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GAO

Briefing Report to the Chairman, Subcommittee on Oversight and Investigations, Committee on Energy and Commerce, House of Representatives

March 1986

OFFSHORE OIL AND GAS

Views on Interior's Comments to GAO Reports on Leasing Offshore Lands

129682

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

RESOURCES, COMMUNITY,
AND ECONOMIC DEVELOPMENT
DIVISION

March 14, 1986

B-222120

The Honorable John D. Dingell
Chairman, Subcommittee on
Oversight and Investigations
Committee on Energy and Commerce
House of Representatives

Dear Mr. Chairman:

Since November 1984 we have issued three reports to you discussing (1) Interior's acquisition of geological and geophysical data, (2) the adequacy of data used by Interior for making offshore leasing decisions, and (3) the effects on bid revenues caused by the area-wide leasing program and the program's bid-acceptance procedures. You, in turn, directed specific written questions to Interior and also asked what actions it was taking to implement our recommendations. As requested in your July 19, 1985, letter, we evaluated Interior's responses to your questions and its own analysis of the tract-selection and area-wide leasing programs.[1] In addition, we evaluated Interior's September 30, 1985, formal response--required by the Legislative Reorganization Act of 1970 (31 U.S.C. 720)--to our report on the area-wide leasing program. On November 1, 1985, we briefed your office on the progress of our evaluations and, as agreed, are providing this briefing report on the results of our work.

While Interior's responses cover a wide range of subjects, the briefing report, as agreed with your office, focuses on

--Interior's criticism of the methodology we used to estimate the reduction in bid revenues caused by the shift to area-wide leasing;

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[1]Interior's analysis is presented in its Appendix P: Analysis of Tract Selection and Areawide Leasing Approaches, Draft, July 15, 1985. This is one of several appendices to the Secretarial Issue Document for the upcoming proposed 5-year Outer Continental Shelf oil and gas leasing program.

--Interior's views that faster receipt of total offshore revenues to the government, because of the area-wide program, would more than offset our estimated reduction in bid revenues;

--the status of Interior's Gulf of Mexico regional mapping program;

--the adequacy of Interior's data to evaluate tracts for assuring receipt of fair market value;

--the time frames and staffing levels used by Interior to evaluate tracts in the Gulf of Mexico;

--Interior's bid-acceptance procedures and criteria used to accept bids;

--Interior's acquisition of geological and geophysical data; and

--Interior's noncompliance with an annual reporting requirement of the Outer Continental Shelf Lands Act.

In evaluating Interior's responses to you, we primarily relied on the audit work completed for the three prior audit reports. In addition, we obtained clarification and updated data on Interior's overall responses to you by interviewing Interior officials in Washington, D.C., and the Gulf of Mexico Regional Office and reviewing various documents relating to the area-wide program. We continue to support our conclusions and recommendations presented in the three reports issued to you since November 1984. We briefed Interior officials on the contents of this briefing report--including our review methodology and data sources--and considered their comments. We did not, however, solicit official comments on a draft of this report from Interior.

As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from its issue date. At that time, we will send copies to the Secretary of the Interior and other interested parties. If you have any questions, please contact Michael Gryszkowiec, Associate Director, on 275-7756.

Sincerely yours,

J. Dexter Peach
Director

BRIEFING REPORT ON INTERIOR'S
COMMENTS TO GAO REPORTS ON
LEASING OFFSHORE LANDS

DONE AT THE REQUEST OF THE CHAIRMAN,
SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS,
HOUSE COMMITTEE ON ENERGY AND COMMERCE

Contents

ABBREVIATIONS

GAO	General Accounting Office
MMS	Minerals Management Service
OCS	Outer Continental Shelf

PROGRAM OVERVIEW

During the 1970's, despite rapidly increasing oil prices, domestic offshore oil production had declined although the rest of the non-Communist world was experiencing increased production. Further, the leasing policies of other countries were making more offshore acreage available and firms were increasing their efforts to locate new resources. Accordingly, in 1982, the Department of the Interior implemented an "area-wide" program for leasing Outer Continental Shelf (OCS) lands for oil and natural gas exploration and production.

A significant departure from the tract-selection program then in use, the area-wide program increased the number and frequency of lease sales and offered more tracts for lease in each sale. Thus, beginning with the first area-wide sale in 1983, industry was given the opportunity to bid on any tract in a planning area--over 5,000 tracts or up to 50 million acres--except those deleted for specific environmental concerns or defense-related conflicts.[1] Interior believed that removing the limitations on the location and number of tracts would allow industry greater flexibility in making leasing and exploration decisions. This, it was thought, would lead to more exploration and earlier discoveries of oil and natural gas, thus increasing domestic oil and natural gas production, decreasing the United States' reliance on oil imports, moderating oil and natural gas price increases, and creating employment opportunities.[2]

For almost 29 years Interior had used a tract-selection program to identify and evaluate tracts offered for lease. Under the tract-selection program, companies nominated specific tracts in which they were interested. Based on these nominations and the past leasing history of the area, economic and environmental considerations, multiple-use conflicts, and the estimated potential of the sale area, Interior selected tracts to be included in the sale. Prior to each sale, Interior collected and analyzed geological, geophysical, engineering, and economic data to generate its independent estimate of the value of each tract. This value was the primary criterion for accepting or rejecting bids received for each tract. Critics of the tract-selection program said that Interior was not offering the most attractive tracts for lease (not all the tracts nominated were offered for

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[1]A tract is an administratively designated geographical area of OCS land offered for lease in a sale containing no more than 9 square miles (5,760 acres). Interior accepts industry's bids and awards leases on a tract-by-tract basis.

