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BY THE COMPTROLLER GENERAL

Report To The Congress

OF THE UNITED STATES

Interior's Report Of Shut-In Or Flaring Wells Unnecessary, But Oversight Should Continue



114958

GAO is required by the Outer Continental Shelf Lands Act Amendments of 1978 to review methods the Department of the Interior uses to allow OCS wells to be shut-in (not producing) or to flare (burn off natural gas). In this second report, GAO also reviews actions taken on its previous recommendations.

GAO again found problems with Interior's annual shut-in wells and flaring report, as well as Interior's monitoring procedures for these activities. More importantly, GAO questions the need for the annual report by Interior and recommends that Interior seek legislative relief from the reporting requirement. If relief is granted, Interior would still continue to maintain general oversight of the OCS wells and should improve its oversight efforts.



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COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON D.C. 20548

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To the President of the Senate and the
Speaker of the House of Representatives

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This is the second report required annually by the Outer Continental Shelf Lands Act Amendments of 1978, that examines the Department of the Interior's methodology used to allow Outer Continental Shelf (OCS) wells to be shut-in or to flare natural gas. This report also addresses the question of whether the annual reporting requirement should be rescinded.

Copies of this report are being sent to the Secretary of the Interior; the Director, Office of Management and Budget; and the House and Senate committees and subcommittees having oversight and appropriation responsibilities for the matters discussed in the report.

Milton J. Arnold

Acting Comptroller General
of the United States

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D I G E S T

This is GAO's second report on the Department of the Interior's methodology for monitoring and reporting on Outer Continental Shelf (OCS) wells that are shut-in (not producing) or flaring (burning off natural gas). This review is required by the Outer Continental Shelf Lands Act Amendments of 1978.

GAO questions whether Interior's report fulfills the intent of the Congress and whether continuing to require it serves a useful purpose. A primary concern of the Congress in enacting the annual reporting requirement was to provide oversight of whether OCS operators were deliberately withholding production in anticipation of higher prices. Currently, the report does not satisfy that purpose. Also, the issue of withholding production seems less significant today due to recent price decontrol measures.

GAO believes Interior should seek legislative relief from the reporting requirement. Interior also believes the report does not satisfy the congressional intent and favors its abolishment.

Abolishing the report would not affect Interior's continuing responsibility for overseeing OCS activities, including ensuring efficient development of oil and gas resources.

Until such time as Interior requests and the Congress grants legislative relief, however, the required report should be as meaningful and responsive to the Congress as possible. GAO again found areas where the report needs to be improved. Problems included:

- Reporting on shut-in wells without (1) adequately explaining the nature of and reasons for their being shut-in, (2) presenting needed analyses of information contained in the report, and (3) clearly explaining terms used and including all pertinent information. (See pp. 11.)

- Monitoring shut-in wells based primarily on data reported by OCS operators without (1) reasonable verification of the data, (2) followup efforts to ensure timely restoration of wells with production potential, and (3) review of wells classified as having no future utility for possible enforcement of plugging and abandonment regulations. (See pp. 15.)
- Allowing the flaring of natural gas without adequate monitoring to ensure (1) flaring is conducted only for specified approval periods, (2) flaring ceases when ordered, and (3) operators submit all necessary information when requesting approval to flare. (See pp. 31.)

RECOMMENDATIONS

GAO recommends that the Secretary of the Interior seek legislative relief from the Congress on section 601 (a) of the Outer Continental Shelf Lands Act Amendments of 1978. Such relief would repeal the requirement for Interior's annual report on shut-in and flaring wells as well as for GAO's annual evaluation and report on Interior's methodology in fulfilling that requirement. If relief is granted, the Secretary would have to continue to maintain general oversight responsibility regarding shut-in wells and gas flaring in connection with the Department's role to prevent waste and promote prompt and efficient development of OCS resources.

As long as the legislative requirement exists, GAO recommends that the Secretary of the Interior make it as meaningful and useful as possible by directing the Geological Survey to include in future reports

- a list of all wells that identifies each well completion, i.e., the well from which production emerges, and the status of the well completions;
- a statement by the Department concerning (1) the nature of a shut-in well and the most common causes for a well being shut-in, (2) the basis for the information contained in the report, and (3) the procedures used to verify OCS operator-reported information;

--summary information analyzing the appendices included in the report; and

--definitions of all technical terminology used in the report.

To enhance OCS production and improve monitoring of shut-in wells and gas flaring, even in the absence of a reporting requirement, the Secretary should direct the Geological Survey to

--selectively review supporting data used by OCS operators to assess the reasonableness and validity of such data;

--obtain justification from operators that appear to continually or unreasonably extend planned restoration dates;

--require operators desiring approval of long-term gas flaring to submit all of the information required by OCS orders as necessary for deciding whether to grant such approval;

--establish a more systematic and documented approach to monitoring long-term approvals for compliance with approval conditions;

--followup on operators suspected of excessive flaring to ensure that such flaring ceases; and

--continue to followup on "no future utility" wells and, when appropriate, require plugging and abandonment of such wells as soon as circumstances allow. (See pp. 25.)

AGENCY COMMENTS

Interior's comments on the findings and recommendations in this report were provided in the Department's March 4, 1981, response to GAO's January 30, 1981, letter of inquiry (see app. I and II). In addition, GAO discussed the findings and recommendations in this report with Interior on March 20, 1981. The Department agreed with most of GAO's recommendations, particularly those dealing with the need to seek legislative relief from the reporting requirement and, until such relief is obtained, the need to include additional information in the report.

The Department did not agree with GAO's recommendations concerning the need for the Geological Survey to (1) selectively review supporting data used by OCS operators so as to assess the reasonableness of such data, and (2) obtain justification from OCS operators appearing to unreasonably or continually extend planned restoration dates. The Department replied that additional review of operators supporting data is unneeded because there is no evidence that OCS operators are deliberately withholding production. The Department believes that current regulations and procedures are sufficient to ensure that deliberate withholding of production is not done. With respect to justification for operator restoration delays, the Department stated any additional efforts on its part would involve extensive studies that are not necessary because (1) operators' restoration decisions are often based on economic factors, which are beyond the Department's purview, and (2) operators have a tremendous incentive to restore wells to production.

GAO believes that as long as OCS operators are required to report to Interior their activities involving shut-in wells, for whatever reason, Interior should be concerned with the reliability of the information being reported. GAO found that reviews of operators' supporting data are not routinely conducted by the Survey, even on a selective basis. GAO believes that current procedures are not adequate to indicate deliberate withholding of production. Selective review of information appearing unreasonable or questionable is a logical, acceptable, and commonly used procedure in any information gathering process and is especially important since much of Interior's monitoring efforts are reliant upon information maintained and reported by the operator. (See p. 26.)

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ABBREVIATIONS

DOI	Department of the Interior
GAO	General Accounting Office
OCS	Outer Continental Shelf

CHAPTER 1

INTRODUCTION

GAO's MANDATE

The Outer Continental Shelf (OCS) is one of the Nation's significant domestic sources for production of oil and natural gas. During fiscal year 1979, the OCS produced about 243 million barrels of oil (about 9 percent of domestic production) and about 4.5 trillion cubic feet of gas (about 24 percent of domestic production). Increased demand for oil and gas and the decline in U.S. production of these resources created the need for more prudent Federal management of the OCS. Prudent management involves reducing or eliminating wells flaring (burning off or venting) producible natural gas and expeditiously restoring producible shut-in (nonproducing) wells on the OCS.

The Department of the Interior has primary responsibility for the leasing, administration, and management of OCS resources. The Department, through its U.S. Geological Survey, regulates operational OCS activities to ensure prompt and efficient development and production of mineral resources, while preventing waste and conserving natural resources.

The Outer Continental Shelf Lands Act Amendments (P.L. 95-372, Sept. 18, 1978) require that we review, evaluate, and report to the Congress on the methodology the Secretary of the Interior uses in allowing OCS wells to be shut-in or to flare natural gas. The OCS Lands Act was passed in 1953 by the Congress to provide for the exploration and development of the natural resources on the OCS, particularly oil and natural gas. Concerns about OCS oil and gas resources and the need for their diligent development led to amendments to the act. The amendments--Title VI, section 601--address the need for increased oversight of OCS wells that are shut-in or are flaring natural gas. Section 601 requires the Secretary of the Interior to submit to the Congress a report which (1) lists all shut-in oil and gas wells and wells flaring natural gas on leases issued under the OCS Lands Act and (2) indicates the Secretary's intentions on whether to require production of shut-ins or order the cessation of flaring.

