalties on the minerals produced from Federal and Indian leases. Although the leases require that the lessee shall pay royalties, the USGS accepts payment on a vast number of interests, (shares) in leases. This situation arises from the industry practice of multiple ownership of leases. Ownership of many oil and gas leases has been divided and subdivided so extensively that there are many more interests than leases.

Interest holders and payors are not always the same. For example, a purchaser, such as a pipeline company, may send in the royalty check, or one interest holder may pay on behalf of several others. The USGS estimates, on the basis of samples, that there are approximately 3,500 payors. If each of these payors sent a separate check for each lease for which he has payor responsibility, the USGS would receive each month over 650,000 checks for royalties due on pro-

ducible leases. (Actually, payors often send one check for interests in more than one lease, which reduces the number of checks but adds to the confusion.)

Changes in lease ownership and payment responsibilities are not promptly and reliably reported to the Geological Survey. Often transfer of a lease interest involves a change in payor as well. Federal and Indian leases require that the land management agencies (the Bureau of Land Management and the Bureau of Indian Affairs) approve any transfer of interest in leases.

The requirement for Federal approval of lease transfer is not strictly enforced. Approvals may lag months behind the fact. In some cases, the former owner may never notify the government of the transfer, and the new owner may be unaware of his legal obligation to pay royalties on the newly acquired interest.

The practical effect of all of this is that the Geological Survey relies on companies and individuals to volunteer the information that a lease has been sold or divided, or that a new payor has taken over. Unless the information is volunteered, or unless the new payor voluntarily sends in a royalty check, the Geological Survey does not know who the new payor is, or how much interest he owns in the lease.

There is evidence that the Survey's inability to keep track of payors does cause royalty losses. Auditors for the State of Wyoming, who are reviewing Federal leases in cooperation with the USGS, have so far assisted the U.S. Government in collecting over \$1 million in delinquent royalties. The project is a new one, and auditors have not yet tallied all the causes for delinquency, but they have found that the transfer of interest in leases, and losing track of payors, is an important cause.

The present royalty management system maintains account records primarily by lease. The new royalty management system now being developed will have a royalty account for every payor on each lease, or approximately 650,000 accounts. Tracking down all the current payors is a formidable task. The Survey, in the process of implementing the new system, has sent forms to all payors for which it has a record, asking the payor to state his exact share in the lease. If the shares do not add up to 100 percent (as figured from monthly sales and royalty reports for the lease) the Survey plans to look for the missing payors itself, by detailed examination of the records of lease transfers in BLM and BIA district offices, if necessary.

In a universe of 650,000 payor accounts, the search for missing payors could prove exceedingly difficult. On a pilot basis, the Survey has already instituted individual payor accounts for three areas--Washington, D.C., Los Angeles, and Anchorage. The problems were relatively simple in these areas. There were 900 leases and about 1,100 payor accounts involved. Even so, a few payors remain to be identified.

Whether Federal royalty managers will be able to sort out all the hundreds of thousands of remaining payor accounts--especially in time for the planned startup date for the new system of January 1983--is a serious question. Assuming that the royalty managers are able to process the backlog, they will still need to keep up with the changes in lease interests and payors that are continually occurring.

The Commission believes that for this problem, as for many others involved in running an effective royalty management system, the approach should be to place primary responsibility on the industry, with advice and guidance from the managers of the Federal royalty program. Lessees, under terms of their leases, do have the contractual obligation to pay royalties. This obligation can be assigned by the lessee to others.

Beginning immediately, the Department should require that lessees submit a payor plan identifying all payors and their interests for each lease and that the plan be continually kept up to date. It should be the responsibility of the lessee or his agent to notify the Department if any change is made in payor responsibility.

A different but related problem has to do with the unitization of fields and resulting changes in payors. Changes in the boundary of the unit and allocation of income from unitized fields must be approved by the Geological Survey. Sometimes, when the Survey is notified of such changes, it does not approve them immediately. Confusion results when royalty checks from the new payors arrive, before the changed status in unitization is approved.

## RECOMMENDATION

2. That the Department immediately require all lessees of revenue producing leases or their agent (the operator or some other agent) to submit a payor plan signed by all payors indicating the payment responsibilities of each party. In the payor plan, the lessee should identify the payors for 100 percent of the royalty obligation. Modified payor plans must be submitted whenever any payor responsibilities change. Upon receiving such changes, the Federal royalty managers should consider them as being proper unless they are later disapproved. Noncompliance with these requirements would subject the lessees to substantial penalties.

## PROBLEM: TRACKING THE PAYORS/RECONCILING DIFFERENCES

The Geological Survey's inability to keep up with increasing numbers of leases, interests in leases, and payors on leases has been a major factor in the breakdown of the royalty recordkeeping system. The present system is only partially computerized. The Survey's recordkeeping staff is overwhelmed with tasks of making data entries, attempting to correct errors, and reconciling a few of the many out-of-balance lease accounts. The fact that the accounts are kept primarily on a lease basis, but checks are often received from many different payors for each lease, greatly complicates the task. Moreover, a check received from an individual payor may relate to more than one lease.

The new royalty management system holds the promise of much more effective tracking of royalties paid and owed. Each of the 650,000 payor accounts will be kept individually; if any of them becomes delinquent, the computer will flag the nonpayment. The Commission is concerned, however, that the sheer number of accounts the Survey will have to track may overwhelm the system. The job of correcting data entry errors and reconciling discrepancies will remain a tedious one, and, for 650,000-odd accounts, may be very time consuming no matter how efficiently the system operates. Moreover, payors will continue to change, and accounts will be in a continuous process of alteration.

The Commission endorses the payor account system the USGS is now developing as a great improvement over the present situation. However, over the years, as the number of payors has increased, the USGS has accepted the increased burden of keeping track of all the payors, adjusting the Federal collection process to accommodate the industry practice. The new payor account system accepts this situation as a given.

The Commission believes that the lessee and his assignees, who have a contractual obligation to pay royalties, should not expect the Federal government to be responsible for all of the bookkeeping burden. An effective approach would be to work toward an operator of record for each lease. The operator of record would keep all royalty records for that lease, and would either pay all royalties or submit a payment plan for approval by Federal royalty managers. The operator of record would then reconcile the lease reports each month after the payment is submitted and submit an exception report if he finds a discrepancy. In many cases, the operator of record would become the single payor for the lease.

Several questions have been raised about the "operator of record" concept. First, the Department of Justice and the General Counsel of the Federal Trade Commission have advised that the disclosure of information necessary to calculate royalties (for example, information on sales prices), if communicated by various interest owners to the operator of record, could have an anticompetitive effect and thus violate antitrust laws. These concerns, however, were general in nature and did not focus on any specific proposal.

The Commission requested the Solicitor of the Department of Interior to initiate a re-examination of the antitrust question from the perspective of developing an operator of record system consistent with antitrust laws. Contrary to prior assumptions, for example, it is not essential for the operator of record to know the sales price each interest owner receives. The Department of the Interior has prepared a working proposal which is now being reviewed by the Department of Justice and the Federal Trade Commission. The Commission believes that any antitrust problems can be resolved.

The question has also been raised whether Federal royalty managers would have readily available the data needed for lease analyses and audits, if royalty rec-

ords are not in their possession. The Commission believes this problem can be solved by requiring the operator of record to maintain basic records subject to audit for a reasonable period of time.

Because the Geological Survey is already in the process of establishing its new system based on individual payor accounts, the Commission does not recommend immediate adoption of an operator of record system. Rather, we believe that the managers of the Federal royalty program should begin implementation of the concept gradually, starting with leases where production has not begun.

## RECOMMENDATIONS

3. That the managers of the Federal royalty program complete in a timely fashion the installation of the new subaccount system in which each payor on a lease has an account, replacing the current system which features a statement of account by lease (but with multiple payors).
4. That the Federal royalty managers work toward the implementation of the concept of an "operator of record" for each lease and, where possible, a single payor; the operator of record would be responsible for maintaining all records related to the payment of royalties from that lease.

Each month after the payments are made, the operator of record would reconcile the payments with the production report, notify the Federal

royalty managers of any discrepancies and the reasons for them, and provide the Federal royalty managers with the correct information. Where a single payor is possible, all payments for that lease would be made by one individual and all records kept by him.

