

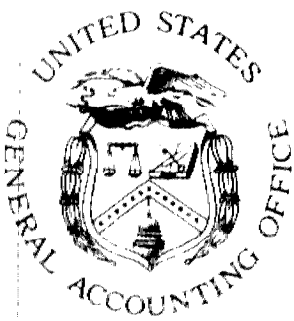
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BY THE U.S. GENERAL ACCOUNTING OFFICE

Report To The Secretary Of Energy

The Department Of Energy Could Make Better Use Of Existing Data To Monitor The Crude Oil Spot Market

The Department of Energy has four systems, two formal and two informal, which collect information on U.S. oil company involvement in the international crude oil market, including the spot market. Improved information sharing between the offices using the systems, along with minor changes in the systems themselves, would result in better quality and more timely information used within the Department for monitoring and analyzing the spot market. It would also support the U.S. proposal to the International Energy Agency to improve the timeliness of its monitoring of the international petroleum market.



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

ENERGY AND MINERALS
DIVISION

B-199165

The Honorable Charles W. Duncan, Jr.
The Secretary of Energy

Dear Mr. Secretary:

We have reviewed the significance of the international crude oil spot market to the United States and the implications of U.S. policies, programs and actions for spot market activity and are reporting our observations in a report to the Congress, "The United States Exerts Limited Influence Over The International Crude Oil Spot Market", EMD-80-98, August 21, 1980. During the review we also found, and are reporting to you in this letter, that your Department could make better use of data in monitoring U.S. oil company participation in the spot market. This letter briefly summarizes our major findings and recommendations to you, and then presents them in greater detail in appendix I. We have discussed the contents of this report with members of your staff and included their comments where appropriate, in the text of appendix I. While recognizing the need to improve monitoring of the international spot market, your staff believes the report recommendations concerning improvements to the Department's formal information systems are difficult to implement because of the complexities of the international oil market. We agree that it may be difficult, but believe that the efforts will be worthwhile and will help focus attention on the areas most critical to understanding these complexities.

SIGNIFICANCE OF THE SPOT MARKET AS DISCUSSED
IN OUR COMPANION REPORT TO THE CONGRESS

As the world price of crude oil more than doubled from under \$15 a barrel in late 1978 to about \$30 by late 1979, spot crude oil prices rose even higher. Spot market activity appeared to increase to unprecedented volumes. Crude oil purchased at spot prices accounted for about 9 percent of U.S. crude oil imports from April 1979 through February 1980. However, the significance to the United States of the crude oil spot market lies not only in its size and price trends, but also in its relationship to the far larger contract market. Both oil-exporting and oil-importing countries pointed to the spot market when contract prices dramatically increased. A number of observers maintained that in 1979 the spot market created an illusion of scarcity,

artificially inflating demand and "ratcheting" crude oil contract prices to higher levels than they would have otherwise climbed.

Although 1979 was an especially volatile year for the international crude oil spot market and by mid-1980 it appeared to be stabilizing, conditions underlying its volatility remain. They underscore the need for the United States to monitor the spot market on a timely basis to be able to understand the effects of its programs and actions on that market and to take speedy and appropriate action if necessary.

NEED TO IMPROVE USE OF DATA RESOURCES

Four separate Department of Energy (DOE) systems, two formal and two informal, collect valuable information for monitoring and analyzing the crude oil market, including the spot market.

One formal system, based on the Energy Information Administration's Foreign Oil Supply Agreement Report, was designed for monitoring the international petroleum market. The other formal system is based on the Economic Regulatory Administration's Transfer Pricing Report, a regulatory form modified for analytical purposes. However, for timely monitoring purposes, neither report is sufficiently current. Data produced from the reports is from 1 to 3 months old.

Nonetheless, the reports could be useful for historical and trend analysis. Currently, though, some important information is lacking. The Transfer Pricing Report, for example, does not define "spot market" when asking companies to classify transactions. While the term may have been self-evident before 1979, the dramatic changes in the character of the international oil market in that year make the term "spot" ambiguous. A transaction reported as spot by one company on the basis of its small volume, for example, might be reported as a contractual sale by another.

The Foreign Oil Supply Agreement asks companies to explain the method by which price is calculated for each contract, including the components of price, the formula used, escalation clauses, and other "material factors." However, the term "material factors" is only vaguely explained, and few companies provide important information concerning linkages between contract and spot sales and prices, or other conditions relating to the spot market. At a minimum such information would help provide a clearer understanding of the role of the spot market in affecting the contract market. Although both reports were developed prior to recent changes

in the structure of the international oil market, with minor changes both could provide valuable information for analyzing the spot market.