INTERIOR'S FIRST SHUT-IN AND FLARING WELLS REPORT AND GAO'S EVALUATION

The Secretary of the Interior issued his first report on shut-in and flaring wells on March 19, 1979. On November 21, 1979, we issued our first report 1/ on Interior's methodology and recommended several ways that Interior could improve its report and enhance

1/Report of the General Accounting Office, "Interior Lacks Adequate Oversight of Shut-in or Flaring Natural Gas Wells On The Outer Continental Shelf," EMD-80-3, Nov. 21, 1979.

its OCS oversight role. On November 25, 1980, we reported to the Secretary of the Interior 1/ on followup actions taken in response to our recommendations concerning the first shut-in and flaring wells report. We noted continued problems in Interior's verification and followup procedures for shut-in wells, monitoring of natural gas flarings, and enforcement of regulations concerning plugging and abandoning wells.

Additionally, our November 25, 1980, report raised the question of whether there was a need for Interior to continue to prepare and submit the shut-in and flaring wells report. We noted concern by Interior over the usefulness of the report and suggested Interior's considering whether its reporting approach meets the congressional intent and, if not, whether it should put forth the required effort to meet the intent or seek legislative relief from the Congress.

INTERIOR'S SECOND SHUT-IN AND FLARING WELLS REPORT

On October 20, 1980, Interior issued its fiscal year 1979 annual report on the OCS oil and gas leasing production program. Included in the annual report was the Department's second shut-in and flaring well report. Although this report was required by law to be issued in March 1980, it was issued 7 months late. The report, prepared by the U.S. Geological Survey, includes separate segments dealing with (1) natural gas flaring and (2) shut-in wells. The report consists of 10 pages of narrative and tabular information, two tables depicting data on OCS natural gas flaring activities, and five appendices or data listings showing various categorizations of shut-in wells.

According to Interior's report, as of September 30, 1979, there were about 11,700 oil and gas well completions in the Gulf of Mexico and in the Pacific OCS--about 6,300 were producing and 5,400 were shut-in. In addition to the 11,700 well completions, about 700 wells were being drilled. Of the approximately 5,400 shut-in well completions, the report categorized

--1,811 (1,021 oil and 790 gas) as having probable future production,

1/GAO report to the Secretary of the Interior concerning "Followup on Actions Taken in Response to GAO Recommendations Concerning the Department of the Interior's March 1979 Shut-in and Flaring Wells Report," EMD-81-23, Nov. 25, 1980.

- 417 (282 oil and 135 gas) as having recompletion 1/ potential in another reservoir penetrated by the well; and
- 3,231 as apparently having no future utility as producible well completions.

The report also noted that during fiscal year 1979, total Gulf of Mexico gas produced was about 4.5 trillion cubic feet of which approximately 4.2 trillion was produced from gas wells and 0.3 trillion was produced from oil wells. Natural gas flared during fiscal year 1979 represented about 0.4 percent of the total gas produced.

OBJECTIVES, SCOPE, AND METHODOLOGY

Our review was mostly conducted at the Geological Survey's Gulf of Mexico Regional office responsible for the location of about 97 percent of the OCS producing oil and natural gas wells. Our review focused primarily on meeting our legislative requirement to review Interior's methodology used to allow OCS wells to be shut-in or to flare natural gas. In conducting the review, we used Interior's second annual report, which lists OCS shut-in well completions and natural gas flaring activities. Since this was our second review, we used an approach similar to that used in our previous review. During this review we

- followed up on Interior's actions taken regarding our previous recommendations,
- reviewed the current report to determine how the data contained in it was explained,
- randomly sampled shut-in well completion data reported by OCS operators to determine whether the reported data was correctly processed and presented in the report,
- reviewed in detail one problem category of shut-in well completions to determine what actions are taken to identify unreasonable delays in restoring wells to production,
- reviewed wells categorized as having "no future utility" to determine what consideration is given to plugging and abandoning them and removing structures from the OCS; and

1/These 417 shut-in completions were within wells (wellbores) that have penetrated several reservoirs but have produced only the deeper reservoirs. Shutting in the deeper well completions (due to their depletion) leaves untapped the shallower, commercially producible reservoirs. These reservoirs could be produced later.

--reviewed approvals for long-term natural gas flaring and procedures regarding short-term flaring reported by operators.

In accomplishing these tasks, we

--interviewed officials at Geological Survey headquarters in Reston, Virginia, and its regional office in Metairie, Louisiana;

--reviewed pertinent records at Interior's regional office;

--examined applicable regulations, policies, and practices pertaining to OCS wells that are shut-in or are flaring natural gas;

--reviewed the legislative history of the OCS Lands Act Amendments of 1978; and

--utilized a GAO geologist with extensive experience in the energy field and detailed knowledge of the Geological Survey's activities.

In addition, during our evaluation we sent a letter of inquiry to the Secretary of the Interior on January 30, 1981. (See app. I.) In the letter, we noted uncertainty by Interior concerning the usefulness of the report in meeting the congressional intent regarding the reporting of shut-in and flaring wells. We requested Interior's official position on whether it believes it should continue to submit the report or should seek legislative relief from the reporting requirement. The Department responded to our letter on March 4, 1981. (See app. II.) In addition, final comments on our report were provided orally on March 20, 1981. Both responses have been considered and appropriately incorporated in this report.

CHAPTER 2

SHOULD INTERIOR CONTINUE ITS REPORT?

More important than the question of how adequate is Interior's report concerning shut-in and flaring wells is the question of whether the report fulfills the original intent of the Congress and whether the requirement for the report should continue. We believe it should not. Our review indicated that Interior's current report (1) does not fully meet the congressional intent, (2) appears less necessary in light of recent measures to decontrol domestic energy prices, and (3) has not been effective or timely in providing meaningful information to the Congress.

We recommend that Interior seek legislative relief from the reporting requirement. We believe this would release both Interior and GAO resources to serve other needs and would not affect Interior's continuing responsibilities for inspecting and monitoring OCS lease activities, including the prevention of waste or abuse of resources. Interior also supports this view.

We believe, however, that until such time as the reporting mandate is rescinded, Interior's report needs to be as meaningful and responsive to the Congress as possible. In addition, actions to improve Interior's general oversight role should be taken, even if the report is abolished.

INTERIOR'S REPORT DOES NOT MEET THE CONGRESSIONAL INTENT

Our review of the legislative history indicates that, at the time the reporting provision was enacted, the Congress was concerned with a possible withholding of oil and gas production in anticipation of future higher prices. To address this concern, the Congress apparently enacted the report provision as a means of providing some oversight of unwarranted shut-ins and unproductive gas flarings. This interpretation of the legislative history is consistent with the recollections of a former congressional staff member who was closely associated with events involving the writing and passage of the 1978 amendments. The recollections were that the report provision had two purposes: to determine (1) whether wells were being shut-in for economic rather than production reasons and (2) whether it was really necessary to flare gas or whether the gas could be productively used. Also, Interior, in responding to our January 30, 1981, letter of inquiry, indicated that the purpose of the report is to alert the Congress of any intentional withholding of OCS resources.

If detecting the deliberate withholding of production is in fact the purpose of Interior's report, it does not accomplish this. The former congressional staff member, mentioned above, said that Interior's past reporting efforts have not met the congressional

intent, basically because the report only presents raw data with no analyses of what the data means. Even Survey officials believe the current report is inadequate to judge whether or not production is being deliberately withheld. In addition, Survey officials stated that while the report would not indicate deliberate withholding, other regulations and procedures are sufficient to ensure that this is not being done.

RECENT ACTIONS AFFECTING THE CONTINUED NEED FOR THE ANNUAL REPORT

Recent legislation and current administration actions also may make the continued reporting less necessary. In 1978, the Congress passed the Natural Gas Policy Act, under which price controls over most natural gas produced from OCS leases acquired after 1977 are being phased out until 1985 when full price decontrol is scheduled. Further, in January 1981 President Reagan ordered the decontrol of domestic crude oil prices. Under decontrol, producers of domestic crude oil may now charge world market prices for their product. Producers would thus appear to have less reason to deliberately withhold production.

Although we did not specifically assess the impact price decontrol may have, it seems reasonable, as industry and administration officials contend, that decontrol provides economic incentive for increased exploration and development of domestic oil and gas. If this is so, it would seem to somewhat defuse earlier concerns, expressed at the time the shut-in and flaring well report provision was enacted.

PAST REPORTING EFFORTS HAVE BEEN UNTIMELY AND INADEQUATE

Interior's first report issued in March 1979 was a reproduction of computer program print-out pages which excluded necessary explanations to make it a useful document. While the report did contain a 6-page narrative, it lacked a written statement on the Department's methodology used to allow OCS wells to be shut-in or to flare natural gas. Our review of the report necessitated recommendations on ways to improve it and enhance Interior's OCS oversight role.

On November 25, 1980, we reported to the Secretary on actions taken in response to our recommendations, pointing out that while the Department had implemented several of our recommendations several others had not been implemented. We also noted that the Department had not issued its fiscal year 1979 report on time--the report was issued 7 months later than legislatively required. In addition, we noted questions raised by Department officials regarding whether the report fulfills the congressional intent.