### PROBLEM: VERIFYING ROYALTY PAYMENTS

Effective internal controls for the management of oil and gas royalties must include verification of the reports provided by companies on production, sales, and royalties. The present system lacks this feature. The Geological Survey routinely accepts industry data without checking it, either against other company-generated data, or against data gathered by the Survey itself or by a third party. Audits and lease analyses do involve cross checking industry reports against other data, but these analyses and audits have been occasional and exceptional, not routine.

The total amount of royalty losses caused by the Survey's acceptance of unverified data from companies is unknown. Examples drawn from audits and lease analyses conducted by the General Accounting Office, by Indian tribal investigators, and by the Survey itself show that the amounts of royalty loss in individual cases can be substantial. Some examples are:

- o In 1973, one USGS office analyzed 10 percent of its leases to verify production reports, and collected an additional \$362,000.

- o A GAO review of one gas lease showed that reported gas production did not equal sales; after investigation, the Survey collected \$156,000 in additional royalties.
- o A field investigator for the Shoshone and Arapahoe Tribes on the Wind River Reservation noted that some wells actually producing on a lease were not mentioned in the company's production report. Further investigation showed the company had failed for nine years to pay royalties to the tribes for 450,000 barrels of oil produced from that lease. The company offered to pay \$750,000 to make up the missing royalties.

To understand the sources of information that could provide systematic cross checks, it is helpful to follow the existing paper trail through the Geological Survey's royalty management system.

The USGS requires three principal reports from lessees or operators of leases. First, the Monthly Report of Operations (Production Report) provides information on production, well-by-well, for each lease. It also gives, for each lease, monthly totals for production, sales, opening inventory, and closing inventory.

Oil production figures for the monthly reports are usually derived indirectly. (Natural gas production is metered at the wellhead.) Company petroleum engineers analyze tests of individual wells and then project from this the well-by-well production. The source data for total "production" and "inventory" figures are in essence sales records, since they are derived from meter readings, gauger's reports (on the oil in tanks before and after sales), and run tickets (sales documents for oil trucked from the leases).

Meter readings, gaugers' reports, and run tickets are all prepared by the purchaser or his agent.

Adjustments are made in the production reports for meters that may be inaccurate, for the impurities contained in the oil sold (basic sediment and water), and for oil temperature and gravity. Other adjustments take account of oil and gas used on the lease site, oil that is run into waste pits, and gas that is flared. The operator, or company engineers, may then compare these adjusted data with projections of expected production; this procedure is not required, however, but is at the option of the operator.

Second, operators or lessees must submit a Monthly Report of Sales and Royalty and a Monthly Rental and Royalty Remittance Advice for each lease. Often, production and sales reports are prepared by the same company. In a large or even medium-sized organization, sales and royalty reports are prepared by different branches of the company from the units which prepare the production reports.

The sales reports are based on much the same source documents as the production reports--meter readings and run tickets. The sales reports show volumes sold (in barrels or thousands of cubic feet) and the sales price. The royalty reports calculate the amounts of royalty due for each lease at the applicable royalty rates, which are usually one-eighth (12-1/2 percent) for onshore leases, but on some leases may be one-sixth (16-2/3 percent) of the product value. Sixteen and two-thirds percent is the standard royalty rate offshore. The volumes actually sold will often be less than those in the production reports, for the same lease and the same month, because, for instance, oil or gas may be used on the lease.

Verification of oil production is complex, usually because there is no direct measure of oil production and inventories, but only derived measures, drawn

mostly from sales records. Nevertheless, as audits of individual companies and analyses of leases indicate, there are opportunities for systematic cross checking of production reports with other data and reports at hand.

The simplest check is to match production against sales reports, even when the same company has prepared them, and even though the source data (the run tickets and meter readings) are usually the same for both. Because the production and sales reports are often prepared by different branches of the same company, a routine computer check of the two reports can pinpoint errors. Indeed, some large discrepancies have been identified in this manner.

Other cross checks could make use of the source materials themselves: meter readings and run tickets. The USGS manual requires that lease operators keep run tickets and meter readings for six years. These source data may be necessary for audits. The Commission believes that an effective royalty management system could make systematic use of meter readings and run tickets in other ways than for an infrequent, and expensive, full audit. The documents may be too voluminous to be entered into a computerized system for automatic comparison with the operator's sales reports. They could be used, however, in a planned program of random spot checks, which compare the run tickets and meter readings with production reports.

Another basic data source for oil production estimates is well tests. To test a well, the operator isolates the flow from that well and directs it into a "test tank" where the produced oil is metered or gauged.

Some buyers of oil and gas (for example, refineries, pipeline companies, gas processing plants) compile summaries of the oil and gas they have bought during the month, and send these "purchaser's statements," along with their monthly payment, to the sellers. The

sellers, in turn, may submit the purchasers' statements to the Geological Survey, although they are not required to. Run tickets and meter readings are the source data.

Purchasers' statements which are compiled independently of the operator, who is usually the seller of the product from leases, can provide an independent check of the operators' reports and serve to detect errors or omissions. However, in the case of vertically integrated companies which transport, process, and refine the oil or gas they themselves have produced, there is no independent purchaser's statement.

Purchasers' statements could be put to good use if they were mandatory, rather than voluntary as they are at present. The government has no contractual relationship with purchasers of oil and gas\*, and currently does not require them to furnish a statement of their purchases from Federal and Indian leases. However, with additional legal authority, Federal royalty managers could require purchasers to furnish such statements.

Purchasers' statements, unlike the run tickets and meter readings they summarize, could readily be entered into the computer. Discrepancies with operators' sales reports could be flagged automatically. In some cases where, for the convenience of all concerned, purchasers rather than the sellers compute and pay royalties, there would be no need for a separate purchaser statement. The sales and royalty statements compiled by purchasers would themselves be independent data, that is, data generated by a source other than the seller-producer.

\*Except for the royalty oil taken in-kind where the Federal government sets aside this oil for small refineries.

Some States already require that purchasers of oil and gas report what they buy to State authorities. Oklahoma, for example, requires such purchasers' statements. Chapter Four, Site Security, discusses the related subject of documentation for oil, that is, that anyone possessing oil,--producer, transporter, refiner--have documents which validate sales.

In cases of theft and collusion with the purchaser of oil, there would obviously be no value in a purchaser's statement of oil received. To attack this problem, and also to provide a check against errors in production reports, some States require more complete documentation of oil as it moves through channels of commerce. Louisiana, for example, receives and compares monthly reports from producers, transporters, storers and refiners of oil. Witnesses from some States told the Commission that their systems were not satisfactory, because they do not trace oil beyond State borders.

The Commission believes it worthwhile to evaluate the usefulness and legal complexities of implementing a Federal system similar to Louisiana's--one which would trace minerals, not just to first purchasers, but to processors or major "end" users such as refineries and pipeline companies. Most crude oil eventually ends up in refineries, though it may pass through the hands of truckers, reclaimers, and resellers. Thus purchase records by refineries and other end users may be the key to identifying suspected cases of collusion between sellers and purchasers at an earlier point in the chain of sales.

Tracing oil through channels of commerce might prove to be a costly way of closing the loophole which could exist if oil purchasers are in collusion with sellers. The Commission recommends that a careful study be done of the costs and benefits of such a tracing system, including an evaluation of alternatives to solve the same problem. (An alternative, for example, might be to identify leases which are

most vulnerable to theft and to step up efforts to verify production from those leases.)

An almost completely neglected resource in the Survey's present royalty management system is the help field inspectors can give accountants and auditors in verifying production and sales data. Field inspectors' reports are a source of data quite independent of company reports, and thus are highly valuable for verification. Likewise, the accounting side of the royalty management system could flag anomalies that would signal the need for a field inspection.

In its 1979 report, the General Accounting Office recommended cooperation between field inspectors and accountants. In 1981, GAO reported that there was no indication of such cooperation yet. There is still no routine system for making accountants aware of inspection results, nor have the results of the 1980 crash inspection program been communicated to the royalty management staff. Chapter Five, Enforcement, details ways in which the inspection and accounting functions should be coordinated.

Obviously, it is desirable to build cross checks of operators' reports into the new royalty management system so that, insofar as possible, they are routine and automatic. But, at best, the "production" phase of the new system--the part that includes computerized checks on company-submitted production reports--will not be ready until 1984.