[2]Department of the Interior, Minerals Management Service (MMS), From Policy to Production, Offshore Leasing and Operations, November 1983.

lease) and that the limited number of tracts in each sale (ranging from 1 to 544 tracts) slowed the leasing of OCS lands and kept offshore production levels low.

The area-wide program required changes in Interior's method for assessing whether or not to accept the high bid for each tract. First, Interior decided that evaluating every tract before a sale was no longer efficient because of the large increase in the number of tracts. Second, Interior decided to place increased reliance on competition and the marketplace. Thus, Interior adopted a two-phase process that awards leases to the highest bidder for certain types of tracts receiving adequate competition or for tracts determined to contain insufficient oil and natural gas resources to be produced. For the remaining tracts, Interior uses a detailed discounted cash flow model--to estimate the value of each tract. The high bid is compared with Interior's estimated value for each of these tracts.

BRIEFING HIGHLIGHTS

This briefing focuses on the Department of the Interior's area-wide program for leasing offshore lands for oil and natural gas production. Since November 1984 we have issued three reports[3] which discussed (1) Interior's acquisition of geological and geophysical data, (2) the adequacy of data used by Interior for making offshore leasing decisions, and (3) the effects on bid revenues caused by the area-wide leasing program and the program's bid-acceptance procedures. In a July 19, 1985, letter, you asked us to comment on Interior's responses to you on the three reports. In addition, we have evaluated Interior's September 30, 1985, formal response--required by the Legislative Reorganization Act of 1970 (31 U.S.C. 720)--to our July 15 report on the area-wide leasing program. As agreed with your office, this briefing focuses on the following eight subjects discussed in our reports, Interior's responses to you, and Interior's formal response to our July 15 report.

First, in our July 15 report, we outlined why one should expect that the increased tract availability due to area-wide leasing would decrease competition and bid revenues for individual tracts. In addition, we presented our best estimate of the size of the decline. Our analyses, based on the best data we could assemble at this time, suggested that due to area-wide leasing, the federal government received an estimated $7 billion (or a discounted value of about $5.4 billion in 1984 dollars) less in bid revenues. Interior agrees that area-wide leasing probably contributed to the decline in bid revenues in 1983 and 1984. Interior has not supplied its own estimate of the size of the reduction attributable to switching to area-wide leasing. It has, however, raised concerns about the reliability of our estimate. We considered many of the points Interior raised in preparing our report. They reflect the difficulties inherent in making complex estimations of a relationship not previously estimated, especially when only limited data are available. We recognize that at a later date others may have better data or improved techniques available to them and be able, therefore, to produce a better estimate than ours. To date, however, nobody has, including Interior. Thus, we continue to believe that our estimate is the best estimate available.

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[3] Improvements Needed in the Department of the Interior's Acquisition of Geophysical Data (GAO/RCED-85-9, Nov. 20, 1984).

Interior Has Taken Steps To Improve the Adequacy of Data Used for Making Outer Continental Shelf Leasing Decisions (GAO/RCED-85-68, Mar. 26, 1985).

Early Assessment of Interior's Area-wide Program for Leasing Offshore Lands (GAO/RCED-85-66, July 15, 1985).

The second subject deals with Interior's contention that our estimates of reductions in bid revenues would be more than offset by faster receipt of bids and future rents, royalties, and corporate income taxes because of increased and accelerated leasing through the area-wide program. Although we recognized in our report the possibility that revenues may be received earlier, we chose not to estimate the effect of earlier receipt of total revenues because insufficient time had elapsed for exploration to have been completed on many tracts, and for lands to have been placed in production. We believe, however, that predicting the potential gain from quicker receipt of offshore revenues under the program depends mainly on the assumptions Interior used. We also believe that even if a gain is realized, Interior's estimate is too high because it used unrealistic assumptions about the discount rate and corporate income taxes.

The third subject addresses the status of Interior's regional mapping program in the Gulf of Mexico. This program will consolidate existing Interior mapping data into a more readily accessible data base which will improve the efficiency of its bid acceptance process. In our March 26 report, we noted that the Gulf area-wide sales had created a large tract evaluation workload which had to be completed in a limited time period. The regional mapping program will help the tract evaluation staff to more quickly define areas with oil and gas potential. In lieu of using completed regional maps to help evaluate tracts receiving bids, Interior has relied on collages of cut-out maps from previous sales. While this may not preclude adequate evaluation of these tracts, according to Interior, regional mapping will make the process more efficient. During our evaluation of Interior's responses, we found that by the time Interior completes its regional mapping program in the Gulf, estimated to be 1987, 11 area-wide sales will have been held in the Gulf of Mexico.