On January 30, 1981, we informed the new Secretary of our question on whether there is a need for Interior to continue to prepare and submit the annual report to Congress. We stated that we share the new administration's stated goal of reducing or eliminating

unnecessary Government functions and would like his views concerning

- the purpose of preparing the shut-in and flaring well report,
- whether or not the report can be an effective means to determine deliberate withholding of oil and gas production,
- what additional resources would be required to adequately determine whether production is being deliberately withheld, and
- whether it is beneficial for the Department to continue fulfilling its requirement to annually prepare the report and, if not, whether the Department should seek legislative relief from the current reporting requirements.

In responding to our letter, the Department stated that while it realizes the reporting requirement was enacted to alert the Congress of any intentional withholding or wasting of OCS resources, the requirement needs to be viewed in the context of when the law was written. The Department pointed out that market conditions have changed since the reporting provision's enactment and that, with the decontrol of prices, the prime reason for initially requiring the report is no longer valid. In addition, the Department noted that the report itself can never be an effective means to measure deliberate withholding of oil and gas production.

The Department further stated that the resources employed to prepare the report could be better utilized and that large amounts of time are spent compiling information, keypunching, and assembling the report for publication. The Department concluded that legislative relief from the reporting requirement would eliminate this unnecessary burden without affecting the Survey's program for analyzing OCS shut-in and flaring gas wells.

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We believe that, in view of the issues discussed in this chapter, Interior should seek legislative relief from its shut-in and flaring well reporting requirement. Until such time as Interior obtains legislative relief, however, we believe the report should be as meaningful and responsive to the Congress as possible--and we again found areas where the report needs to be improved. In addition, there are other actions needed to improve the Geological Survey's general oversight of OCS activities which, as stated earlier, would continue even if the report is eliminated. These matters are discussed in chapters 3 and 4.

CHAPTER 3

INTERIOR'S METHODOLOGY AND REPORTING

OF SHUT-IN WELLS STILL NEEDS IMPROVEMENT

The Department of Interior's shut-in and flaring wells report does not adequately explain the methodology used by the Secretary in allowing wells to be shut-in or flared, nor does it clearly present information regarding shut-in wells. Methodology involves the manner in which the Department gathers, reviews, and uses data in the oversight of OCS operator activities relating to shut-in wells. To improve its report, the Department needs to better explain

- the nature of and causes for shut-in wells,
- the basis for information used in the report, and
- the data verification procedures employed.

The Department should also clarify technical terms used and include other pertinent information.

In addition, the Geological Survey needs to (1) improve its followup on operators' planned corrective actions to restore shut-in wells to production and (2) continue its review of "no future utility" wells for determining which wells can and should be plugged and abandoned.

SURVEY'S METHODOLOGY FOR ALLOWING WELLS TO BE SHUT-IN SHOULD BE BETTER EXPLAINED

Interior's report does not adequately explain the methodology used by the Secretary in allowing OCS wells to be shut-in. Currently, the report fails to adequately explain what a shut-in well is and why it is shut-in, the basis for data presented in the report, and the data verification procedures employed.

The "what" and "why" of a shut-in well should be better explained

Interior should present at the beginning of its report a clear explanation of what a shut-in well is and the reasons for them. Also, Interior needs to explain what restoration of a shut-in well actually means.

The Outer Continental Shelf Lands Act Amendments (P.L.95-372, Sept. 18, 1978) require that we review, evaluate and report to the Congress on the methodology the Secretary of the Interior uses in allowing OCS wells to be shut-in. The phrase "allowing wells to be shut-in" is generally not descriptive of the shut-in process. According to Interior, a shut-in is usually caused by a mechanical or reservoir problem despite operator efforts to keep the well on production. The great majority of wells are shut-in for reasons

that are generally not controllable, such as equipment malfunction, reservoir decline, wellbore problems, etc. Categories that are readily controllable are those related to safety and conservation.

The Department's report lists shut-in wells with production potential and indicates a restoration date for each well listed. Without further explanation and an understanding of the nature of these terms, readers of the report may be confused as what the terms actually represent. For example, each shut-in well listed in the Department's report actually refers to a well completion rather than a well. A well is a hole (wellbore) in the earth made by drilling or boring for the purpose of obtaining oil or gas. A well completion is a string of tubing (a smaller diameter pipe) placed within a wellbore, usually opposite a reservoir, and through which the reservoir's oil and/or gas is flared to the surface. A well on the OCS usually penetrates several reservoirs and many wells are completed in two or more reservoirs (zones) simultaneously--called multiple completions. Zones or reservoirs tested during the drilling and found to be capable of producing, but which have not been completed for production, are termed "behind the pipe reserves." They are not shut-in since they have never been opened to production or completed. Because the Department's report addresses shut-in well completions rather than shut-in wells, readers of the report might be confused as to how many wells or holes are actually shut-in. The number of shut-in completions listed in the report--1,811, does not refer to 1,811 wells, but rather represents 1,811 completions within an unreported number of wells.

In addition, the Amendments require Interior to indicate whether production will be required for each shut-in well listed. In attempting to satisfy this requirement the Department lists a restoration date for each shut-in well completion. Actually, the restoration date represents the operator's best estimate of when corrective operations will begin in an attempt to restore the well completion to production. If corrective operations are successful, Interior will require that the well completion be placed on production. A clear explanation of this should be included in the beginning of the report to inform the reader what is actually meant by restoration.

Basis for information used in
the report should be explained

The Department should explain that information contained in the shut-in report is supplied by OCS operators with very little input by the Department or Geological Survey. The information presented represents summaries or restatements of data reported by the OCS operators.

The reason wells are shut-in and the action required to restore production are provided by OCS operators in a "Monthly Report of Operations--Outer Continental Shelf," Form 9-152. This report is required by the Survey from the first month of drilling operations until the lease is terminated. The monthly report contains (1) the

identification of each well and completion; (2) the number of days each well completion produced; (3) the quantities of oil, gas, and water produced; (4) the total amount of gasoline and other lease products recovered; and (5) other required information.

When wells become shut-in for an entire month, operators indicate the reason for the shut-in, the type of corrective action required to restore the wells to production, and an estimated date the corrective action will begin. Much of this information is submitted in general terms in codes supplied by the Survey. Upon receiving these reports, the Survey inputs the data into a computer to generate various departmental reports including the shut-in well portion of the Survey's report submitted to the Congress.

As a part of our audit work, a sample 1/ of operators' Form 9-152s was evaluated to determine whether the information had been correctly processed from the source document to the final shut-in report. The only problems noted dealt with the last date of production. In 60 of the 129 entries reviewed, we found discrepancies between information reported on the shut-in report and information in the operators' Form 9-152s. In 32 of the 60 instances, the shut-in report was correct. The 9-152s were correct in 13 instances. The 15 remaining disagreements dealt with wells that had been recently drilled or tested. Survey officials explained that errors on the shut-in report related to dates reported several years earlier and not subject to internal accuracy checks established in recent years.

Data verification procedures employed
should be explained in the report

In addition to explaining the source of data used in the shut-in report, the report should indicate that the Department places heavy reliance on operators for the accuracy of data regarding shut-in wells. There is little verification by the Department of the reasonableness of data reported by OCS operators. In our 1979 report, we recommended that the Survey should begin testing reportings of shut-in well completions by OCS operators to assure that the reported problems exist. Our recent review found that although the Survey monitors information submitted by OCS operators regarding shut-in wells, verification of that information is essentially limited to visually inspecting shut-in wells and validating Survey reports with reports submitted by operators. Additional verification or review of operator-reported information is needed

1/A sample was taken of the "Monthly Report of Operations--OCS" (Form 9-152) used in compiling information for the fiscal year 1979 shut-in report. We evaluated reports that included 129 of the 1805 Gulf of Mexico shut-in well completions reported for September 1979. The criteria used to select the sample consisted of a universe of 1805; a confidence level of 95 percent; and an error rate of 10 percent, with a 5 percent allowance.

to more reasonably attest to the validity of data reported annually to the Congress, but more importantly, to provide Interior a sound basis for monitoring OCS activities regarding shut-in wells.

Survey district inspectors, as part of their routine platform inspection visits, attempt to verify the status of shut-in wells reported by operators. During a routine platform inspection, the district inspectors complete a shut-in report checklist which normally indicates the reason for a well being shut-in. Because platform personnel are not normally required to maintain information on shut-in wells, district inspectors make visual inspections of the well, which indicate little about why a well is shut-in.

Following the inspections, the inspection results are recorded and compared to data previously reported by the operators. Although the inspections are performed routinely, comparison of the inspection results with operator-reported data is done only on a spot-check basis when time permits. According to Survey officials, discrepancies are normally treated as data processing or clerical errors. The errors are resolved by contacting the operator and asking whether the information obtained by the inspector or the information supplied by the operator is correct.