Meanwhile, Federal royalty managers need to make better use of the controls at hand, and to develop new ones. For example, they could begin now to spot check company reports against source data, such as meter readings and run tickets. The Department could start now to request and draft legislation that would



require first purchasers of oil and gas to submit statements to the managers of the Federal royalty program.

## RECOMMENDATIONS

5. That the Federal royalty managers incorporate production data into the royalty management system in order to cross check the data with sales and royalty data for all leases each payment period. This should begin immediately on a systematic sampling basis even though it will have to be done manually.
6. That the Federal royalty managers periodically obtain well test data, run tickets, and LACT meter readings on a sample basis, or according to some other systematic plan, and use them to cross check production reports. This comparison would be in addition to that done as part of an audit program focused on leases with suspected irregularities.
7. That the Department seek legislation authorizing the Federal royalty managers to require that purchasers submit copies of their reports directly to the Federal royalty managers in a format prescribed by the royalty managers, and to impose civil penalties in the event of noncompliance. This authority would be exercised at least in those cases where there is no other government-required report provided by a party different

from the payor covering that particular oil, gas, or other mineral taken from the lease for the same reporting period; and

That the Federal royalty managers systematically check these purchaser reports against reports submitted by the payor, at least on a sample basis.

8. That the Secretary request the Inspector General to lead a study of alternatives to purchasers' statements for the purpose of cross checking oil and gas sales in cases where there may be collusion between purchasers and sellers. The study should include an evaluation of the usefulness and legal complexities of tracing minerals through channels of commerce to processors or major end users, not just to first purchasers, as an ultimate cross check on production, sales, and royalty reports.
9. That the Federal royalty managers incorporate in the new royalty management system data elements derived from field inspections, and that they establish criteria for irregularities identified by internal accounting and auditing procedures which should trigger an onsite review.

## PROBLEM: DETERMINING THE VALUE OF PRODUCTION

Most major audits conducted so far have found undervaluation of gas produced from Federal and Indian leases to be the biggest cause of royalty underpayments. Eleven major natural gas royalty audits were conducted by the Department of the Interior's Office of the Inspector General (formerly the Office of Audit and Investigation) from 1977 through 1981. Ten of the audits showed underpayments, of which nine were mainly due to undervaluation of the product.\* (One audit showed an overpayment; the underpayments ranged from \$684 to more than \$10 million.) Royalties for natural gas already account for 56 percent of total Federal and Indian oil and gas royalties; by 1990, they are expected to be approximately 75 percent of the total. Thus, it is especially important to give attention to valuation of natural gas.

For valuation of oil and gas, as for reporting of production volumes, sales, and royalties, USGS usually accepts industry data without verification. The Mineral Leasing Act of 1920 and the Indian Leasing Act of 1927 specify that royalties shall be based on the "value of the production." The Outer Continental Shelf Lands Act says that "fair market value" shall be received for the "lands leased and the rights conveyed."

Under these laws, USGS regulations base royalties on "estimated reasonable value," which "in the absence of good reason to the contrary," is the "value computed on the basis of the highest price . . . paid

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\*In one of the nine cases the assessment of additional royalties was reversed on appeal by the Interior Department's Office of Hearing and Appeals. Three are currently on appeal.

or offered at the time of production in a fair and open market. . . ." The fair market value, according to these rules, cannot be less than the actual sales prices and may be more. In practice, however, the Geological Survey accepts the value of the product set by the industry--which is almost always the sales price--and relies on audits or lease analysis to correct any undervaluation.

Valuation problems occur especially with internal sales in vertically integrated companies, with long-term contracts, and with price-controlled products. Gas is especially subject to these problems since it is commonly sold by longterm contract, and some of it is price controlled. Other difficulties in valuation have to do with deductions allowed (from value of the product before the royalty is computed) for the costs of transporting oil or gas to a point of sale off the lease, and for the costs of processing natural gas (removing liquids).

Some examples of underpayment of royalties due to undervaluation are:

- o A vertically integrated company using in its own refineries gas it had produced was allowed by USGS to use longterm contract prices, rather than higher current market prices, as a basis for royalties. An audit by the Interior Department's Office of Audit and Investigation showed underpayment for a 10-year period of \$2.2 million. The underpayment amounted to 31 percent of royalties actually paid (\$6.9 million).
- o A review of offshore leases by the Office of the Audit and Investigation showed that offshore

producers were using a different method for calculating allowances for gas processing than onshore producers and were taking larger deductions. The USGS then assessed the producers over \$12 million for two years' underpayment of royalties.

Industry representatives have complained of a lack of consistency in valuation guidelines between one USGS office and another, and retroactive rulings which increase the companies' work burden. In the case of allowances for gas processing, where offshore gas producers were assessed over \$12 million in royalty underpayments, an industry spokesman said producers had asked both the USGS and the Federal Energy Regulatory Commission for guidance on the allowances, but had received none.

The Geological Survey has established a Product Valuation Unit to determine the correct value of products on which royalties are paid to the Federal government.

The Unit determines value by reviewing sales contracts, posted price bulletins, regulations, market conditions, and other published data. In addition, the Unit is responsible for determining the correct transportation and processing allowances.

Unfortunately, this effort falls far short of solving the problem. As the Inspector General has noted, inadequate financial and management resources have been devoted to it. "Very substantial payoffs appear to be possible for such a team [for product valuation] and the benefits would be achieved in the early stages of the process rather than after the fact as in the case of audits," the Inspector General said.

Moreover, the Production Valuation Unit has not emphasized in its plans the issuance of guidance to be used by the companies in computing royalties; in-

stead, it has envisioned reviews on a case-by-case basis, and issuing guidance on an exception basis only. This approach would leave industry without adequate guidance. If the Product Valuation Unit continues in this mode, it probably will not reduce the Federal government's reliance on audits for verifying production value. Audits are expensive and labor intensive for the government and can be seen as imposing burdens retroactively on industry. The Department needs to change its approach to product valuation and increase the allocation of staff to this important function accordingly.

## RECOMMENDATION

10. That within five months after the filing of the Commission's report, Federal royalty managers decide what issues related to fair market value and other product value matters must be settled by the Department before more definitive guidance can be provided to the industry, and determine what issues can be settled by the royalty managers alone;

That by January 1, 1983, the Federal royalty managers provide preliminary guidance to the industry on the issues identified for resolution without significant Departmental participation; and

That by July 1, 1983, the Federal royalty managers issue detailed guidance to industry covering both sets of issues.

PROBLEM: INSURING TIMELY AND ACCURATE ROYALTY  
PAYMENTS

According to the General Accounting Office, late royalty payments potentially subject the Treasury to millions of dollars per year in added interest costs. A spot check of leases done in 1980 indicated late payments of at least \$390 million for that year, costing the Treasury \$1.6 million in interest. As GAO notes, late royalty payments are not a new problem; GAO reports have called attention to them since 1959.

Not until September 1980 did the Geological Survey charge interest for late payments of royalties due on offshore leases; onshore leases were not charged interest until July 1981. The USGS has developed a system for identifying payment checks that arrive late and charging those payors interest. However, "lost" payors who did not voluntarily submit royalty checks may never be identified. In these cases, neither the payment nor the interest on it is collected. The payor-based accounts in the new royalty management system should make it possible to identify all nonpayments or late payments automatically, to bill the late payors promptly, with interest charges, and to take any other follow-up actions that are necessary.

The interest rate for late payment should be meaningful, that is, at least as high as the cost to the company of borrowing money privately. The U.S. Treasury has recently established such a rate--the "current value of funds rate"--for interest charges for late payments. The rate is higher than the Treasury rate (at which the Treasury borrows) that was previously charged for late payments.

On the other hand, oil and gas companies are concerned about quicker refunds for overpayments of royalties. This is especially a problem with offshore

leases. The Outer Continental Shelf Lands Act requires that the Secretary of the Interior notify the Speaker of the House and the President Pro Tempore of the Senate, in writing, of a proposed royalty refund. The refund cannot be made until each House has had 30 days of continuous session (which is more than 30 calendar days) to consider the request.

Companies are also concerned about the present Geological Survey payment schedule which they believe is unrealistic, particularly for natural gas. Gathering all of the required data related to natural gas sales for royalty purposes is often very time consuming. It is consequently very difficult for companies to meet the present USGS requirement for payment of natural gas royalties within 30 days.