The International Affairs Office of Market Analysis is responsible for monitoring and analyzing the world oil market, including the spot market. Officials there rely on their own largely informal information system--reports in the trade press, personal meetings, telephone contacts and market studies prepared by outside consulting firms. They regard data from the formal systems as less timely and useful than their own resources. They also feel their analytic responsibilities encompass the world petroleum market, while formal systems are limited to the activities of U.S. companies.

The Department's most systematic and timely data on U.S. oil company involvement in the spot market is collected through "Crude Watch," an informal system developed by the Office of Special Counsel for Compliance. "Crude Watch" is based on telephone surveys of the 35 largest oil refiners who supply over 95 percent of U.S. crude oil imports. Because of the proprietary nature of the raw data, it is not shared with the International Affairs Office of Market Analysis or other offices within DOE. In addition, the Office of Special Counsel assured the oil companies that the data would be carefully protected. However, the information is only a more timely version of some of that included on the Transfer Pricing Report which is shared within the Department.

We believe DOE can greatly improve the quality and timeliness of monitoring and analyses by providing for better information sharing among the offices collecting and using the information.

As coordinated by your International Affairs Office of Consuming Nations, DOE regularly reports energy information aggregated from data on the Transfer Pricing Reports to the International Energy Agency (IEA). During the first half of 1979, it took an average of 80 days from the end of a month in which a transaction occurred to report the information to the IEA. In April 1980 data collection responsibility was shifted within the Department. Office of Consuming Nations officials believe the reporting period can be shortened by about 2 weeks.

In June 1979 in Tokyo the United States pledged, with six other major oil-importing countries, to improve its monitoring of the international petroleum market. To implement this commitment, your Office of Consuming Nations proposed to the IEA the adoption of a "quick response" system, providing for semi-monthly reporting of certain transactions with "special relevance to the current market," such as spot

transactions or transactions in which prices vary more than a specified amount from Government selling prices. The existing "Crude Watch" reporting system should be used to provide timely information if the U.S. proposal or a similar one is adopted.

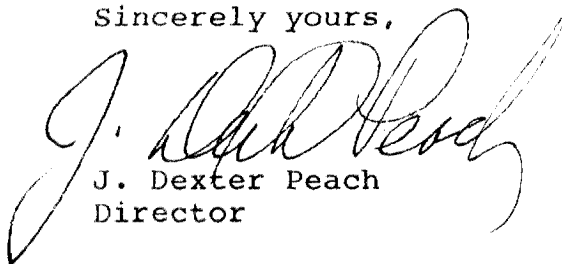
To improve the timeliness and quality of data used for monitoring U.S. oil company participation in the international crude oil spot market, we recommend that you:

- Assure timely sharing of data from existing formal and informal information systems between the Office of Special Counsel for Compliance and the Office of International Affairs, while providing adequate protection for that data which is proprietary.
- Define the term "spot market" on the Transfer Pricing Report.
- Require companies to identify information on linkages between contract and spot sales in the Foreign Oil Supply Agreement Report.
- Use data, in properly aggregated form, from the existing "Crude Watch" information system to meet U.S. requirements of any future IEA "quick response" information system.

As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations to the Senate Committee on Governmental Affairs and the House Committee on Government Operations not later than 60 days after the date of the report; a like statement to the House and Senate Committees on Appropriations should accompany the agency's first request for appropriations made more than 60 days after the date of the report. We would appreciate receiving copies of your statements to the Committees.

We are sending copies of this report to the Director, Office of Management and Budget; the Secretary of State; and the chairmen of the four Committees mentioned above.

Sincerely yours,



J. Dexter Peach
Director

DOE COULD MAKE BETTER USE OF EXISTING DATATO MONITOR THE CRUDE OIL SPOT MARKET

DOE has four systems, two formal and two informal, which collect information useful for monitoring and analyzing U.S. oil company involvement in the international crude oil market, including the spot market. Improved coordination and information sharing among the offices using the systems, along with minor changes in the systems themselves, would result in better quality and more timely information. It would also support the U.S. proposal to the International Energy Agency to improve the timeliness of its monitoring of the international petroleum market.

DOE'S FORMAL REPORTING SYSTEMS ARE UNTIMELY AND LACK SOME IMPORTANT INFORMATION FOR MONITORING THE SPOT MARKET

DOE's information-gathering activities have led it to develop a number of detailed reporting forms and requirements. Some of the information generated by two of these reports could be useful in monitoring the international activities of U.S. oil companies. One report is primarily regulatory and was only later modified for analytical purposes; the other was designed for monitoring purposes. For monitoring the spot market, neither report, however, is timely, and both fail to provide some important information.