Survey officials admit that the quality of information obtained through its inspections is questionable since (1) the only thing to be learned from visually inspecting a shut-in well is that it is indeed shut-in, (2) there is no requirement that there be platform records pertaining to the shut-in, and (3) platform personnel may or may not know why a well is shut-in and if, when, or how it will be restored. Although recognizing that its current procedures do not fully serve as an independent verification of operator-reported information, the Survey does not plan to expand its verification process. We were told that in order to do so, the Survey would need technical information currently maintained only by operators.

The Survey believes that the current verification efforts inform the operators that the issue of shut-in wells is important. The operators, therefore, may pay closer attention to shut-in wells. We believe the Survey should make reasonable efforts to verify information associated with shut-in wells. As indicated earlier, Survey inspectors discuss shut-in well problems with platform personnel who may not know exactly why a well is shut-in or when it will be restored. We were advised that engineering and geologic data relating to why a well is shut-in and whether it can be restored are maintained onshore by company engineers. We believe that some review and discussion of this information would provide the Survey a better basis for determining why a well is shut-in and whether and when attempts could be made to restore it. Limited analyses of operator data supporting a shut-in well should be made if the reason for the shut-in well appears unreasonable or unusual.

We are not suggesting that the Survey devote existing resources to such measures as independently testing wells to determine if and why a well is shut-in. We believe, however, that the Survey should

at least do more than compare operator reports with Survey reports based on the same operator data. Unless there is at least some review of operator's supporting data, the Survey has no basis for disagreeing with what the operator reports. Finally, we believe the shut-in report should clearly explain what steps are taken in verifying shut-in wells.

SURVEY'S PREPARATION AND TERMINOLOGY USED IN
THE SHUT-IN WELL REPORT NEEDS IMPROVEMENT

The Survey should clarify the information presented in its report. Summary information should be prepared to explain the statistical data that is presented. The terms used to display the statistical data should be well defined and unambiguous. Finally, the shut-in report should include information on "other kinds" of wells with production potential.

Analyses are not prepared concerning all
the information that is presented

In our 1979 report, we recommended that the Survey include additional information to make the shut-in report more meaningful. Although the shut-in report contains a great deal of this data, the Survey has not analyzed or explained much of the information presented.

Our 1979 report recommended that the Survey provide a listing of all wells and well completions and indicate whether the shut-in wells were in a group of producing wells or within a group of non-producing wells. In response to these recommendations, the Survey now includes the following appendices in its current report:

Appendix I - "Shut-in wells with production potential reported in September 1979."

Appendix 2 - "No future utility wells with recompletion potential in another zone penetrated by the well bore reported in September 1979."

Appendix 3 - "Status of well completion by platform reported in September 1979."

More of the information presented in these appendices should be analyzed and presented in the narrative portion of the report. For example, the Survey could have analyzed or explained the first two appendices and identified the number of shut-in wells with an overdue projected action date, wells with potential restoration in 60 days or less and wells that changed the projected action dates. This information would show how promptly the operators were attempting to bring wells back into production. Further, the Survey could have explained that in its Appendix 3, although several shut-in wells are located on the same platform, they might not be restored promptly if they are among producing wells, because oil production may be disrupted. Explanations and analyses of this nature would enhance the reader's understanding of the data presented.

Terminology not well defined

The Survey can improve the shut-in report by defining all terms and clearly presenting data contained in the report. Precise definitions would provide a clear understanding to the reader of the rationale and criteria used by the Survey in making decisions. In order to describe the statistical information presented, the captions used to display the information should be qualified. Terms needing clarification include "well completions," "last date of production," "daily rate of production," and "restoration" or "recompletion" date.

The shut-in report addresses shut-in well completions rather than shut-in wells. As defined earlier, a well is the well bore, or hole, made by the drill bit for the purpose of obtaining oil or gas. A well completion is the tubing (a smaller diameter pipe) placed within the wellbore, usually opposite a reservoir, and through which the reservoir's oil and/or gas is produced. A well-bore may have two or more such strings of tubing (completions) within it allowing the well to produce two or more reservoirs simultaneously, or separately. These are called multiple completion wells. Because Interior's report addresses shut-in well completions rather than shut-in wells, Members of Congress who may not be familiar with the terminology might not be able to discern from the report that a well-bore may include several completions or zones, some of which may be shut-in, some producing, and some with potential production.

Another term used in the report and needing clarification is the "last date of production." The last date of production represents the last month that the well produced either gas or oil. Our evaluation of the report indicated, however, that some wells did not have a last date of production. This occurred because some wells had just been completed and had not yet produced, or a completed well had just been tested and had not yet produced or resumed production. A Survey official explained that since a recently completed or recently tested well has not yet produced, production figures are not available. As a result, the date of last production is recorded 0/00 with nothing shown for production. We believe the Survey should at least explain in its report why certain wells do not have a last date of production.

Another term needing clarification is the "daily rate of production." The daily rate of production represents the amount produced by a shut-in well in its last producing month divided by the number of production days in that month. Survey officials explained that the daily rate of production provides a good indication of what production was prior to the shut-in. However, officials stressed that there is no correlation between production before a well is shut-in and after the well has been restored. They were concerned that providing such rates would lead to erroneous conclusions if the reader believed the reported rate would continue after the well was worked over. We agree that this rate cannot be used as a sole indication of the production potential if a well is worked over. However, this rate coupled with other information, such as (1) relative location of a shut-in well with other producing

wells, (2) amount of estimated reserves remaining, (3) and the reason the well is shut-in, are factors that should be considered in assessing the reasonableness of operator plans to restore the shut-in well.

Operators' "restoration" or "recompletion" date listed in the report also need further explaining. The restoration or recompletion date is the estimated date when the operator will begin the work necessary to restore the well. The Survey does not attempt to show when production will occur because the process of performing remedial work on a well is unpredictable. Although the report explains that the restoration date is based on the operator's estimate of when corrective attempts will occur, the caption should be qualified to show that different definitions can be used for the restoration date. These definitions are:

- Each well listed refers to a completion in a single string of tubing producing from a reservoir. A well bore may have two or more such strings, with only one string in a non-producing status. Therefore, the date of restoration may be the estimated date that the producing string will cease production, thereby allowing remedial work on the non-producing string without loss of production from the well.
- A date of restoration may be the time when enough wells on a platform cease production so that shutting in the remaining producing wells on the platform is justified while workover operations are in progress. Most such workovers are timed to present the least interruption to continuous supply.
- The date of restoration might be the estimated depletion date of the oil portion of a reservoir, at which time the gas could be produced.

Survey report still does not list
all potential production situations

Although the Outer Continental Shelf Lands Act Amendments require Interior to list all shut-in oil and gas wells on the OCS, the fiscal year 1979 report did not list or describe the wells categorized as "other kinds" of wells nor did it show wellbores with production potential.

"Other kinds" of wells with
production potential

During our review of the FY 1978 shut-in well report, we noted that the report did not include "other kinds of wells" with potential production that had been drilled but were awaiting installation of platforms or other equipment. Although these wells were not yet

complete, and thereby not technically shut-in, we felt that recognition of their status over time in the Department's annual reports would provide useful information pertinent to the congressional concern regarding loss of available supplies due to withholding production. Accordingly, we recommended that the Survey implement a followup program to obtain an anticipated production date for wells in the "other kinds of wells" category. Our review revealed no such followup program has been implemented. In order to include this information in future reports, the Survey would need to alter its monitoring approach regarding shut-in wells.

The Survey noted in internal reports that about 622 wells were categorized as "other kinds of wells." We reviewed these reports and found that 422 of them may be producing when they become completions. They were drilled but awaiting installation of platforms or other equipment and were not yet in production. The Survey had no anticipated production date nor a detailed reason for their incomplete status.

Survey officials told us that the recommendation regarding "other kinds of wells" was not included in the list of GAO recommendations the Department provided the Survey. According to the officials, because they were unaware of the recommendation, they have not done anything in response to it. The officials stated that "other kinds of wells" represent active and inactive wells, i.e., wells that are being or have been drilled but are awaiting final installation of structures or equipment before production. These wells are not considered as having been completed. Survey officials said that since operators vary in their methods of drilling and completing wells, the Survey has decided to begin its monitoring and report efforts when wells are completed. Furthermore, the officials did not believe "other kinds of wells" fell under the reporting requirements of the amendments.

Wellbores with production potential

In our 1979 report, we recommended that future reports list, by separate category, all wells with production potential. An appendix dealing with wells would provide useful information if it showed the completions within the wells.

The current report accounts for the number of completions on a given platform. In most cases, there are two or more completions in a wellbore. If a wellbore has one producing completion and one shut-in completion, the shut-in completions may not be worked over because production from the other completion would be interrupted. The appendix would present more useful information if the completions were identified by each wellbore located on the platform. A more detailed analysis could be made of the information to identify those shut-in wells that could possibly be restored.