The fourth subject related to our position that Interior had leased tracts in 1983 without having adequate data to evaluate their oil and gas potential or the adequacy of high bids submitted. Subsequently, Interior took steps to upgrade the data used in area-wide lease sales. We found, however, in 1985 that Interior discontinued rating its data as poor, good, or excellent. For this reason, we were not able to determine Interior's assessment of the adequacy of data used to lease tracts in 1985.

Fifth, in our March 26 report, we noted that MMS' Gulf of Mexico Regional Office did not have the time or staff to analyze data in its files or to obtain additional data to evaluate tracts receiving bids. We outlined several options in our report which Interior could undertake to ensure that adequate data are used to evaluate tracts, such as reallocating staff and reducing the frequency of sales. We found that Interior has adopted portions of two options for ensuring that it had adequate data and has also extended the time frame for accepting bids.

Sixth, in our July 15 report, we identified two of Interior's competitively based bid-acceptance criteria (three-or-more-bids and geometric average) which we believe are less appropriate for accepting or rejecting bids than Interior's own independent estimates of tract value when it has good or excellent supporting data. We recommended that where Interior had such data, it should develop and use its estimates of tract value to assess the adequacy of high bids. Although Interior has modified its use of the geometric average criterion and said that it would study our recommendation, the MMS Director subsequently told us that MMS does not plan to change its bid-acceptance procedures at this time because they are considered adequate to assure receipt of fair market value.

The seventh subject addresses the status of Interior's acquisition of geological and geophysical data used to evaluate tracts. In our November 20, 1984, report, we recommended that the Congress enact legislation which would provide that Interior pay companies only the reasonable cost of reproducing--not for processing--data. Interior proposed the legislation in March 1985 and on December 20, 1985, the Congress enacted legislation which provides that Interior pay companies only the reasonable cost of reproducing--not for processing--data provided to MMS in fiscal year 1986 and after. However, because Interior did not change the permit language at the time it proposed the legislative change, Interior may incur processing costs which could have been avoided for all data acquired under permits from March when the legislation was proposed to October 1985 when the permit language was changed. The amount of processing costs Interior will incur depends on how much data MMS acquires under these permits.

The eighth subject deals with Interior's noncompliance with an annual reporting requirement of the OCS Lands Act. In our July 15 report, we noted that Interior had not provided the Congress or the public with an annual report assessing the cumulative effects of offshore leasing on the human, marine, and coastal environments, as required by the OCS Lands Act. In its response to you, Interior questioned the need for the report since the information is provided in other documents. In our opinion, the documents noted by Interior do not assess the cumulative effects of offshore leasing and therefore do not meet the act's requirement.

INTERIOR'S CRITICISM OF THE METHODOLOGY GAO USED TO ESTIMATE BID REVENUE REDUCTION

In our July 15 report, we used regression analysis to estimate the impact of key factors that affected the number and amounts of bids for individual tracts leased under the area-wide program. These factors included oil prices, interest rates, and the type and location of tracts. The stepped-up pace of area-wide leasing substantially increased the number and frequency of sales and the number of tracts that companies could bid on at each sale. Sound economic theory predicts that, assuming bidders have limited investment capital, these significant increases in the number of tracts offered will reduce competition and the price, i.e., level of the high bid, that each tract will receive. The results of our statistical analyses were, in general, consistent with this expected outcome. That is, our results provided empirical support that the stepped-up pace of area-wide leasing, by itself, decreased competition and government bid revenues for individual tracts, and provided an estimate of the size of the decline.

In its response to you, Interior did not contend that area-wide leasing did not contribute to the decline in bid revenues during 1983 and 1984. In fact, Interior has agreed that switching to area-wide leasing probably contributed to a small portion of the overall decline. However, Interior said that it was concerned about the reliability of our estimate of the size of the reduction in bid revenues.

Statistical analyses of the type we performed yield estimates of the effects of key factors on the item under study. Different analyses of the same process can lead to different estimates. Based on our analyses, we estimated that the shift to area-wide leasing was responsible for an average reduction in bids of $541 per acre leased. On the basis of the 13.03 million acres leased in the first 10 area-wide sales, we estimated that the federal government received about $7 billion (or a discounted value of about $5.4 billion in 1984 dollars) in bid revenues less than it would have received if these OCS lands had been leased under the tract-selection program that it replaced.

The many points raised by Interior reflect the difficulties inherent in making complex estimations. In fact, we considered many of the issues Interior raised in the analyses contained in our July 15 report. Because no previous studies had attempted to estimate the effect of area-wide leasing on bid revenues, we had no precedents to guide us in dealing with modeling difficulties or data limitations and, therefore, estimated models with many different specifications. We recognize that future analysts may have better data available to them than we had and may treat some issues differently than we treated them and, therefore, may produce different estimates than ours. Nobody has yet produced a better estimate, however. Moreover, because of the strong theoretical expectation of a link between the number of tracts offered and the level of the high bid that each tract will receive, we expect that further analyses would confirm that area-wide leasing lowered bid revenues.