## RECOMMENDATIONS

11. That the Federal royalty managers, as soon as possible, incorporate into the royalty management system the automatic identification of late payments and institute a policy of immediate follow-up.
12. That the Secretary urge the Congress to change the time-consuming process which the industry must go through to obtain refunds of royalty overpayments on offshore leases.
13. That the Federal royalty managers continue charging at least the "current value of funds rate" established quarterly by the U.S. Treasury for late payments or underpayments.
14. That the Federal royalty managers allow 60 days for payment of royalties

for natural gas after the end of the month in which the gas is used, sold, or removed from the lease. This policy would be consistent with present industry practice.

#### PROBLEM: RECONCILING AND AUDITING PAST ACCOUNTS

In adopting a new royalty management system, the managers of the Federal royalty program must decide how to handle the legacies of the old system. The lack of rudimentary and routine internal controls in the old system has left existing accounts in disarray.

Since 1959, GAO has reported on the inaccuracy and unreliability of the Survey's accounts. In its latest report, GAO found that in May 1981, 73 percent of the Survey's 27,909 lease accounts, (20,356 accounts) were unreconciled; that is, they showed a balance due or a balance owed. Because the balances are usually erroneous, the amounts they show do not indicate actual underpayment or overpayment of royalties. But they do indicate serious trouble with the system. The "accounts" are not accounts in the true sense of the word. They are merely listings of payments and amounts due, based entirely on data the companies have submitted. Moreover, the entries are often erroneous.

The USGS has in the past tried to "reconcile" lease accounts from time to time and these reconciliations have unearthed royalty underpayments. Another approach to determine whether royalties are due is to conduct audits of royalty payors, not by lease but by company. The Interior Department's Office of Inspector General plans to supervise "look-back" audits of 25 oil and gas companies which pay 83 percent of total royalties.

The effort of reconciling all of the 20,356 out-of-balance lease accounts, containing errors made over many years, would be unrealistic. The Geological Survey has recently reported plans to reconcile all lease accounts with debit balances over \$100,000, as the royalty management system is converted to payor-based accounts. In addition, USGS has selected six companies which habitually have unreconciled accounts for specialized attention.

The Commission recommends an approach that will combine an effective, accelerated program of look-back audits with selective reconciliation of leases.

The look-back audits to be supervised by the Inspector General's Office are targeted to the largest payors. Most of the companies selected for audit are either major integrated oil and gas companies or large independent crude oil or natural gas producers; half a dozen could be described as medium-sized independents.

The Department has no plans for look-back audits of any but the 25 largest payors. The Commission is concerned that selection of companies for look-back audits primarily by size of payment may cause under-coverage of some kinds of leases and of certain important problems. For example, since offshore leases produce more than three-quarters of all royalties, offshore operations may get most of the audit attention. Similarly, the audits may not adequately cover Indian leases.

Results of the look-back audit program should be programmed into the new royalty management system. For example, the results can guide designers of the system in selecting controls to be computerized and items to be spot checked. Look-back audit results can also be used in designing a systematic audit program for the new system. For these reasons, Federal royalty managers must take care to include a representative selection of kinds of companies and operations to be covered in the look-back audits.

The same principles apply to selection of lease "accounts" for reconciliation or review. In making the selections, the balances of the "accounts" should not be given too much weight because they are probably in error. Other factors should get full consideration. One such factor could be habitual underpayment by certain companies a factor to which the USGS plans to give special attention in lease analyses. As with look-back audits, the sample of leases to be reconciled should provide appropriate coverage to different kinds of operations--small and large, new and old, onshore and offshore, Indian and Federal.

Lease account analysis lends itself better to cooperative work between States and Indians and the Federal royalty managers than do company audits, since leases lie within State borders or Indian lands (while company activities may not) and produce identifiable revenue for the States and Indians. The cooperative Wyoming-USGS audit program, mentioned earlier, is an example of lease analysis which is producing remarkable results in a short time (27 leases examined and over \$1 million collected in the first four months).

Look-back audits are planned as something of a crash program, in an attempt to counter the infrequency and irregularity of audits over past years. The audits are to be done by contractors, since neither the Geological Survey nor the Inspector General has sufficient staff to perform them. Originally, the audits were planned to take 4 years. With a supplemental appropriation in fiscal 1982 of \$5 million and other funding in the regular budgets, the 25-company look-back audits could be completed by the end of 1983. A speeded up schedule would be advantageous to avoid any problems due to loss of records or expiration of the statute of limitations.

## RECOMMENDATIONS

15. That the Department carry out the first 25 look-back audits on an accelerated schedule with completion no later than the end of calendar year 1983, and that audits of companies in addition to the first 25 be initiated as soon as possible, but no later than the end of calendar year 1983.
16. That the Department develop a definitive plan for choosing which companies should be the subject of both the first 25 look-back audits and subsequent ones. This plan should include provision for assuring adequate coverage of small companies and onshore leases, including Indian leases.
17. That the managers of the Federal royalty program develop a definitive plan for choosing lease accounts for reconciliation. This should be based on a reasonable method for determining which accounts on leases (or groups of leases, such as in units) it would be most beneficial to pursue in detail. Because account balances are unreliable indicators, they should not serve as the sole basis for this selection. The plan should be developed and initial analyses begun without delay. Look-back audits should not be considered an alternative to lease account reconciliations.

## PROBLEM: MAKING THE BEST USE OF ROUTINE AUDITS

Because the present royalty management system is woefully lacking in internal controls, too much reliance has been put on auditing to identify underpayments and other problems. In fact, few audits have actually been done, because the Survey's resources have been consumed instead in routine bookkeeping functions. The few that have been done (including some account reconciliations) did result in substantial returns to the Treasury. In fiscal 1980, for example, 5 percent of lease accounts were audited nationwide, and those audited led to additional collection of over \$7.7 million. (Total royalties collected that year were \$2.6 billion.)

The Commission believes that the number of audits being done at present is too few; but, more importantly, audits are not integrated into a comprehensive internal controls system. In the new royalty management system, auditing should take its place as just another of the controls used by the system. The frequency of routine audits by Departmental staff planned in the new royalty management system, however, is unclear.

The Department needs to establish a plan for all audits. It should be based on criteria such as the amount of royalties the companies pay; whether they are representative of the kinds of operators working on Federal and Indian leases, and the kinds of operations; and whether they represent aspects of the industry most susceptible to errors, omissions, and misunderstandings. Results from past audits should be reflected in the design of the system. For example, if natural gas valuation continues to be a highly significant factor in royalty underpayments, then routine checks should be made of gas leases for methods of valuation.

In addition to routine planned audits, provision should be made for audits triggered by anomalies reported in the system--computer flags, for example, of discrepancies between sales and production reports; or discrepancies and incongruities noted by inspectors in the field.

## RECOMMENDATIONS

18. That the Federal royalty managers adopt a program of increased systematic audits. In addition, provision should be made for audits triggered by flagged discrepancies between production reports and sales or royalty reports or by discrepancies discovered by inspectors in the field.
19. That the managers of the Federal royalty program institute a formal system by which the program's own audit findings and those of GAO and the Inspector General are systematically reviewed to identify weaknesses which can be corrected in the royalty management system.

## PROBLEM: MONITORING COMPANIES' INTERNAL CONTROLS AND ROYALTY ACCOUNTING

Oil and gas companies frequently engage certified public accountants to examine company accounts and thereafter express an opinion (certification) on the company's financial statements. The opinion discloses whether the company's financial statements,

taken as a whole, present fairly the company's financial position and results of operations, in accordance with generally accepted accounting principles. Investors, credit grantors, government agencies, stockholders and other interested parties depend upon these financial statements as the most reliable reflection of a company's financial affairs.

The Commission believes that CPA's who regularly examine company accounts and render an opinion on the fairness of the company's financial statements taken as a whole could and should include in their examination a review of the adequacy of the company's internal controls relating to the accounting for royalty payments.

The Commission is not suggesting, however, that companies engage CPA's to do full scope audits of their royalty payments due under Federal and Indian leases. Because certified public accountants are independent, reporting on the adequacy of companies' internal controls over royalty payments would enhance the opinion rendered on the company's financial statements.