The Survey has informed us that the shut-in report for 1980 will contain a wellbore report. During our evaluation of the 1979 shut-in report, we had the opportunity to review the draft wellbore

report. As currently planned, the report will identify by platform all wellbores and the various completions located within them. If this report is included in the fiscal year 1980 shut-in report, it will present a useful and detailed listing of the status of all wellbores on the OCS.

MONITORING OF RESTORATION DELAYS AND "NO FUTURE UTILITY" WELLS NEEDS IMPROVEMENT

In addition to improvements that will make the shut-in well report a more understandable and useful document, the Geological Survey needs to improve its monitoring of

- operator delays in restoring shut-in wells to production, and
- "no future utility" wells that might be candidates for plugging and abandonment.

Inadequate followup by the Survey on planned corrective actions

Although the Survey has begun keeping track of operator delays in initiating restoration attempts, it does not question the validity of the delays or require operator justification for extending corrective action dates. This is despite the fact that operators having shut-in wells with similar problems report wide ranges of restoration dates.

In reporting on shut-in wells, OCS operators also indicate an estimate of when planned corrective actions will be undertaken to attempt to bring the shut-in well back on production. To identify restoration delays, the Survey monitors dates reported by operators through two computer reports--one that lists planned corrective actions that are 90 days or more overdue and another that lists changes in planned restoration dates. When it identifies expired corrective action dates, the Survey notifies the operator and inquires about the status of the planned corrective action. According to a Survey official, the operator usually submits a new estimate that is accepted by the Survey and recorded as the new date that corrective attempts are to occur. The validity of the new estimate is not questioned nor is the operator required to justify the extension. In addition, the Survey does not question those restoration dates that are changed.

A Survey official told us that since the Survey does not question restoration dates originally proposed by operators, it has no basis for questioning a revised date. Furthermore, Survey officials believe that since the Survey does not maintain technical or economic data used by operators in planning restoration attempts, it would be difficult for the Survey to question those plans or to require restoration if it disagrees with an operator's estimate.

We reviewed reports of shut-in well completions in one problem category (junked equipment in the hole) and found that the time to start corrective action for this problem ranged from 1 month to several years. Of the 1805 shut-in Gulf of Mexico well completions listed in the Survey's report, 117 (about 6 percent) were shut-in due to junked equipment in the wellbore. We reviewed reports of those shut-in well completions and noted that the restoration dates given for the completions requiring minor work ranged from 1 month to 10 years and 11 months (Mar. 1972 to Jan. 1983). The completions needing major work had restoration dates ranging from 6 months to 13 years (Nov. 1972 to Nov. 1985).

The apparent disparity in timeframes to begin corrective action for these types of shut-in wells should alert the Survey that additional information is needed to determine the reasonableness of the problem causing the shut-in, the corrective action planned, and the reasonableness of both the initial and any changed restoration date.

We believe the Survey has taken a step in the right direction in its monitoring of planned corrective action dates that have lapsed and changed. We question, however, the value of having such controls if the Survey merely accepts revised operators' estimates without question. Further, we believe the Survey should review operators' initial and any changed plans and dates for restoration from the viewpoint of promptness and effectiveness and in the event of a disagreement, should question the operator. A prudent operator will be able to justify its position--any disagreement should be recorded and reasonable efforts made to establish a new date.

"No future utility" wells not reviewed
for possible plugging and abandonment

We identified a number of "no future utility" wells that apparently could and should be plugged and abandoned.

In our 1979 report, we recommended that the Survey be directed to

- review the circumstances of OCS wells that are shut-in and categorized as "no future utility" to determine which of these have idle or useless structures and/or equipment that can be removed from the OCS, and
- enforce, where feasible, regulations pertaining to the plugging and abandonment of wells actually having "no future utility."

In December 1979, the Department changed the language of its regulations by requiring plugging and abandoning wells that are "no longer useful" rather than "no longer used or useful." The Department's rationale for the change was that some wellbores that are no longer used might still be useful. The Survey believes this would allow operators to postpone plugging and abandonment operations

until such action is appropriate from a safety, production, and economic standpoint.

According to Survey data, as of September 1979, there were 3,635 shut-in oil and gas well completions classified as having "no future utility." Approximately 3,200 of these well completions were classified as having no potential for recompletion. We made a limited analysis of the Survey's report on these completions and identified at least 117 located in wellbores from 39 platforms and 3 well jackets where there is no production or potential production. Many of them had been in this status for at least 6 years and appeared to warrant review for possible plugging and abandonment.

In discussing Survey practices, the Metairie District Supervisor told us that district inspectors do not normally review the circumstances surrounding shut-in, "no future utility" wells to determine if idle or useless structures can be removed. The Supervisor stated that the District does not require an operator to plug and abandon a well simply because it is shut-in and classified as having "no future utility." Usually, plugging and abandoning actions are initiated by operators, rather than the Survey, at the time of lease expiration.

After discussing this matter with Survey officials, the Survey agreed that some review of "no future utility" wells is warranted. The Survey pointed out that there may be some instances whereby because of ongoing production activities, plugging and abandonment may not be immediately feasible. Nonetheless, the Survey directed its district personnel to review "no future utility" wells and, where appropriate, require plugging and abandonment. Steps have been taken to identify "no future utility" wells that could possibly be plugged and abandoned and to question operators regarding such wells.

We believe the Survey's recent effort to address this situation is a step in the right direction and we encourage followup efforts to ensure that appropriate "no future utility" wells are in fact plugged and abandoned and associated structures removed. We agree that there may be various circumstances surrounding OCS wells classified as having "no future utility" that might preclude requiring operators to plug and abandon such wells. The Survey's current efforts in reviewing "no future utility" wells should preclude requiring operators to plug and abandon such wells when surrounding circumstances deem such action as inappropriate.

CHAPTER 4

MONITORING AND REPORTING OF OCS

WELLS FLARING NATURAL GAS NEEDS IMPROVEMENT

The Geological Survey has not substantially improved its reporting and monitoring of natural gas flared by OCS operators. OCS operators' requests for long-term gas flaring are approved without sufficient information, required by Survey OCS orders. Wells with expired approvals of long-term flaring continued to flare. These expired approvals were subsequently inaccurately reported to the Congress as authorized approvals. Furthermore, although the Survey has begun following up on reports of emergency flaring by OCS operators, it needs additional followup to ensure that excessive flaring actually ceases.

Natural gas flaring means the burning or otherwise releasing of gas into the atmosphere. Historically, most of the natural gas flared has been that produced in conjunction with oil. This type of natural gas is known as casinghead gas or gas produced from an oil well. Natural gas produced from a gas well is referred to as gas well gas.

REGULATING OCS FLARING

Survey orders permit natural gas flaring, but only under certain conditions. The Survey's OCS Order No. 11 provides for two general categories of gas flaring--approved long-term (extended) flaring and short-term, small-volume flaring. Long-term flaring of casinghead gas requires approval by the Survey's Oil and Gas Supervisor, who allows flaring for periods of up to 1 year. This flaring can be approved provided (1) positive action has been initiated to eliminate the flaring or (2) flaring will result in an ultimate greater total energy recovery. Approved flaring of gas well gas is provided only in connection with routine or special well tests. Small volume or short-term flaring of both casinghead and gas well gas is permitted without the Supervisor's approval on a temporary basis during emergencies, well purgings, and evaluation tests, and when gas vapors are released in a manner that it is uneconomical for recovery.

During fiscal year 1979, according to the Survey's statistics, most of the natural gas flared was casinghead gas. Of the approximate 17 billion cubic feet of gas flared, about 87 percent represented casinghead gas. Of the total amount of gas flared, about 96 percent represented short-term flaring while about 4 percent was approved long-term flaring. The total amount of gas flared during fiscal year 1979 represented about 0.38 percent of the total gas produced.

INADEQUATE MONITORING AND REPORTING OF APPROVED LONG-TERM FLARING

The Survey has not substantially improved its monitoring and reporting of approved long-term gas flaring since our last review. Problems noted during our most recent review include

- allowing operators with expired long-term approvals to continue flaring,
- granting long-term approvals to operators based on insufficient information, and
- following an unsystematic approach in monitoring long-term approvals.

Expired flaring long-term approvals

The Survey did not begin reviewing approved long-term flaring until about December 1979. At that time, while gathering information for its fiscal year 1979 shut-in flaring well report, the Survey discovered that three of the six long-term approvals listed for September 1979 had in fact expired. Although the three were subsequently extended or reapproved, all had flared for 1 year or longer without approval. Furthermore, although the Survey was aware that the September 1979 listing of approved flarings contained the three expired approvals, it included the erroneous listing in the fiscal year 1979 shut-in and flaring report.

A Survey official agreed that the three wells should not have been allowed to continue flaring with an expired approval. Officials explained that because these had been prior approvals and because they had been or would be reapproved, they decided to include them in the September 1979 listing of approved flarings. Survey officials maintain that they have been monitoring long-term flaring more closely and have taken action to identify and extend, where justified, long-term approvals that expire.