Transfer Pricing Report

The Economic Regulatory Administration's Transfer Pricing Report is the most comprehensive and detailed source available to the U.S. Government on the international activities of U.S. oil companies. While it was originally designed for regulatory purposes, it has been modified to help monitor U.S. company activity in the world oil market.

The Transfer Pricing Report requires companies to report detailed information on individual transactions for all foreign crude purchased, exchanged, or sold during a given month. The information includes the quantity of oil transferred, country of origin, quality (gravity and sulfur content), date and port of loading, destination, price at the port of embarkation, and if available, price upon arrival in the United States.

The report is required of all U.S. refiners that import at least 500,000 barrels of crude oil into the United States in any single month. It currently covers 41 companies, which together account for about 97 percent of oil imports.

Of special significance for analyzing international crude oil spot markets, oil companies must report the type of each transaction, as well as the price and name of the seller. For crude oil purchased under contract with a producing country, the refiner identifies the relevant contract. Companies are instructed to enter the word "spot" if the shipment was purchased on the spot market.

The Transfer Pricing Report is the only U.S. Government form that specifically asks companies to identify spot transactions. Crude oil price data alone may be an adequate indication of spot market activity for periods such as 1979 when spot prices diverged sharply from contract prices. At other times, when spot and contract prices converge, spot purchases can only be identified on the basis of the terms of each transaction.

DOE validates the data by contacting the companies to clarify unclear or apparently contradictory information. No effort is made at this time to verify the data through on-site audits. Data obtained is tabulated onto computer printouts by reporting company, crude oil type, and price. One can then determine what each company paid each month for specific quantities and types of crude oil produced in particular countries. The printouts are made available to DOE's Office of Special Counsel for Compliance for regulatory purposes and to DOE's Office of International Affairs for use in monitoring the international oil market. The data is also submitted, in aggregated form, to the IEA.

Foreign Oil Supply Agreement Report

In early 1979 DOE's Energy Information Administration began requiring U.S. refiners to report the terms of their foreign crude oil supply contracts on the Foreign Oil Supply Agreement Report. DOE specifically designed this report to help monitor the international oil market. The report performs no regulatory functions. To the extent that the significance of the international crude oil spot market for the United States lies in its relationship to the larger contract market, the oil supply agreement reports could be a useful tool for analyzing the spot market.

All companies acquiring an average of 150,000 barrels a day of crude oil for at least 1 year (or a proportionate amount for periods of more or less than 1 year) under a

Long-term contract with a single host Government must report this agreement within 30 days of signing. The reporting form requests information on the type of agreement (participation contract, concession, or purchase agreement), the name of the host country, the period covered, the type and quantity of oil involved, and the price, credit, export, and other terms. Companies are also required to report within 30 days any substantive changes in the agreements. As of February 1980, approximately 50 reports had been filed. In addition to safeguarding their proprietary contents, DOE applies a national security classification to some of them. Officials believe that public disclosure of the reports could jeopardize U.S. access to foreign contract crude.

Untimeliness and lack of some
important information limits
reports' usefulness

Data from both reporting systems is not sufficiently current for timely monitoring of spot market activity. DOE requires the companies to submit the Transfer Pricing Reports within 45 days of the close of each month. A transaction conducted at the beginning of the month, therefore, could take 75 days before being reported. DOE officials believe companies cannot provide reasonably accurate data in less than 45 days. Once the data is received, it takes another 2 weeks to edit the reports and validate and tabulate the data. Therefore, by the time the data is available in analytically useful form, the reported transactions are between two and three months old.

Similarly, information from the Foreign Oil Supply Agreement Reports is not current enough for timely monitoring. Companies have 30 days to report any agreements signed with host country governments.

Nonetheless, for historical and trend analysis, the reports could be useful. We therefore examined data from the Transfer Pricing Reports for 1977 through the first quarter of 1979 and interviewed DOE officials responsible for collecting, editing, and validating the data. We also reviewed the Foreign Oil Supply Agreement Reports and spoke with oil company officials responsible for negotiating foreign oil supply agreements. Important deficiencies appeared in the ability of both reporting systems to provide knowledge of U.S. company participation in the spot market and the relationship between the spot and contract markets.

Although the Transfer Pricing Report requires companies to identify purchases of oil on the spot market, DOE does not define the term "spot market." While the meaning may

have been self-evident before 1979, the dramatic changes in the structure of the international oil market in that year make the term "spot" ambiguous, particularly with respect to such critical factors as the terms of sale, quantity of oil traded and price. A transaction reported as "spot" by one company on the basis of its small volume of oil, for example, might be reported as a contractual sale by another.