The advantages to the companies of such a service are several. They would be assured of the correctness of their royalty payment relationship with the Federal government. This would help avoid retroactive assessments by the Federal royalty managers with the resulting costs and inconveniences to the companies. Reporting on the reliability of companies' internal controls over royalty payment accountability would also help to assure States and Indian tribes that their shares of royalty payments are correct, thus avoiding needless audits and/or lawsuits.

Companies could also avoid the risk of heavy penalties, lease cancellations for serious, persistent faults in lease operations and gross underpayments of royalties. (The Shoshone and Arapahoe Tribes

requested that the Secretary of the Interior cancel two leases on the Wind River Reservation for these reasons. The Deputy Assistant Secretary for Indian Affairs stated that the Interior Department plans to grant the petition.) Thus, a CPA's professional service could better promote the interests of the companies, the Federal government, and all those involved in the royalty payment process.

## RECOMMENDATION

20. That the Secretary consult with the American Institute of Certified Public Accountants to arrange for professional services by the companies' certified public accountants with respect to the adequacy of the internal controls and accounting for royalty payments, either through an extension of the CPA's regular auditing procedures or through separate engagements; and

That the Secretary consider including a requirement for such professional services in future leases and regulations.

### PROBLEM: OBTAINING AND KEEPING ADEQUATE STAFF

The proper working of the government's royalty management system requires sufficient, well-qualified people. At present, royalty management is a separate subdivision of the Geological Survey's Conservation Division. The total royalty management staff--auditors, accountants, engineers, economists, clerks, and



secretaries--was 321 on November 1, 1981. Of these, 161 were professional staff. A year earlier (October 23, 1980) the staff numbered 187, with 94 professionals. From 1980 to 1981, significant numbers of trained accountants were added to the staff--CPA's rose from 6 to 16, and accounting majors from 69 to 123.

The last year's increase in royalty management staff is important and helpful, but it does not go far enough. To accomplish better management now and to assure the effective operation of the new system, the staff should be further increased by at least the 63 positions described by the Geological Survey in a supplemental budget request for fiscal 1982.

The Commission believes that skimping on staff is not economically sound. Financial returns from better royalty management will, we believe, far outweigh the relatively small cost of getting enough high-quality staff to operate the program. Requests for further additions to staff should be considered in light of this principle, and granted as necessary to meet the needs of an adequate royalty management system as outlined in this report. More inspectors are needed as well, as discussed in the Chapter Four, Site Security.

The qualifications of the royalty management staff are as important as the numbers. Industry representatives made the point strongly that the royalty management staff should understand the oil and gas business. Staff training in this regard is essential.

Moreover, the upper layers of the royalty management staff must have managerial competence and accountability. Under the present Civil Service system, the performance of top professional managers who are members of the Senior Executive Service and the Merit Pay Program is measured against carefully defined standards. Pay raises depend on rated performance, in terms of the standards.

Some of the present standards for Senior Executive Service and Merit Pay which are applicable to managers in the Geological Survey's Conservation Division recognize royalty management as a priority. Even in these cases, however, the performance standards fail to hold managers accountable for success or failure. For example, to meet his performance standard for restructuring the royalty management system, the Chief of the Conservation Division is allowed by his standard simply to revise the Department's schedule "if external factors preclude meeting [the schedule]."

## RECOMMENDATIONS

21. That the Secretary provide additional staff to the royalty management program in the accounting, auditing, and product valuation programs as soon as possible and protect the royalty management program from across the board budget cuts and personnel freezes for several years; to accomplish this, as early as possible, submit the 1982 budget supplemental as developed by the USGS with the full \$5 million for look-back audits, and with other increases as necessary to carry out those Commission recommendations approved by the Secretary.
22. That the Federal royalty managers immediately provide a comprehensive training program for their financial staff in oil and gas industry practices.
23. That the Senior Executive Service and Merit Pay Standards for the royalty management system managers be revised

to include specific standards with deadlines which will hold the managers and supervisors accountable for the success or failure of the implementation of the new royalty management system, and for the implementation of those recommendations of this Commission approved by the Secretary.

## CHAPTER FOUR

### **SITE SECURITY**

## CHAPTER FOUR

### SITE SECURITY

#### INTRODUCTION

Oil is being stolen from Federal and Indian Lands. Four Wyoming men were convicted last year of stealing oil--two from an Indian reservation, one from a Federal lease and one from a private lease. Oil thieves have also been arrested and convicted in western Oklahoma, New Mexico, and Kern County, California (see Chapter Two).

George Kinsel, a Geological Survey District Engineer now retired, told this Commission: "In my opinion, there was extensive theft on Federal leases." Recent articles in the Denver Post quote oil thieves as saying that it is now "easy" to steal oil from private and government leases alike. Oil theft appears to be primarily a problem for onshore lease sites. Offshore sites, because they are less accessible, are less vulnerable.

How much oil is being stolen is a matter of dispute. Oil company executives who testified before the Commission minimized the extent of theft. There can be no dispute, however, over the existence of numerous opportunities and incentives to steal oil. They are quite evident. Oil, an extremely valuable and readily transportable commodity, is pumped out of the ground at sites which are often remote and unattended. It is usually stored in easily accessible tanks. As H.P. Walter, USGS Petroleum Engineer and

member of the USGS Quality Assurance Team, testified: "A typical tank battery can contain 200 barrels of oil on a lease site. That's like taking \$5,000 and putting it right out there on the ground with only a rock on top of it." It is a simple matter for a knowledgeable person to steal oil from a tank on a lonely lease site, especially when one of the tank's valves is unlocked.

Other opportunities to steal also exist at lease sites. Good oil is sometimes pumped into waste pits, then removed by a vacuum truck and sold without being accounted for in production totals. The amount of oil stored on a site is routinely measured only at the time it is being removed from the lease by a truck transporter, or by transfer to a pipeline. This means that oil can be stolen from storage tanks before it is measured for sale, and it may not even be missed. Meters can be bypassed or tampered with so that they do not record the removal of oil.

Once stolen, the oil is easy to sell. No proof of ownership is required in many areas when oil is sold to a refiner, reclamer, reseller, or other user.

Following reports of oil theft in Wyoming and the attendant publicity, the USGS launched a crash inspection effort in September 1980. It found that site security on Federal and Indian leases was extremely lax. Some 6,095 violations of the Survey's rules were cited and over 80 percent of these were related to site security. Spot checks since then by the Survey's Quality Assurance Team and by other officials of the Department of the Interior indicate that basic security infractions persist. They have found, for example, tank access points which are without seals or locks as well as unauthorized pipes which bypass meters.

Some industry spokespersons have questioned whether all of the USGS requirements for site security apply

to today's field conditions. In addition, lease operators report difficulties in trying to interpret the USGS' sometimes conflicting requirements.

The Commission's judgment is that oil theft is a real problem, worthy of serious attention by the Federal government and the industry. However, to date, neither the Federal government nor the private sector have done much to deter oil theft. Where Federal and Indian leases are concerned, the USGS has not substantially amended its regulations in forty years; many companies are just beginning to install security programs.

#### WHO IS RESPONSIBLE FOR SITE SECURITY?

Among government officials, industry representatives, and interested Members of Congress, there has been much discussion about who is responsible for assuring the security of Federal and Indian lease sites. One approach is to hire a sufficient number of special Federal law enforcement officials to police the security of these sites. Another approach is to place the responsibility on industry to protect the sites it has leased.

In the Commission's judgment the major responsibility for site security belongs with the lease operator, that is, the oil industry. The industry has strong financial interests in adequate protection of its leases and has agents on the sites. Moreover, it would be impractical for the Federal Government to assume the primary responsibility for site security. With some 17,500 onshore Federal and Indian leases, it is obviously not possible for the Federal government to post an inspector at each site. No Federal royalty management agency can be expected to know the security problems peculiar to each site as well as

the lease operator does or be able to design and operate the site so as to deter potential theft.

However, the Federal government does have an important role to play. The government has a legal responsibility to collect all the royalties due on oil removed from the public and Indian lands. As a trustee of Indian natural resources, it also has a fiduciary responsibility to fulfill. The Federal government can best meet its site security responsibilities by monitoring the industry's lease site security performance.