Insufficient information submitted with approval requests

The Survey does not consistently obtain the type of information it needs to decide whether to approve requests for long-term gas flaring. OCS Order No. 11 provides for Survey approval of oil well gas flaring provided that (1) positive action has been initiated to eliminate the flaring or (2) the flaring will result in an ultimately greater total energy recovery. In applying for approvals or extensions to flare oil well gas, OCS Order No. 11 calls for operators to provide specific information such as

- the estimated amount and value of oil and gas that would be lost if the application were rejected;

- the estimated total amount of oil that would be recovered and the associated gas that would be flared if the application were approved; and
- all appropriate economic, engineering, and geologic data in an evaluation showing that the absence of approval to flare gas will result in premature abandonment of oil and gas production or curtailment of lease development.

We reviewed operators' requests for extending approvals listed in the Survey's September 1979 report of approved flaring and found that operators submitted varying degrees of information and did not always include the type of information called for in the OCS orders. For six approval requests reviewed, four included the information required by OCS Order No. 11. The remaining two, although containing some of the required information, were not specific regarding the amount and value of resources that would be lost if flaring were disallowed. Neither did they present an economic evaluation showing that the absence of an approval would result in premature abandonment of oil and gas production or curtailment of lease development. Although the requests did not contain all the required information, they were approved by the Survey.

Unsystematic monitoring approach

We found that in monitoring and preparing reports regarding long-term approvals, Survey personnel, for the most part, use a very unsystematic and undocumented approach. There are no written procedures regarding monitoring or report preparation. Further, because no systematic approach is followed, it is difficult to review or recreate past monitoring efforts or even reconstruct previously reported information. Also, until very recently, monitoring efforts did not always indicate whether operators who were required to periodically submit data regarding approved flaring were doing so in a timely manner.

In late 1980, the Survey established a tickler file to aid in monitoring approved long-term flarings. The tickler file identifies when each approval expires, whether the operator has requested an extension, and whether the operator has submitted monthly reports of flaring activity. Further, we were informed that the Survey has drafted a written policy statement outlining its monitoring procedures regarding approved long-term flaring.

INSUFFICIENT FOLLOWUP ON EMERGENCY FLARING

Although the Survey has begun testing operators' reporting of emergency flaring, it needs to followup to ensure that operators stop excessive flaring that is identified.

Survey guidelines allow the intermittent flaring of small volumes of gas from oil and gas wells without approval in instances

of (1) gas vapors released from low-pressure production vessels, (2) emergencies, and (3) well purgings and evaluation tests. In the case of emergency flaring, if the flaring is continuous for over 24 hours, the operator must report the flaring to the Survey, but needs no approval at that time. When emergency flaring is continuous for over 72 hours or exceeds 144 hours in a month, the operator must notify the Survey and obtain approval to continue to flare.

In monitoring emergency flaring, the Survey prepares and periodically reviews a 6-month summary report of gas flared by OCS operators. To identify excessive flaring, the Survey reviews the percentage and volume of gas flared during the 6-month period. If the Survey suspects an operator has been flaring excessively without an approval, it notifies the operator and requests an explanation for the flaring. Upon receiving the explanation, the Survey assesses whether the explanation is "reasonable" and files it. Thus far, according to the Survey, all explanations have been "reasonable." There has been no followup to ensure that the flaring actually ceased, although a Survey official told us he is planning to followup. In our opinion, without timely followup to ensure that flaring actually stops, the value of the Survey's monitoring efforts is diminished. Further, without timely followup, operators who have been flaring excessively could continue to waste natural gas resources that might be commercially produced.

OTHER DATA NEEDED FOR OCS
WELLS FLARING NATURAL GAS

In our November 1979 report, we indicated that Interior's report on wells flaring natural gas was useful, but could be improved by better describing the conditions and circumstances surrounding the status of wells that are flaring. We recommended that the Department include in its report:

- the date approved long-term flaring began,
- the total amount of gas flared for those long-term approved flarings listed in the report, and
- the estimated date the approved flaring will stop or the expiration date of the approval.

While the Department included some of the recommended information, most of the information is still not included.

The fiscal year 1979 flaring report does not contain the date long-term approved flaring began. Instead, the report indicates the date of initial approval for each instance of approved flaring. Survey officials told us that, until recently, OCS operators authorized to flare under an approval were not required to report the date flaring actually began. Operators can start flaring anytime following the approval date. Consequently, for the fiscal year 1979 report,

the date of initial long-term approval was used. Survey officials indicate they have started requesting operators to report when flaring occurs under a long-term approval and therefore should be able to include such information in future reports.

Although the fiscal year 1979 flaring report contains the total amount of gas flared for fiscal year 1979, the amounts shown are in aggregate and are not presented for each instance of approved flaring. The only flare amounts shown for individual long-term approvals are for the month of September 1979. As a result, the report does not indicate for fiscal year 1979 what wells, leases, or operators contributed to the total volume of gas flared under approvals.

Survey officials told us that due to a misunderstanding, only one month's totals were listed for individual approvals. The officials told us that monthly information is available and will be used to include the 12-month totals in future reports. During our review, however, we noted the difficulty the Survey had in determining how much each individual approval contributed to total amount of gas flared in a particular month. Although the Survey was eventually able to reconstruct the figures, because of misplaced working papers and the previously mentioned unsystematic monitoring approach, the reconstruction effort was difficult.

While recognizing that the Survey has attempted to improve its reporting of natural gas flaring activities, we nonetheless believe that the flaring report still needs to contain information such as the date approved flaring begins and the total amount of gas flared during the fiscal year under each long-term approval listed in the report. We believe that the Survey's inability or failure to include this information points toward the need for a more thorough and systematic method for monitoring approved flaring activities of OCS operators.

CHAPTER 5

CONCLUSIONS, RECOMMENDATIONS, AND AGENCY COMMENTS

CONCLUSIONS

Prudent Federal management of the OCS should involve the expeditious restoration of producible shut-in wells and the elimination of the flaring of producible natural gas. Currently, the Department of the Interior exercises oversight in this area through its evaluation and reporting of OCS shut-in and flaring wells. While the adequacy of Interior's methodology and report concerning shut-in and flaring wells is an important issue, we believe a more important issue is whether the report fulfills the original intent of the Congress and whether the requirement for the report should be continued. We believe it should not.

Our review indicated that a primary concern of the Congress in initially requiring the report was whether OCS operators were deliberately withholding production in anticipation of future higher prices. Currently, Interior's report does not meet this concern, but rather presents raw statistical data with little analyses or explanation of what the data means. In addition, recent legislation and administration actions decontrolling the price of oil and natural gas in effect make the report less necessary, since decontrol lessens the incentive for operators to deliberately withhold production.

We believe Interior should seek legislative relief from the shut-in and flaring wells reporting requirement. According to Interior's recent response to our inquiry on this issue, the Department agrees that abolishing the report requirement would eliminate an unnecessary burden and release resources to serve other needs. Abolishing the report would not affect Interior's continuing responsibilities for inspecting and monitoring OCS lease activities to ensure efficient development of oil and gas resources.

Until such time as Interior obtains legislative relief, however, we believe the report should be as meaningful and responsive to the Congress as possible. In our evaluation of the report, we again found areas where the report needs improvement. In addition, there are other actions needed to improve the Geological Survey's general oversight of OCS activities which, as indicated earlier, would continue even if the report is abolished.

The Department's second shut-in well and gas flaring report, although containing more information than the first report, would be a more useful and understandable document if it contained explanations concerning the nature of and causes for shut-in wells, the basis for information used in the report, and data verification procedures employed. The Department should present additional analyses of the report's data and clear definition of terms used. Further, with respect to natural gas flaring, Interior inaccurately reported

several expired long-term approved flarings as authorized approvals. Also, the Department did not and still needs to comply with our prior recommendations to include in the report the date approved long-term flaring began and the estimated total amount of gas flared for each instance of approved long-term flaring. These improvements are necessary as long as Interior is required to provide the report to the Congress.

With respect to shut-in well and gas flaring activities relating to Interior's continued oversight of OCS lease development, Interior needs to further review operator-reported information to determine its reasonableness. We are not suggesting independent well testing; however, we believe the Department should, in cases where operator information appears questionable or unreasonable, review engineering or geologic data upon which the operator's data is based. This additional review should be made concerning both the reason a well is shut-in and the restoration attempts to return it to production. In addition, the Department should continue to ensure that "no future utility" wells that should be plugged and abandoned are identified and operators are required to perform such measures.

In monitoring flaring activities, Interior still needs to ensure that instances of approved long-term flaring cease when required and that requests for approvals are based on all the information required by Survey orders. In addition, although the Geological Survey periodically reviews short-term flaring by operators, it does not followup on those operators that appear to be flaring excessively to ensure that such flaring actually ceases.