Among the concerns raised in its response to you, Interior noted that two of the statistical equations in our report showed no statistically significant relationship between area-wide leasing and the level of bids--suggesting only weak empirical support for the idea that area-wide leasing caused bid revenues to decrease. While it is true that we reported several specifications in which area-wide leasing did not appear to have an effect on bid revenues, other specifications that we used, but did not report, suggested an effect almost twice as big as the estimate we adopted. We chose not to base our estimate on these latter specifications because we believed the effects they implied were unrealistically large. Nor did we base our estimates on the specifications that found no impact of area-wide leasing on bid revenues because that result was not consistent with sound economic theory. We chose to report the specifications which suggested no effect along with the specifications that showed various estimates in the neighborhood of, but not identical to, the estimate we adopted to alert readers of our report to the sensitivity of the estimate to the specification used. In retrospect, we probably should also have reported the estimates that we considered unrealistically large.

The equations used in our statistical analyses strongly suggested a positive relationship between the number of bids and the dollar amount of the bids received for each tract. (In other words, tracts receiving more bids were leased for larger bid amounts and tracts receiving fewer bids were leased for lower bid amounts.) Our analyses also provided empirical support, although less strong in this case, for a negative relationship between area-wide sales and the number of bids received for each tract. Our statistical estimates suggested that the reduction in the number of bids received averaged about one-half of a bid per tract under the area-wide program. Since our analyses also suggested that each additional bid may have been worth about $1,082 per acre, we estimated that the area-wide program resulted in reductions of bid revenues of about $541 per acre ($1,082 ÷ 2 = $541) or $7 billion in the first 10 area-wide sales.

In another part of its response to you, Interior stated that

> ". . . When we examine the results of the statistical analyses reported in Table 3 on page 60 of the GAO report, we calculate that for GAO's base case specification the areawide sales in 1984 received an average of about 1.45 (1.97-0.52) more bids per tract than did the tract selection sales in 1979 and the areawide sales in 1983 received an average of about 1.07 (1.59-0.52)

more bids per tract than did sales in 1979. . ..
This conclusion that more bids rather than fewer bids per tract are now being received, is contrary to the actual trend."

Interior reached this judgment by looking only at the values of the coefficients for two of the variables used in our base case specification. This method would be valid only if the values of all other variables included in our specification, e.g., the price of oil and the interest rate, had remained unchanged. In fact, the values of some of these variables changed substantially. For example, oil prices have dropped significantly since 1981. Therefore, to determine the number of bids per tract in any year, that year's actual values of all the significant variables in the base case specifications must be used.

INTERIOR'S ESTIMATES OF

THE FUTURE BENEFITS OF

AREA-WIDE LEASING

Beginning with the first area-wide sale in 1983, industry was given the opportunity to bid on any tract in a planning area except tracts deleted for reasons such as defense or environmental conflicts. Interior expected that offering more tracts would lead to more exploration and earlier discoveries, thus increasing production of domestic oil and natural gas, decreasing reliance on oil imports, and moderating oil and natural gas price increases. In our July 15 report, we noted that more offshore lands had been leased and that exploration was progressing at a faster rate under the area-wide program. We also said that time was needed for production to occur on lands leased under the program in order to assess the full effects of the program on domestic production, imports, and prices.

Interior contends that because of increased and accelerated leasing through the area-wide program, our estimates of the reduction in bid revenues would be more than offset by faster receipt of bid revenues and future rents, royalties, and corporate income taxes. In its draft Appendix P Interior concluded that area-wide leasing had caused (1) substantial increases in the investments in offshore leasing and exploration needed to reap the energy and economic benefits of offshore resources and (2) a substantial increase, perhaps as much as $8.5 million per tract, in total revenues to the federal government. Although we recognized in our report the possibility that revenues may be received earlier, we chose not to estimate the effect of earlier receipt of total revenues because insufficient time had elapsed for exploration to have been completed on many tracts and for lands to have been placed in production. Therefore, we did not estimate whether Interior's area-wide program would increase or decrease total government revenues compared with the tract-selection program it replaced.

The following provides additional details on Interior's estimated gain in quicker receipt of total revenues under the area-wide program:

--Using various assumptions, Interior estimated that bids per tract could range from $1 million to $19.3 million lower under the area-wide program and still have the present value of expected total government revenues exceed the expected amount under the tract-selection program it replaced. Within this range, Interior presented four estimates which would not offset our estimated reduction in bid revenues due to area-wide leasing. It concluded, however, that a range from $4.6 million to $8.5 million per tract was a reasonable estimate of how much lower bids could be under the area-wide program and still have the stream of expected total revenues under the area-wide program exceed the stream of expected total revenues under the tract-selection program. We believe that Interior's estimates would be lower if it had used more realistic assumptions about the discount rate and corporate income taxes.

--To calculate the present value of bids and other government revenues in its draft Appendix P, Interior used a real discount rate of 8 percent. If a real discount rate is used, we believe that rate should be calculated by subtracting the expected inflation rate from the nominal rate. Thus, we believe that an 8-percent real discount rate was too high relative to the cost of funds to the government. For example, given that the rate of government borrowing (long-term) was about 10.5 percent and the projected inflation (long-term) rate was about 5 to 6 percent at the time Appendix P was drafted, we believe that the real discount rate used should have been about 5.5 to 4.5 percent.