Overall, the Commission recommends an approach to site security that will:

- o Make it clear that companies holding oil leases are responsible for preventing theft. They have a contractual obligation to adopt effective site security plans and adhere to them.
- o Allow companies to propose their own plan for site security which is consistent with minimum government standards, instead of imposing a detailed, rigid "cookbook" set of regulations devised by the government.
- o Tighten laws dealing with oil theft, increase enforcement powers of Federal inspectors, and cooperate with State, local and Indian tribal law enforcement authorities in apprehending thieves.

PROBLEM: HOW SHOULD THE RESPECTIVE RESPONSIBILITIES BE EXERCISED

There are two principal ways of responding to the disclosures that serious breaches of site security exist on many Federal and Indian leases. One is the "cookbook" approach--to revise present government requirements to make them more detailed, more stringent, and virtually identical for all leases. The Commission rejected this approach. It would be burdensome, costly, and unenforceable.

The second approach--the one recommended by the Commission--is for the companies themselves to devise security plans which are tailored to their own operating procedures and are altered, if necessary, to fit specific lease sites. The plans would have to meet government minimum standards. This approach assures that the industry will assume the main responsibility for security, while government exercises its proper oversight function.

As lessor and royalty owner, the government should exercise its authority to require, for example, that all oil access points on a site have seals and locks. It is most practical, however, that the operator determine what is the appropriate kind of seal and lock in any given specific situation, and how those seals and locks should be controlled by company employees. Lease operators not only have principal responsibility for site security, but are also most knowledgeable of site conditions and specific security problems. They should be given the flexibility to exercise their ingenuity in solving their specific site security problems.

The Commission's recommendation is that lease operators be required to develop plans for site security consistent with minimum government standards, for the Federal and Indian leases under their control. These plans could be companywide with express indication

of any exceptions for individual leases. The Department would develop minimum requirements which all security plans must incorporate.

A companywide site security plan is analogous to a mine plan. For most types of mining, mine plans are mandatory. Typically, they require companies to set out their engineering plans and show how all reclamation, safety, and other requirements will be met. For variations from standard requirements, the company must obtain special approval from the State or Federal authority with jurisdiction. Thus, mine plans are what operators have themselves planned (taking into account all applicable requirements).

From an engineering point of view, mine plans are planning tools, showing, for example, how much dirt will be moved, where and how it will be stored, and how the ore will be removed and processed. They also show how environmental and safety standards will be met, where variances from those standards are necessary, and how the proposed alternative will achieve the same or similar results.

Inspectors use mine plans as the standard against which to measure the operator's performance; if the operator fails to observe a provision of the mine plan, he is deemed to be in violation of the regulations. He is required to correct the situation either by conforming to the mine plan or by applying to the State or Federal authority for a variance.

Typically, State and Federal regulatory authorities have trained staffs who review the mine plans, asking for amendments or further explanation when the operators' proposals appear to fall short of meeting the requirements. In the judgment of the Commission, site security plans would serve the same function for preventing theft as mine plans do for ensuring that the proposed mining is sound from engineering, safety, and reclamation points of view.

Company wide plans for site security need not be overly complex nor need they impose a paperwork burden on the industry or government. For example, one oil company (Phillips Petroleum) presently has companywide standards for pipe placement. Piping that is to be installed according to the companywide standards can be placed without any approvals from company officials. Piping which deviates from the companywide standards must be approved by a company official before installation.

Another example of a simple companywide security standard concerns security at sales tanks. Instead of requiring that a company employee actually be present when a trucker arrives to load oil, one company protects itself against theft from the unattended tank at certain remote sites by shutting off and locking the inflow valve to the sales tank before a sale, then gauging the tank and recording the measurement. After the trucker has removed oil from the tank, the company measures the tank again. The company then compares the purchaser prepared run ticket with its own recorded measurements to verify the figures on the run ticket and to ensure that oil was not removed by a third party. Although this procedure differs from the Geological Survey's present requirements that a representative of the seller witness all sales, the procedure appears to be satisfactory and practical.

Although the examples cited above may not apply to every situation, they serve to show that companywide plans can provide flexibility for the companies and yet provide better security than now exists. Such plans need not be a burden for industry or government. Companywide plans could set different standards depending on the size of the site, the isolation of the site, and the method of oil and gas removal. Sites from which oil is removed by truck would have

different security precautions than sites where the oil is removed automatically by pipeline.

A company's security plan should be designed to eliminate the main opportunities for theft--storage tanks without locks and seals, unauthorized piping, unverified measurements of the quantity and quality of oil, and waste pits filled with more oil than is necessary for normal operations. (See Chapter Two.) These security plans should include at least the following elements:

- o A procedure for assuring that all piping is consistent with sound security practices and that deviations from standard procedures are approved by responsible company officials;
- o A procedure for installing and monitoring locks and seals on access points;
- o A procedure for assuring that oil is measured accurately, with correct adjustments for such characteristics as water and sediment content, temperature, and gravity when transfers of custody are made; and for verifying these measurements, at least on a spot check basis, by responsible company officials;
- o A procedure by which production data, including independent indicators such as well tests, are routinely matched against sales data, and discrepancies are checked for possible theft;

- o A procedure for assuring that waste pits are used in a manner that reduces vulnerability to theft and are monitored at least on a spot check basis by responsible company officials; and
- o A program for training company personnel in implementing and maintaining effective site security systems.

Company site security plans, consistent with minimum government standards, would serve as the basis for the companies' site security efforts. Unauthorized variations from submitted plans would be prima facie evidence of noncompliance with the Federal regulations, violation of which would subject the companies to penalties. In the Commission's judgment, this system best meets the industry's need for flexibility and the government's need for accountability.

## RECOMMENDATIONS

1. That the Secretary reaffirm by a letter to all lessees and lease operators that the Department holds them responsible for security on Federal and Indian lease sites and that the Department will conduct an active enforcement program to assure that their site security responsibilities are carried out in a satisfactory manner.
2. That all operators on Federal and Indian lands be required by regulation to develop lease site security plans detailing how that operator



will carry out his responsibility to ensure security of the site. These plans would be required to be consistent with minimum government standards and would be submitted to the managers of the Federal royalty program.

3. That USGS regulatory requirements be revised to eliminate any detailed regulatory requirements for site security and require instead that operators take the necessary steps to provide for site security as well as to meet minimum standards. Both requirements must be incorporated by operators into all site security plans. Deviations from these minimum requirements would be permitted on a case-by-case basis by the Federal royalty managers. Noncompliance with the principal requirements of the plan proposed and agreed to by the operator would be prima facie evidence of noncompliance with the Federal regulations. Noncompliance with the minimum requirements would also be a violation. Both violations would be subject to substantial penalties. (See Chapter Five, Enforcement.) The requirements of the new regulations would be phased in during a transition period.

#### PROBLEM: UNDOCUMENTED OIL

Another important aspect of oil theft prevention is to require adequate documentation for oil while in

transport to the refiner, reseller, or reclaimer and at the time of sale.

A run ticket is a basic document used when oil is moved off the site by truck. The transporter of oil fills out the run ticket before removing the oil from the lease site. It serves as the lease operator's receipt and the transporter's evidence of ownership, showing that the oil is not stolen.

Run tickets vary slightly but usually require that the transporter fill in the date of the removal, the amount of oil removed, and the quality of the oil removed (the basic sediment and water content, the observed temperature and gravity). The transporter must also identify the lease site and the lease operator, and state from which facility the oil was taken, e.g., a waste pit, tank, or tank battery.

The State of Louisiana requires that all oil transporters have run tickets, and it enforces the regulation by checking the document when transporters stop at State weighing stations. This is one very effective way of deterring would-be oil thieves. The State of New Mexico requires any person in the possession of oil--operator, transporter, refiner, reclaimer--to have proper documentation. The Texas Railroad Commission requires all people who transport anything for hire, including oil, to have a bill of lading.

In the judgment of the Commission, run tickets should be kept in any vehicle transporting oil. Trucks that appear suspicious could then be stopped by law enforcement officials (as is done in Louisiana) and the driver asked to produce the run ticket. The USGS currently does not require that truckers actually carry run tickets while transporting oil. It does require that operators make sure truckers have run tickets physically in their possession when they leave the lease site, but apparently truckers are not required by USGS to have the run tickets in their possession after they leave the site.