RECOMMENDATIONS

We recommend that the Secretary of the Interior seek legislative relief from the Congress on Section 601 (a) of the Outer Continental Shelf Lands Act Amendments of 1978. Such relief would abolish the requirement for Interior's annual report on shut-in and flaring wells as well as for GAO's annual evaluation and report on Interior's methodology in fulfilling that requirement. If relief is granted, the Secretary would have to continue to maintain general oversight responsibility regarding shut-in wells and gas flaring in connection with the Department's role to prevent waste and promote prompt and efficient development of OCS resources.

In addition, so that the currently required report will be as meaningful and useful as possible to the Congress--as long as the legislative requirement exists--we recommend that the Secretary of the Interior direct the Geological Survey to include in future reports

- a listing of all wells identifying each well completion and the status of the well completions;
- a statement by the Department concerning (1) the most common causes for a well being shut-in, (2)

the basis for the information contained in the report, and (3) the procedures used to verify OCS operator-reported information;

- summary information analyzing the appendices included in the report; and
- definitions of all technical terminology used in the report.

To enhance OCS production and improve monitoring of shut-in wells and gas flaring, even in the absence of a reporting requirement, the Secretary should direct the Geological Survey to

- selectively review supporting data used by OCS operators so as to assess the reasonableness and validity of such data;
- obtain justification from operators that appear to continually or unreasonably extend planned restoration dates;
- require operators desiring approval of long-term gas flaring to submit all of the information required by Survey orders as necessary for deciding whether to grant such approval;
- establish a more systematic and documented approach to monitoring long-term approvals for compliance with approval conditions;
- followup on operators suspected of excessive flaring to ensure that such flaring ceases; and
- continue to followup on "no future utility" wells and, when appropriate, require plugging and abandonment of such wells as soon as circumstances allow.

AGENCY COMMENTS

Interior's comments on the findings and recommendations in this report were provided in the Department's March 4, 1981, letter (see app. II). In addition, we discussed the findings and recommendations in this report with Interior on March 20, 1981. The Department agreed with most of our recommendations, particularly those dealing with the need to seek legislative relief from the reporting requirement and, until such relief is obtained, the need to include additional information in the report.

The Department disagreed with our recommendations concerning the need for the Geological Survey to (1) selectively review support-

ing data used by OCS operators so as to assess the reasonableness of such data, and (2) obtain justification from OCS operators that appear to unreasonably or continually extend planned restoration dates for shut-in wells. According to the Department, expanding the Geological Survey's current shut-in well verification procedures, even on a selective basis, is unjustified. Department officials indicated that because there has been no evidence of wrong doing or deliberate withholding of production by OCS operators, selective review of operators' supporting data is unwarranted.

With respect to obtaining justification for operators' restoration delays, the Department believes current procedures are adequate and serve to alert operators that the Department is concerned with the information being reported. To expand its current procedures, the Department indicated it would have to perform extensive reservoir or field studies to conclude on the reasonableness of operators' planned restoration efforts or timing. The Department believes it unnecessary to allocate resources to perform the studies because (1) operators' workover decisions are often based on economics, which the Department believes is beyond its purview, and (2) operators have a tremendous incentive to restore wells to production.

We recognize that the past and current reporting efforts have not presented evidence of deliberate withholding of OCS resources. It is because of this recognition that we recommend the Department seek legislative relief from the annual reporting requirement. Until such relief is obtained, however, and in fulfilling Interior's continued oversight responsibilities for shut-in wells, the issue of data reliability is and will continue to be important. As long as OCS operators are required to report to Interior their activities involving shut-in wells, for whatever reason, Interior should be concerned with the reliability of the information being reported. We found that reviews of operators' reporting data are not routinely conducted by the Survey, even on a selective basis. We believe that current procedures are not adequate to indicate the deliberate withholding of production. Selective review of information appearing unreasonable or questionable is a logical, acceptable, and commonly used procedure in any information gathering process and is especially important since much of Interior's monitoring efforts are reliant upon information maintained and reported by the operators.

We are not suggesting that extensive field studies be undertaken. We are recommending that if selective reviews reveal that sufficient information is unavailable through inspection visits, discussions with platform personnel, and periodic reports from operators, then Interior should contact operators and obtain whatever additional information is needed to reasonably ensure the reliability and validity of what is being reported by the operators.



UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

ENERGY AND MINERALS
DIVISION

JAN 30, 1981

The Honorable James G. Watt
The Secretary of the Interior

Dear Mr. Secretary:

The Outer Continental Shelf (OCS) Lands Act Amendments of 1978 require the Secretary of the Interior to prepare an annual report listing all shut-in oil and gas wells and wells flaring natural gas on OCS leases. Section 601 (b) of the Amendments requires the General Accounting Office (GAO) to review and evaluate the methodology used by the Department in allowing wells to be shut-in or flare natural gas, and to report to the Congress. On November 21, 1979, we issued our first report to the Congress on Interior's methodology and recommended several ways that Interior could improve its report and enhance its OCS oversight role. On November 25, 1980, we issued to your predecessor a followup report on actions taken by Interior in response to our recommendations. A copy of the letter report is enclosed.

In our November 1980 report, we cited several continuing problems regarding the manner in which the Geological Survey accumulates and reports information to the Congress on shut-in wells and wells flaring natural gas on OCS leases. However, the important question expressed in our report was whether there was a need for Interior to continue to prepare and submit the required annual report. At the time the 1978 law that requires Interior to prepare the annual report was passed, there was a good deal of congressional concern that OCS operators might be withholding production in anticipation of future higher prices. The annual report seems to us to be intended to provide Congress with some oversight in this area. Survey officials responsible for preparing the annual report informed us that they did not know the intent of the report. They said that if the report's intent was to show whether OCS operators were deliberately withholding production, the current reporting approach did not achieve that goal. Survey officials believe that OCS operators are in fact producing as much as possible.

If the annual report does not provide the Congress oversight of OCS production, and OCS operators are in fact maximizing oil and gas production, the continued need for the report may be questionable. Legislation in place has

already started to phase out price controls over natural gas and calls for total decontrol by 1985. Moreover, the current Administration's views and actions with respect to decontrol would seem to defuse much of the 1978 concerns over withholding OCS gas production in anticipation of higher prices. These developments along with the Survey's current approach to meeting its legislative mandate raise questions in our mind concerning the usefulness of the report. While we realize that the annual report is legally mandated, we also believe that if the Department does not feel it's continued preparation of the report is beneficial, it should consider seeking legislative relief from the reporting mandate.

As required by the 1978 Lands Act Amendments, we are currently evaluating the Department's fiscal year 1979 shut-in and flaring well report. In view of the recent change in administrations, we believe this is an opportune time to bring to your attention our concerns in this area and to ask you to provide us with the Department's official position regarding the usefulness and need for the report. Accordingly, we would like your views concerning

- the purpose of preparing the shut-in and flaring well report,
- whether or not the report can be an effective means to measure deliberate withholding of oil and gas production, and
- whether it is beneficial for the Department to continue fulfilling its requirement to annually prepare the report and, if not, whether the Department should seek legislative relief from the current reporting requirement.

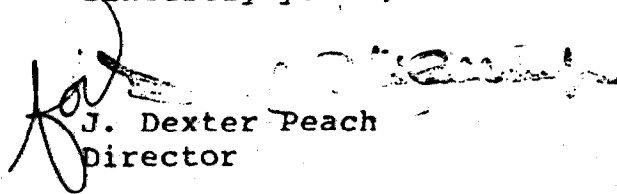
Also, since Survey officials seem to feel that the current reporting requirements are inadequate to judge whether or not production is being deliberately withheld pending higher prices, we would like your best judgment as to what sort of additional commitment of manpower and funds would be required to adequately make such judgments.

The matters discussed in this letter were also discussed in our November 25, 1980, report to Secretary Andrus. The law requires the Secretary of Interior to respond to the recommendations in that report within 60 days. In as much

as we have not yet received a response, we are transmitting this letter along with a copy of our November 1980 report to ensure that the issue of possible unnecessary reporting is explicitly brought to your attention. GAO shares the new administration's stated goal of reducing or eliminating unnecessary Government functions.

We would like to incorporate your response in our report to the Congress. Therefore, we would appreciate receiving your reply by February 20, 1981. If you or your staff have any questions concerning this matter, please contact Mr. Lowell Mininger on 254-6937 or Mr. Errol Smith on (504) 589-6115.

Sincerely yours,



J. Dexter Peach
Director

Enclosure



United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

MAR 4 - 1981

Honorable Jack Brooks
Chairman, Committee on
Government Operations
House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

We appreciate the opportunity to review the report of the General Accounting Office on "GAO Recommendations Concerning the Department of the Interior's March 1979 Shut-In and Flaring Wells Report" (EMD-81-23). This response is made in accordance with Section 236 of the Legislative Reorganization Act of 1970.