--Using the assumptions Interior deemed most reasonable, we reconstructed Interior's computations using lower discount rates--5.5 percent and 4.5 percent. As shown in table 1, using lower discount rates would reduce Interior's estimates of how much lower bids per tract could be under the area-wide program and still have the present value of expected total revenues under the area-wide program exceed the present value of total expected revenues under the tract-selection program it replaced.

Table 1: Recomputation of Interior's Estimates of How Much Lower Bids Could Be Under the Area-wide Program and Still Have the Present Value of Expected Total Revenues Exceed Total Expected Revenues Under the Tract-selection Program

Discount rate (percent)	Low estimate	High estimate	Projected gain or (loss) under area-wide sales[a]
	(millions)		
8.0[b]	$4.6	$8.5	$1.5 to 5.4
5.5[c]	2.4	3.6	(0.7) to 0.5
4.5[c]	1.8	2.6	(1.3) to (0.5)

[a]Assuming GAO's estimate that bid revenues decreased by $3.1 million per tract due to area-wide leasing.

[b]Estimates obtained from Interior's Appendix P.

[c]Estimates calculated by GAO using methodology and assumptions described in Interior's Appendix P, except for lower discount rates.

--In developing these estimates, Interior assumed that the ratio of other government revenues (rental, royalty, and corporate income tax) to bid revenues could be 1-to-1 or 3-to-2. However Interior included total corporate income taxes in its analysis, even though the government gains from earlier receipt of taxes only to the extent that offshore production yields tax revenues greater than what would have been received from tax revenues generated from other investments. By including total corporate income taxes in its calculations, Interior implicitly assumed that under the tract-selection program, capital not invested in offshore development produces no taxable income. This assumption overstates the tax advantage to the government from the area-wide program and increases the ratio of other government revenues to bid revenues. This is a critical assumption because higher values of this ratio would lead to higher estimates of the gain from earlier receipt of revenues. In addition, there is considerable uncertainty about the ratio's precise value. Because we believe that Interior has overstated the ratio of nonbid to bid revenues by its treatment of corporate income taxes, we believe that the numbers in the "low estimate" column presented in table 1 may be the more reasonable estimates.

--As table 1 indicates, using lower discount rates and lower ratios of other revenues to bid revenues reduces Interior's estimates of the decline in bid revenues per tract under area-wide leasing and still have the present value of expected total revenues under the area-wide program exceed the present value of the total amount expected under the tract-selection program it replaced. Given the large uncertainty about the extent to which area-wide leasing reduced bid revenues and the ratio of nonbid revenues to bid revenues, we believe these results imply that the net effect of switching to area-wide leasing on the present value of expected total government revenues is uncertain.

THE STATUS OF THE GULF OF MEXICO

REGIONAL MAPPING PROGRAM

In our March 26 report, we discussed Interior's ability to obtain adequate data to evaluate tracts in future sales and noted that the increased workload to conduct area-wide sales had taken away from efforts to complete its regional mapping program in the Gulf of Mexico. The program will consolidate existing mapping data for the Gulf into a more readily accessible data base which will help the tract evaluation staff to more quickly define areas with oil and gas potential during the bid-acceptance process.

In its response to you, Interior said that the regional mapping program was an attempt to systematically organize and consolidate existing data and knowledge concerning the geology of the Gulf of Mexico, and that these data were available in the regional office. Although the regional mapping program was not completed, Interior said that the data can still be used to assure thorough tract evaluation during the bid-acceptance process. We found that in lieu of completed regional maps for rapid evaluation of tracts receiving bids, Interior has relied on collages of cut-out maps from previous sales. Some of these maps, as we noted in our March 26 report, have been prepared without using all of the existing data in Interior's own files. Some maps are also prepared at different geological depths than companies are considering. While relying on these collages may not preclude adequate evaluation of these tracts, according to Interior, regional mapping will make the process more efficient.

The following provides additional details on the status of the regional mapping program in the Gulf of Mexico:

--Interior's estimates of the status of the regional mapping program are shown in table 2.

Table 2: Interior's Estimates of the Status of the Regional Mapping Program in Shallow-Water Areas

Offshore area	Status of program (percent complete)
Louisiana/Texas border	80
South Texas	50
Eastern Louisiana	20
Others	No current plans to update maps.

--The only study area in shallow water (less than 600 feet deep) currently nearing completion is adjacent to the Texas/Louisiana border. As mentioned in its response to you, Interior estimates that all maps across the Texas and

Louisiana shallow-water areas will be completed in late 1987.

--With the exception of one study in 1979 covering a portion of Louisiana's offshore deep-water area (greater than 600 feet deep), Interior does not plan to extend the regional mapping effort to the Gulf of Mexico's deep-water areas. Instead Interior purchased many contractor-prepared regional maps dating from the early 1970's to the early 1980's covering various deep-water portions of the Gulf of Mexico. MMS' Atlantic Regional Office is currently preparing revised maps for part of Louisiana's offshore deep-water area. These maps will not, however, incorporate data from existing wells that provide the most detailed information.