Another problem is the actual apprehension of thieves stealing oil from Federal and Indian leases. USGS and BIA employees do not have explicit legal authority to stop trucks outside the boundaries of the public and Indian lands. The Federal Bureau of Investigation, which is not a Federal police force, does not perform this function.

Federal Marshals, if any were available, would have authority, since theft of oil from Federal and Indian lands are Federal crimes. Theft of oil from Federal and Indian leases also violates State and local laws. State and local law enforcement authorities have limited powers on Federal and Indian lands.

In the Commission's judgment, Federal inspectors should have the authority to stop trucks off the lease sites as well as on the lease sites. For this, legislation will be required. Additionally, the Department should require the run ticket to be in the possession of the trucker at all times while transporting oil. The Department should seek to rely primarily on State and local law enforcement authorities to stop trucks in order to check for run tickets. Cooperative relationships between the Federal agencies and State and local officials in alerting each other to suspected cases of oil theft could fill the present gap in law enforcement in this area.

The Commission recognizes there are potential constitutional problems in stopping trucks on the highways. Stopping a vehicle and detaining its occupants without a search warrant, however briefly, constitutes a "seizure" within the meaning of the Fourth Amendment. However, under recent Supreme Court decisions it appears that officials may detain vehicles for a brief inspection of papers where there are grounds for reasonable suspicion of a violation of law; or, where there is a fixed checkpoint, officials may detain vehicles on a reasonable, nonarbitrary basis.

Thus, these constitutional requirements need not prohibit enforcement efforts. If an officer were to observe a truck coming from Federal or Indian land in the vicinity of a lease operation during the night, for example, or in other suspicious circumstances, he would be justified in stopping the truck and asking for a run ticket. Similarly, if there were reason to suspect that a given geographic area were prone to thefts, officers would be justified in establishing checkpoints at strategic locations.

At the present time, refiners, reclaimers, resellers, pipeline operators, and other oil purchasers are not required to see proof of ownership before purchasing oil. Because purchasers are free of any burden of checking the origins of the oil, the way is left clear for them to purchase stolen oil, wittingly or unwittingly. Today, many business transactions involving the disposition of valuables are closely scrutinized by purchasers. A buyer assures himself of the identity of the seller and is expected to make a good faith effort to determine ownership of the valuables being sold. Such should be the case with the purchase of oil. The primary burden for halting the traffic in stolen oil now lies entirely with government law enforcement authorities--local, State and Federal. Legislation is needed to enlist the aid of buyers of oil in making the sale of stolen oil more difficult.

## RECOMMENDATIONS

4. That the Department seek legislation or publish regulations, as necessary, to require truck haulers of oil to have run tickets in their possession at all times while transporting oil from Federal and Indian leases.

5. That the Department seek legislation to empower Federal inspectors (within constitutional limits) to stop trucks in order to check that the truck hauler possesses a run ticket.
6. That the Federal government establish cooperative relationships with State and local enforcement officials and encourage them to use their authority to inspect for run tickets in the possession of haulers of oil and to deter oil theft generally.
7. That the Department seek Federal legislation to prohibit the purchase of undocumented crude oil and require purchasers of crude oil up to and including refiners to keep documentation showing from whom they purchased the product and from what lease or unit.

CHAPTER FIVE

**ENFORCEMENT**

## CHAPTER FIVE

# ENFORCEMENT

### INTRODUCTION

*The present royalty management system is as weak in enforcement as it is in internal controls and site security. Two essentials for enforcement, both of proper royalty payments and of adequate site security measures, are inspection and sanctions. Inspections help to assure that lessees are complying with their obligations to pay royalties fully and protect lease sites, and adequate sanctions penalize those who do not. Under the present system, inspections are totally inadequate and penalties are not meaningful.*

Inspectors for Federal and Indian lease sites are too few, and many of them are untrained and inexperienced. Moreover, the inspection staff has not received clear direction on how to allocate limited time and resources--whether to emphasize safety and environment, whether to focus on physical security of lease sites against theft, or whether to concentrate on verifying operators' production reports.

Results of inspections have not been used effectively in royalty management. The USGS crash inspection program found 4,986 violations of site security rules on Federal and Indian onshore leases, but none of these violations was reported to or discussed with the USGS financial management branch.

*Inspection is just as significant a function for financial management as it is for prevention of physical theft from the lease site. The reports of field inspections are an indispensable source of*

independent verification of production. For example, inspectors must not only determine that openings to tanks are locked or sealed, that there is no unauthorized piping that bypasses meters; that waste pits are not filled with oil in ways that invite theft. They must also check wells actually producing on the lease, to see that they match the number reported in the operators' monthly production report; and they must check meters to see that they accurately measure the oil and gas flowing through them. Results of these inspections must be conveyed to the financial management branch of the royalty program.

Conversely, if accountants in the financial management branch note anomalies in the company reports they receive, or irregularities are flagged by a computer, the field inspectors must be notified. Some irregularities in the record may only be understood and corrected by a visit to the field.

Sanctions for violation of USGS site security rules or for persistent, serious underpayment of royalties are almost nonexistent. Even serious, repeated infractions of site security rules rarely bring more than a warning, and possibly, as time permits, a follow-up visit by an inspector. Gross underpayments of royalties, even if they are discovered, are rarely penalized. Interest charges, which the USGS has only recently levied for late payment for royalties, are not a penalty, but simply a cost of borrowing. Failure to file production and sales reports has recently been penalized, but most inconsistently. (Only one USGS area office is assessing more than token damages for failure to file.)

Fair, firm, predictable penalties, are necessary both for consistent compliance with site security rules and for reliable collection of all royalties due.

#### PROBLEM: INSPECTING LEASE SITES

As of January 1982, the USGS had only 63 inspectors for the 17,500 Federal and Indian onshore lease sites. For 1,240 offshore leases, there are 75 people (of whom about half are trained inspectors) performing inspections. The USGS is now planning to hire 37 more field inspectors for onshore leases, for a total of 100.

The duties of the inspectors include monitoring for safety, environmental, and many other requirements. The USGS estimates that only about 20 percent of their time is devoted to checking site security and verifying production--the functions directly related to royalty management. The same will be true of the augmented staff. When all the new inspectors are hired, only 35 staff years will be devoted to royalty concerns, including 20 staff years for onshore leases.

If the Geological Survey succeeds in hiring 37 new inspectors for onshore leases, each inspector in the increased force of 100 will still be responsible for 175 leases. The State of California has one inspector for every 4 leases; Louisiana has one inspector for every 13 leases.

USGS supervision of the inspection force has been haphazard. The USGS has directed inspection efforts in response to crises. An oil spill occurs and is publicized and the inspectors are rushed out to check environmental safeguards. An oil thief is apprehended and convicted and, for a brief period, the inspectors spend most of their time checking seals. The inspectors have never received clear direction from management concerning the routine allocation of their limited time and resources. In addition, the Commission received testimony that there is considerable lack of agreement between supervisors and inspectors regarding how and whether the site security regulations should be enforced.

Besides monitoring lease sites for compliance with the companies' site security plans and minimum government standards, field inspectors must also give adequate attention to verification of production as a direct aid to the financial management portions of the program. Some of the specific ways field inspectors could assist financial management are to:

- o Check producing wells against production reports, to confirm that the reports show all wells that are actually in production,
- o Notify the royalty accounting branch of any incidents of noncompliance that might have caused royalty losses;
- o Inquire whether royalties are being paid on gas that is flared or used on the lease; and
- o Inquire whether the sales were reported and royalties paid if waste pits or storage tanks have recently been emptied.

Likewise, the financial management system should flag anomalies that would signal the need for a field inspection. For example, inspectors might be asked to investigate in the field if:

- o Production and sales reports exhibit large gains or declines, without showing any changes in well status; and
- o Significantly more production than sales is reported.

In the judgment of the Commission, the number of field inspectors should be sufficient to assure that, on the average, each onshore Federal and Indian lease site is

visited at least once every year. This inspection time should be for royalty management purposes only, that is, for checking site security and verifying production.

Lease sites differ greatly, in size, kinds of problems, and geographical location. Some will require more inspection time and some less. It is the Commission's judgment that, on the average, one full day's inspection time (including necessary travel) must be devoted to each onshore lease site each year in order to provide a minimum oversight effort. This minimum of inspection time should not be diluted by attention to other concerns, such as assuring compliance with safety and environmental rules.