The GAO report has been helpful in assisting us to identify deficient areas related to our annual report on shut-in and flaring wells. We will implement those suggestions which can be put into effect within budget and manpower levels available to us. Furthermore, the Department will review its approach to meeting the requirement of the annual report and, as suggested by GAO, may recommend legislative relief from the annual reporting requirement, if appropriate.

We trust that the enclosed comments will clarify any differences we might have in this matter.

Sincerely,

Donald Paul Hoffert

Enclosure

cc: Honorable Morris K. Udall
Chairman, Committee on Interior and
Insular Affairs

COMMENTS ON GAO RECOMMENDATIONS CONCERNING THE
DEPARTMENT OF THE INTERIOR'S MARCH 1979 SHUT-IN AND FLARING
WELLS REPORT (EMD-81-23)

I. Shut-in Wells

A. Verification of operator-reported data regarding shut-in wells.

Current procedures for testing or verifying operator data reasonably assure that the reported reason for a well completion not producing is due to well conditions and that such reason is a logical conclusion of the operator. Nearly all of the nonproducing (shut-in) well completions listed in the 1979 annual report are not producing because no operation short of an actual workover could keep them producing. The only exceptions are those few well completions that were deliberately shut in with the approval of the Geological Survey (GS) or directed to be shut in by GS in the interest of conservation.

To determine the reason for a well completion being off production, the operator reviews all information on the well available in the field and in technical offices. Once the problem is established, the operator then determines if there is a reasonable chance that the well completion can be made to produce again and what steps must be taken to make it happen. To test or verify the operator reports and conclusions, GS's petroleum inspectors visually determine that the well completion is not producing. Also, they review the records available in the field on the well completion to confirm the status.

All of the operator's well information originates either in the field or in technical offices, and copies are forwarded to GS. However, internal economic factors normally are available only to the operator and are not routinely available to GS. Apart from internal economics,

when technical data is reviewed by equally competent and experienced persons, similar conclusions can be expected.

GS could go beyond reviewing operator data on shut-in wells as recommended by the General Accounting Office (GAO). By so doing, GS would make a detailed study of conditions of the wellbore as well as the completions in the wellbore; a detailed geologic and engineering study of the reservoir in which the well is completed; and an economic analysis as to whether a recompletion is feasible. To conduct such studies on a very limited basis that could be accepted as a representative sample would require excessive professional resources.

Moreover, even if the result of such an analysis were positive, such results would have to be weighed against the probability of failure for workovers. Statistics show that about 50 percent of the workover and completion attempts in the deviated holes in the Gulf of Mexico will fail. Thus, the benefits to be derived from such monitoring procedures leave justification of the regulatory costs involved very questionable.

In conclusion, GS cannot independently verify all operator-submitted data. However, current procedures adequately assure the reasonableness of operator decisions and plans with regard to nonproducing (shut-in) well completions.

B. Operator-planned corrective actions.

The approximate date when an operator plans to initiate corrective action is very difficult to ascertain considering availability and location of the wells to be worked over. Accordingly, if date estimates are wrong and planned restoration dates are changed, GS does

not question such changes since in nearly every instance another well somewhere is being worked over instead of the one initially planned for that time. Thus, the value of requiring further justification for changes in planned restoration dates is probably very small.

The GAO opinion that the Secretary, in the OCS Lands Act Amendments of 1978, has the authority to require production from shut-in wells, must be taken in context. As stated earlier, nearly all of the nonproducing well completions in the shut-in well report went off production in spite of everything the operator could do to keep them on.

C. "No future utility" wells not identified for possible plugging and abandonment.

The Deputy Conservation Manager for Field Operations has initiated a procedure whereby all platforms or single-well jackets containing only "no future utility" wells will be identified and the operators will be required to remove them without good reason otherwise. This program is currently underway, and numerous platforms have been identified for possible removal.

D. Format of Yearly Report.

The format of the report on shut-in wells has been revised to address well bore data as well as shut-in completions and thereby avoid confusion. Additional information has been added to the report to expand and clarify its contents.

II. Gas FlaringA. Long-term flaring.

The GS lapse in the monitoring of long-term oil-well gas flaring has been corrected. Personnel have been reassigned and charged accordingly. The program has been working adequately and efficiently for some time now.

The program for monitoring of the long-term flaring of gas is built upon the following:

- a. A tickler system to provide for the timely review of all long-term systems prior to the expiration date of the approved flaring period.
- b. A monthly review of the gas being flared from each flare point and a determination as to whether the flaring is increasing to excessive amounts.
- c. A systematic review of the progress reports for the applications where corrective action is being taken by operators to eliminate flaring.

We believe that sufficient information is obtained by GS to make a decision on whether long-term flaring is warranted. In some cases, a full-fledged economic analysis is unnecessary. Such cases occur when, for example, leases are isolated from pipelines, the total gas being flared is small, and only a few MCF per day are available after compressor fuel deductions. Under these circumstances, the economics are obviously favorable to approval.

As of September 30, 1980, six leases in the Gulf of Mexico OCS had approved long-term flaring. Of the six leases, two had positive plans

of action where corrective measures were being taken and flaring has now been eliminated. For such few leases, a more elaborate monitoring system than the one now in effect could hardly be justified.

B. Emergency flaring.

The GAO contends that information beyond MCF volumes be required of the operator in completing the Form 9-152, Monthly Report of Operations, in order for GS to verify the amounts of emergency flare gas. We consider such information unnecessary because:

- Emergency flaring requires no approval for the first 72 hours and all regulatory decisions are made after the fact.
- Daily inspection flights into the Gulf of Mexico check all flare gas citations and report on those unapproved.

Even though emergency flaring accounts for the bulk of the total gas flared, it is not considered excessive based on the large volumes of oil-well gas produced and compressed. Thus, any additional information requirements appear to be unnecessary for suitable regulation.

III. Usefulness and Need for the Report

A. Purpose of preparing the shut-in and flaring well report.

The Department realizes that the purpose of preparing the shut-in and flaring well report is to alert Congress of any intentional withholding or wasting of hydrocarbon resources on the OCS. The requirement for the report must be viewed in the context of when the law was written.

Following the severe natural gas shortages experienced during the mid-1970's there was suspicion within the Congress that natural gas was being withheld by producers on Federal leases to await higher prices.

However, subsequent investigation failed to prove this was the case.

Also, market conditions have changed markedly since that time and phased decontrol of natural gas prices is well underway. The prime reasons for initially requiring the report are no longer valid.

B. Whether the report can be an effective means to measure deliberate withholding of oil and gas production.

The report itself can never be an effective means to measure deliberate withholding of oil and gas production. Statistics such as provided by the report can only be analyzed for trends and anomalies rather than providing clear-cut answers. Wells must be analyzed on an individual basis to determine if shut-ins or flaring are justified. Therefore, in order to make the report fully responsive to the Congress, individual analysis on a large number of wells would be required. Since no cases of intentional withholding of OCS gas have been found, this type of program would appear unjustified.

C. Whether it is beneficial for the Department to continue fulfilling its requirement to annually prepare the report and, if not, whether the Department should seek legislative relief from the current reporting requirements.

We believe that the resources employed to prepare this report could be better utilized. The fiscal year 1980 report is six times larger than the fiscal year 1979 report due to format changes suggested by GAO. Large amounts of time are spent compiling information, keypunching, and assembling the report for publication. Despite all this effort, very little concrete information can be obtained from the report pertaining to the withholding of OCS gas. Legislative relief from this requirement would eliminate this unnecessary burden without affecting the GS program for analyzing shut-in and flaring wells.

D. Best judgment as to what sort of additional commitment of manpower and funds would be required to adequately make such judgments (as to withholding production pending higher prices).

Although the Geological Survey feels that the current report is inadequate to judge whether or not production is being deliberately withheld pending higher prices, other Geological Survey regulations and procedures are sufficient to ensure that this is not the case.

Inspection methods have been described earlier in this report. Additionally, lessees are required to file quarterly oil well test reports and semiannual gas well test reports as well as justifying a maximum production rate for each well. These forms allow the Geological Survey to compare a well's actual production to the rate at which it is capable of producing. Finally, economic incentives are now sufficient to ensure maximum production. Since no instances of withholding production have been found to date, it does not appear the additional manpower and funds would be justified.

IV. Conclusions and Recommendations

In the reviews and studies of shut-in wells and gas flaring cases, no evidence has been found that wells have been shut in for unjustifiable reasons or that gas has been flared illegally. Sufficient economic incentives now exist to spur operators to restore as soon as practicable all nonproducing wells to production where reasonably justified and to eliminate all unnecessary flaring. The recompletion activity taking place and the very few current long-term flaring approvals tend to support this contention. Thus, the elaborate monitoring system, the review program, and additional personnel, as envisioned by GAO, are unnecessary to satisfy the Congressional intent of monitoring shut-in and flaring wells.

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