THE ADEQUACY OF DATA

USED FOR MAKING

OFFSHORE LEASING DECISIONS

In our March 26 report, we reviewed Interior's policies and practices for using geological and geophysical data to evaluate the oil and gas potential and thus the value of offshore lands being leased under the area-wide program. We noted that the leasing activity in 1983 had increased so greatly in the Gulf of Mexico that Interior did not have time to analyze all the data in its files or to acquire additional data. As a result, tracts were leased without adequate data to evaluate the resource potential or the adequacy of high bids. Our position was based on Interior's own rating of its data as inadequate to assess resource potential or value, or its failure to use available data in its decisions. Subsequently, Interior took steps to upgrade the data used to lease tracts in its 1984 area-wide lease sales.

In its response to you, Interior said that MMS Gulf of Mexico Regional Office's characterization of poor supporting information did not reflect the adequacy or quality of the data available on a specific prospect. This rating was an index to measure regionwide data against an ideal level of data without regard to whether or not actual data were available. In areas (such as deep-water frontier areas) where large structures are needed for viable operations, poor supporting information might be sufficient to identify the large structures necessary for commercial oil or gas production. However, based on Gulf of Mexico Regional Office's documentation, a poor information rating for a tract meant that ". . .current geophysical and/or geological data [was] scarce and/or unacceptable for evaluating tracts potential." In a November 19, 1984, memorandum to all the regional directors, MMS' Associate Director for Offshore Minerals Management directed regional personnel to discontinue rating the data used to evaluate tracts because the ratings were no longer considered in MMS' bid-acceptance process. MMS officials also told us that they discontinued rating data because they believed that the ratings were being misunderstood. During our review of all tracts leased in 1984, we found that MMS had rated its data or had upgraded the quality of the data to evaluate tracts. Since MMS discontinued rating data in 1985, we were not able to determine MMS' assessment of the adequacy of data used to lease tracts during two area-wide sales (sales 98 and 102) in 1985.

In our March 26 report, we also noted that the adequacy of data was particularly important for those tracts Interior classified as nonviable--that is, having too little oil or gas for economical production--because Interior accepts high bids on such tracts without any further detailed analysis. In the first two Gulf area-wide sales, 285 of the 610 tracts with poor supporting data were classified nonviable and leased without further evaluation for $1 billion. Although Interior classified these tracts as nonviable, we reported that some tracts attracted multiple bids, indicating that more than one company considered the tracts potentially valuable. For example, 18 tracts in the second Gulf area-wide sale in 1983 that Interior classified as nonviable using poor supporting data received at least three bids each and were leased for amounts ranging from $1.0 million to $14.2 million each.

In its response to you, Interior concluded that the determination of nonviable tracts was not as rigorous for the sales held in 1983 as for those held in 1984. Accordingly, it was possible that a few tracts were accepted in 1983 which would not have been accepted if the more rigorous 1984 approach had been applied. Interior's subsequent review of the 285 tracts classified as nonviable in the two 1983 Gulf of Mexico sales determined that 103 tracts contained no viable prospect and would have been classified as nonviable under its more rigorous 1984 approach. Of the remaining 182 tracts, an additional 84 tracts would have been accepted using other bid-acceptance criteria. This left 98 tracts that could have been considered for a more detailed economic evaluation. Interior concluded that most of the high bids would have been accepted if a detailed evaluation had been completed, but could not say with certainty that none would have been rejected because the high bid was too low.

The following provides additional information on Interior's classification of nonviable tracts:

--In 1984, the MMS Director directed that tracts would be classified nonviable only when there was sufficient data to support this determination. Based on this classification, high bids on nonviable tracts can be accepted without further detailed evaluation. We sampled 14 nonviable tracts leased in sales 81 and 84 during 1984 to examine the data used to classify them as nonviable. We found that 12 (86 percent) of the 14 evaluations relied on data assembled prior to 1982--7 prior to 1975.

--To determine the reasonableness of Interior's procedures for classifying tracts as nonviable, we reviewed the number and types of economical discoveries on tracts leased in the Gulf of Mexico. As shown in table 3, 19 percent of the discoveries on tracts leased in the first five area-wide sales have been made on nonviable tracts, even though Interior defines nonviable tracts as having low economic potential for production.

Table 3: Discoveries on Gulf of Mexico Tracts

Sale number	Number of discoveries	Number of discoveries on nonviable tracts	Percent
72	104	22	21.4
74	49	7	14.3
79	0	0	-
81	27	5	18.5
84	4	1	25.0
Total	184	35	19.0

TIME FRAMES AND STAFFING IN THE GULF OF MEXICO REGIONAL OFFICE

In our March 26 report, we noted that in the Gulf of Mexico region, about two-thirds of the leasing decisions in 1983 had been based on supporting data that Interior classified as "poor" and unacceptable for evaluating resource potential. We reported that Interior leased tracts based on these data because MMS' Gulf of Mexico Regional Office did not have the time or staff to analyze data in its files or to obtain additional data. We outlined several options in our report which Interior could undertake to ensure that adequate data are used to evaluate tracts, such as reallocating staff and reducing the frequency of sales. We found that Interior has adopted portions of the two options.