One visit to each onshore lease site per year would require, at the very minimum, a force of 83 full-time inspectors. The accompanying table shows the minimum number of inspectors needed for more frequent inspections.

The USGS planned increase to a staff of 100 inspectors for onshore leases is not enough. USGS inspectors now spend only about 20 percent of their time on royalty management concerns, so that 100 inspectors would equal 20 staff years for this purpose. An additional 63 staff years of inspection time devoted exclusively to royalty management purposes is needed to assure that, on the average, each lease gets the minimum of one day's worth of inspection per year.

## RECOMMENDATION

1. That the Federal royalty managers design and implement an inspection/enforcement strategy which will

NUMBER OF INSPECTORS NEEDED TO  
INSPECT AT VARIOUS INTERVALS  
ONSHORE ONLY

<u>Assumed Leases</u>	<u># of Inspections Per Lease Per Year</u>	<u># of Inspectors Needed</u>	<u># of Supervisors Needed</u>	<u>Total</u>
17,500	1	75	8	83
	2	150	15	165
	3	225	23	248
	4	300	30	330
	5	375	38	413
	6	450	45	495



assure that the performance of the industry, both in assuring site security and in reporting production volumes, is properly monitored. This strategy should include how often and in what manner, the field staff will inspect sites, how violations will be determined and penalties assessed, what other methods will be used to ensure site security and to verify production on site, and how the managers of the Federal royalty program will use the program's resources, both present and future, to carry out this strategy. To implement the strategy the Department should:

- o Increase the number of Federal inspectors so that at a minimum each Federal and Indian lease can be inspected once a year for site security and production verification purposes. (A minimum of 83 inspectors devoting 100 percent of their time to these two duties.)
- o Increase the frequency of inspection beyond the once a year minimum, by entering into cooperative agreements with States and Indian tribes and by using contractors as necessary to assist with the monitoring of the site. (See Chapter Six for further discussion of this recommendation.)

## PROBLEM: EMPLOYING SANCTIONS

One of the most noteworthy characteristics of the Geological Survey's total royalty management system--both site security enforcement and royalty accounting--is that it lacks effective sanctions. A lease operator or lessee can violate most site security and royalty accounting requirements with impunity. If an inspector finds a lessee in violation of lease requirements, the USGS is authorized to impose "liquidated damages." However, these are mostly very small and do not serve to deter operators from being in violation. The USGS almost never assesses liquidated damages or any other penalty for violations of site security requirements, despite the thousands of violations of USGS site security rules.

Likewise, infractions of royalty management rules usually go unpunished. The Survey's Roswell, New Mexico area office assessed damages of \$313,000 against 30 companies in fiscal 1981 for failing to file production and sales reports, or for late filing. (The Roswell office also assessed two companies \$70,500 for other violations, not related to royalty management). But the Roswell office, for all practical purposes, was unique. All other USGS offices dealing with onshore Federal and Indian leases assessed damages of only \$28,321 against 78 companies. Most of the assessments were for failure to file or late filing. The sum of \$28,321 is negligible, in relation to the multibillion dollar oil and gas industry.

The USGS also has the authority to order shut-ins of production for serious violations of its site security or royalty management rules. It rarely exercises this power, however. One reason is that such an action penalizes the lease owner along with the lessee. Shut-in production means no royalties for the period of the shut-in.

The final deterrent available to the USGS is cancellation of the lease. The USGS can recommend to the Bureau of Land Management that a lease be cancelled in cases of serious violation of its site security or royalty accounting requirements. In fact, however, the USGS has never sought the cancellation of an operating lease on Federal land, however serious the violation. Operating leases on Indian lands, on the other hand, have been cancelled in a few cases by the Department of the Interior at the urging of certain Indian tribes.

Roy H. Sampsel, Deputy Assistant Secretary for Indian Affairs, Department of the Interior, told the Commission that the Department concurs that lease cancellations should be pursued in cases of flagrant theft or security problems. He added, however, that "some form of due process" needs to be spelled out. He said that based upon the documentation that has been presented, the Department will be cancelling the Amoco leases on the Wind River Reservation, as requested by the Arapahoe and Shoshone Tribes.

Sound royalty management requires using sanctions. A good internal controls system which guards against fraud and insures that royalties are paid in full and on time is costly. Likewise, implementing an adequate site security plan may be an economic burden. If the government contractually requires of its lessees sound accounting and prudent site security but provides no meaningful penalties for failure to comply, there is little incentive for the company to carry out its obligations. This gives them an unfair economic advantage over other companies which are complying in good faith. Sanctions for noncompliance help to assure that all companies bear the burdens equally.

There are two basic approaches to imposing monetary penalties when operators fail to comply with company security plans, which incorporate minimum government standards. Under the first, an operator could expect

to be fined when an inspector found a violation on his site. Under the second, an operator could expect to be fined only after he had been told by a field inspector to correct violations and then failed to do so.

The system of fining an operator whenever a violation is detected provides a strong incentive for the operator to stay in compliance at all times. (This assumes that the fine is high enough to make it worthwhile for the operator to avoid the fine.) Under this system, if fines are set correctly and if understanding of the requirements is clear, there is less need for frequent, routine inspections to "check up" on operators. Operators will know what is expected of them, without being told personally by an inspector what the rules are, and will be motivated to implement the standards on their own.

The second approach, where an operator could expect to be fined only after having been told to correct a violation and then having failed to do so, may possibly be perceived as fairer to operators, because it gives them a chance to correct the violations without being fined. However, it provides little or no incentive for the operator to monitor his own compliance. If operators understand the requirements of the site security plan (which they should, since they or their companies will have proposed the plan themselves), and if reasonable criteria are used in setting fines, there should be no real unfairness in using the first approach.

The USGS has no legal authority at this time to assess civil penalties. By establishing a civil penalty system to enforce both site security and royalty management rules, the Federal government would be taking one of the most essential steps toward effective royalty management. It is noteworthy that in its testimony commenting on the Commission's draft recommendations, the American Petroleum Institute, an oil industry trade association, stated: "With the

understanding that industry would have an opportunity to respond to specific regulations which might be proposed and that penalties would be commensurate with the severity of the violation, then the concept of sanctions for noncompliance is acceptable."

## RECOMMENDATIONS

2. That the Secretary direct employees of the Federal royalty program that he expects enforcement of the program's regulations to be conducted fairly, but firmly, with penalties imposed when violations are found.
3. That the Department seek legal authority to assess civil penalties for site security violations. The civil penalty system should have fines up to \$10,000 per violation, and under certain circumstances, each day should be counted as a separate violation.

After the legislation is enacted, appropriate criteria for levying fines should be developed and promulgated after publication in the Federal Register for review and comment.

These criteria should include the operator's history of violations, the potential for theft, negligence of the operator, and good faith in compliance. Civil penalties should be imposed both for violations detected for the first time and for noncompliance, that is, failure to obey an order.

4. That the Department seek legal authority for a civil penalty system for nonpayments, late payments, underpayments, error ridden reports, and failure to submit or update the required payor plan.

The Internal Revenue Service's system of a sliding penalty scale based on the culpability of the payor and harm to the government could be used as a model. As applied to royalty collections, this would provide that failure to report would result in a penalty of 5 percent per month of the royalty owed up to a maximum of 25 percent, unless the payor shows that his failure to report is due to reasonable cause and not willful neglect. Chronically error ridden reports would be treated as a failure to report.

Also, there should be a penalty for failure to pay the royalty when due of one-half of one percent per month of the amount owed, up to a maximum of 25 percent.

Where underreporting represents 25 percent or more of the amount owed and is willful, the USGS should impose a civil penalty of 50 percent of the total unpaid royalties due.

Penalties would be applied in addition to interest levied on the delinquent royalties.

5. That the Federal royalty managers use shut-in authority in cases of noncompliance where there is serious

potential for theft. Operators should be charged the value of the average daily royalty that otherwise would have been paid had the lease not been shut-in, as liquidated damages or penalty.

6. That the Secretary of the Interior exercise his authority to use shut-ins and lease cancellations as sanctions for severe cases of underpayments. Operators should be charged the value of the average daily royalty that would otherwise have been paid had the lease not been shut-in, as liquidated damages or penalty.
7. That the Secretary pursue lease cancellation in cases of repeated theft or serious lease security problems.