Interior regulations provide that MMS has up to 90 days after the date of the sale to accept the highest bid for a lease. However, at the start of its area-wide program, MMS established more stringent guidelines calling for completing all bid-acceptance decisions within 3 weeks of the sale. On February 28, 1984, because of concern that there was insufficient time and resources to determine the value of each tract in this time frame, the MMS Director emphasized that the 3-week guideline for bid acceptance was to be considered only a guideline and that regional managers should extend this period when necessary. In its response to you, Interior noted that 90 days has provided sufficient time to assess the adequacy of bids and to meet the demands of the area-wide program. As shown in table 4, the longest the regional office has taken to accept bids in the Gulf of Mexico was 79 days.

Table 4: Days Needed To Accept Bids in the Gulf of Mexico Sales

Sale number	Days needed (calendar days)
72	20
74	20
79	15
81	59
84	65
98	79
102	51

We also reported that even though the region's workload had increased because of area-wide leasing, the total number of on-board staff responsible for the tract evaluations had decreased. Interior has taken action to help ensure that it has adequate data. For example, MMS' Gulf of Mexico Regional Office has received assistance from the MMS Atlantic Regional Office in mapping deep-water areas. Interior also plans to increase the time between sales in the Gulf during its next 5-year leasing program.

The following additional information is provided on the level of staffing for evaluating tracts located in the Gulf of Mexico:

--We found that Interior believes that staffing is sufficient in the Gulf of Mexico, although the regional office has indicated a need for additional staff to handle the workload for area-wide sales. For example, in fiscal years 1985 and 1986, the resource evaluation group at the Gulf of Mexico Regional Office requested 66 full-time staff, but was authorized 62 each year, as shown in table 5. MMS officials, including the Director, told us that they did not know why the group was not authorized 66 full-time staff in fiscal year 1986, but believed it was part of an overall Interior or Office of Management and Budget budget cut.

Table 5: Resource Evaluation Group's Staffing Requests, Authorization, and Actuals Since Fiscal Year 1982

Fiscal year	Requested Full time	Requested Part time	Authorized Full time	Authorized Part time	Actual Full time	Actual Part time
1982	65	3	65	3	70	3
1983	74	22	74	22	73	17
1984	66	14	66	14	66	14
1985	66	3	62	3	63	2
1986	66	4	62	3	63	2

--In fiscal year 1986, the regional office's justification for four staff more than authorized was based on the need for geophysicists to handle the "tremendous workload due to the increased number of blocks to be mapped as a result of areawide lease sales." The regional office has also requested a part-time geologist.

--The Gulf of Mexico Regional Office has received assistance from the Atlantic Regional Office for its area-wide sales and has used overtime hours to evaluate tracts during area-wide sales, as shown in table 6. MMS' Associate Director for Offshore Minerals Management plans to eliminate all overtime in future area-wide sales, in part, because fewer tracts are being bid on and therefore fewer tracts require detailed evaluation.

Table 6: Resource Evaluation Group's Overtime Usage

Sale number	Overtime (hours)
72	3,178
74	1,259
79	0
81	533
84	342
98	218
102	14
Total	5,544

INTERIOR'S PROCEDURES FOR ASSURING

RECEIPT OF FAIR MARKET VALUE

In our July 15 report, we identified two of Interior's competitively based bid-acceptance criteria (three-or-more-bids and geometric average) which we believe are less appropriate for accepting or rejecting bids than Interior's own independent estimates of tract value when it has good or excellent supporting data. We recommended that where Interior had good or excellent data, it should develop and use its estimates of tract value to assess the adequacy of high bids.

In its formal response to our July 15 report, Interior said that it would study this recommendation; however, it was concerned that (1) we did not understand what good or excellent supporting data meant, (2) our recommendation was not consistent with our concern regarding the number of one- and two-bid tracts, and (3) our recommendation gave no weight to market forces. First, we used MMS Gulf of Mexico Regional Office's system to rate data used to evaluate tracts. Second, our recommendation is consistent with our concern that large numbers of tracts receive few bids, in that Interior would use its own independent estimate of tracts' values in most cases for accepting bids on one- or two-bid tracts. Third, our recommendation does give weight to market forces, in that Interior considers economic and market conditions in estimating tracts' values. The MMS Director subsequently told us that MMS does not plan to change its bid-acceptance procedures at this time because they are considered adequate to assure receipt of fair market value.

The following provides additional information on Interior's procedures for assuring receipt of fair market value:

--The OCS Lands Act, as amended, requires the Secretary of the Interior to conduct the offshore leasing program in order "to assure receipt of fair market value for the lands leased and the rights conveyed by the Federal Government." Interior considers fair market value as the "amount in cash . . . for which in all probability the property would be sold by a knowledgeable owner willing but not obligated to sell to a knowledgeable purchaser who desired but is not obligated to buy . . .. This market value which is sought is not merely theoretical or hypothetical but it represents, insofar as it is possible to estimate it, the actual selling price."

--Fair market value varies substantially among the different tracts and is based on the amount of oil and natural gas resources contained in each tract, future oil and natural gas prices, costs of exploration and production, and other economic variables. We concluded that to properly assure that high bids capture the value of tracts at the time and place of the lease sale--and thus to ensure fair market value--Interior should have reasonable knowledge of the underlying value of individual tracts leased. Because Interior has access under the OCS Lands Act to all geological and geophysical data gathered for the OCS, it is in a position to be more knowledgeable about tract values than individual firms.

--Having good or excellent supporting data increases the realiability of Interior's estimates in assessing the reasonableness of high bids. However, since Interior eliminated the data-rating system for its bid-acceptance process in 1985 sales, we could not determine whether Interior believed it had good or excellent supporting data to evaluate tracts leased in 1985.

--Interior continued to use the three-or-more-bids criterion in two Gulf of Mexico sales in 1985, as shown in table 7.

Table 7: Number of Tracts Leased Under the Three-Or-More-Bids Criterion in Recent Sales

Sale number	Tracts leased: Number	Tracts leased: Bids (millions)	Tracts leased under the three-or-more-bids criterion: Number	Tracts leased under the three-or-more-bids criterion: Bids (millions)
98	409	$1,079.4	29	$211.1
102	195	359.2	11	46.9
Total	604	$1,438.6	40	$258.0

--We questioned the use of the three-or-more-bids criterion in place of Interior developing its own estimate of tract value, because the receipt of three or more bids in prior sales did not ensure that the high bid exceeded Interior's estimates of tract value and because Interior was not reasonably knowledgeable of the value of the tracts leased under this criterion. We also noted that, because of the limited number of tracts subject to this bid-acceptance criterion, with little additional effort, Interior can evaluate these tracts and use its own independent valuations to ensure receipt of fair market value.

--In our July 15 report, we also noted that, by using the geometric average criterion, Interior always received less money than its estimate of tract value. There was a conceptual basis for using this criterion to assess high bids in the more competitive tract-selection sales because of the greater number of bidders and bids submitted for each tract compared with the area-wide sales. In area-wide sales, however, we question the appropriateness of using this criterion for leasing tracts where Interior has good or excellent supporting data for its estimates of tract values particularly when the tract receives only two bids. In effect, under the geometric average criterion, Interior has given more importance to a relatively few bids in accepting bids than to its own good supporting data and estimates of tract value.

--On May 29, 1985, Interior discontinued using the geometric average criterion for drainage and development tracts receiving only two bids. In these cases, Interior concluded that it should place less reliance on the number of bids and more confidence on its own supporting data and estimates of tract value for assessing the reasonableness of high bids.

--During our review of tracts leased in 1985, we noted that in the two Gulf of Mexico sales (sales 98 and 102), Interior leased four wildcat and proven tracts under its geometric average criterion for $4 million less than Interior's estimated values. By using this criterion, Interior gave more weight to a relatively few number of bids (all of the tracts received two bids) than to its own estimates of tract value for assuring receipt of fair market value.

ACQUISITION OF GEOLOGICAL

AND GEOPHYSICAL DATA

The OCS Lands Act Amendments of 1978 require that companies conducting exploration and development activities on the OCS provide geological and geophysical data to the Secretary of the Interior upon his request, and that Interior pay companies for the reasonable costs of processing and reproducing, but not for acquiring, such data. In our November 20, 1984, report, we found that during fiscal years 1981 through 1983, Interior paid almost $24 million for processing costs. We recommended that the Congress enact legislation which provides that Interior pay companies only the reasonable cost of reproducing--not for processing--data.

On December 20, 1985, the Congress enacted legislation which provides that Interior pay companies only the cost of reproducing--not for processing--data provided to MMS in fiscal year 1986 and after. Interior proposed this legislation in March 1985 to relieve it from paying future processing costs and took action in October 1985 to ensure that the permits issued to companies for obtaining these data after October 1985 provided for this. (Companies collect data to assess resources on the OCS under conditions of a permit issued by MMS; however, these data are usually not acquired, processed, and provided to Interior until some time after the permits are issued.) By changing the language in its permits, Interior relieved itself from paying processing costs for data acquired under these permits. However, because it did not change the permit language at the time it proposed the legislative change, Interior may incur processing costs which could have been avoided for all data acquired under permits issued from March to October 1985 and provided to MMS after the legislation was enacted.

From March to October 1985, MMS' Gulf of Mexico Regional Office issued 188 permits for a total of 168,640 proposed line-miles. In our November 20 report, we found that MMS was paying companies from $17 to $322 per line-mile for data gathered in the Gulf. The amount of processing costs Interior will incur depends on how much data MMS acquires under these permits.

INTERIOR'S ANNUAL

REPORTING REQUIREMENT

In our July 15 report, we noted that Interior had not provided the Congress or the public with an annual report assessing the cumulative effects of offshore leasing on the human, marine, and coastal environments, as required by the OCS Lands Act. In its response to you, Interior questioned the need for the report since the information is provided in other documents. However, these other documents do not assess the cumulative effects of offshore leasing and therefore do not meet the act's requirement. Interior also said that such a report would be difficult to fashion into a useful document. As cited in our report, we continue to believe that the required annual report may be helpful for documenting the effects of increased activities under the area-wide program and providing additional information on its potental benefits in one source. However, the MMS Director told us that he had no plans to issue the required report or to seek legislative repeal of this requirement, because of the same reasons given above.

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