DOE officials said that many companies fail to identify a transaction as "spot" even when other information provided suggests that it may have some or all the elements of this type of transaction. Other than providing the few companies that inquire about the meaning of the term with a traditional definition--oil traded one or a few cargoes at a time at a price peculiar to the transaction--DOE has made no real effort to clarify the meaning of "spot," to get companies to identify explicitly spot purchases and sales, or to use other criteria provided on the report (such as price or quantity of oil) to make such determinations itself. DOE officials said the Transfer Pricing Report was designed when market conditions were fairly stable and spot market sales could be clearly identified. They acknowledge that the definition of spot market has changed, and may continue to do so. These changes make it even more necessary to provide the companies with current guidance on DOE's definition of spot market.

Although the information contained in the Foreign Oil Supply Agreement reports concerns oil supply contracts rather than spot sales, full and accurate reporting of the agreements could enable DOE to verify reports of host country decisions to condition supply contracts on spot purchases, link contract prices to spot prices, or reduce volumes and durations of contracts in order to divert crude oil to the spot market. A clearer understanding of the spot market's role in affecting the contract market could thus be obtained.

However, lack of information limits the usefulness of the Foreign Oil Supply Agreement Reports for analyzing the spot market. For example, DOE asks companies to explain the method by which the price of crude oil obtained under the particular contract is determined, including the components of the price, the formula used, escalation clauses, and other "material factors." However, the term "material factors" is only vaguely explained. In the reports submitted through February 1980, companies generally kept their description of price terms to a minimum. The companies provided no information concerning linkages between contract and spot sales and prices or other conditions relating to the spot market. In some cases, we knew this lack was significant

because of information volunteered to us by oil company officials who had been involved in negotiating such contracts. DOE officials stated that this report, which was developed in 1977, may now be obsolete with respect to the current structure of the international petroleum market.

DOE RELIES ON AN INFORMAL SYSTEM FOR MONITORING AND ANALYZING THE SPOT MARKET

DOE's International Affairs Office of Market Analysis is responsible for analyzing the international petroleum market. This office relies on information it gathers from the trade press, financial institutions, academic sources, U.S. intelligence sources, and outside contractors. One staff member is responsible for monitoring the international spot market. This staff member relies on personal meetings and telephone contacts with knowledgeable U.S. and foreign sources for current information on spot market developments. Market studies are also prepared by a London-based consulting firm.

According to its Director, the Office of Market Analysis does not use the Transfer Pricing Report or the Foreign Oil Supply Agreement Report. Officials said they consider the unverified Transfer Price and Foreign Oil Supply Agreement data as less timely and less useful for current market analysis than their own resources. These officials also noted their analytical responsibilities encompass the world petroleum market, while U.S. Government reporting systems are limited to the activities of U.S. companies.

DOE'S OFFICE OF SPECIAL COUNSEL COLLECTS
TIMELY DATA ON AN INFORMAL BASIS

In March 1979, DOE's Office of Special Counsel for Compliance, a regulatory organization, designed and implemented on its own initiative an informal reporting system of crude oil purchased for import to the United States. This reporting system, called "Crude Watch," contains DOE's most timely and systematic data on this subject. Working through its field audit staff located at the sites of major U.S. refiners, the Office of Special Counsel obtained a voluntary agreement from the 35 largest refiners to supply its auditors with weekly telephone reports on their previous week's purchases of crude oil for import into the United States. Officials said the purpose of the system was to provide the Secretary of Energy with timely information about U.S. imports. 1/

1/This system was described in detail by DOE officials in a New York Times article of December 16, 1979.

Like the Transfer Pricing Reports, "Crude Watch" reports deal with crude oil purchases on an individual transaction basis. Data includes the name of the purchasing company, the volume purchased, the crude type (including country of origin, gravity and sulfur content), the identity of the seller and the price per barrel. Unlike the Transfer Pricing Reports, the data is limited to purchases, all prices are reported on a point-of-embarkation basis, and the terms of transaction are not identified.

"Crude Watch" reports are tabulated on a weekly basis by company, crude type and price by the Special Counsel's Office of Audit Planning and Systems Integration. The staff also carries out some analyses both on its own initiative and in response to requests for information from other DOE offices. No efforts are made to verify the data. In total, less than 1 staff year is devoted to the "Crude Watch."

Officials of the Office of Special Counsel emphasized the confidential nature of "Crude Watch" data. They said the raw data is shared only with the Secretary and Deputy Secretary of Energy. Other offices in DOE are aware of Crude Watch and occasionally request specific information derived from it. The Office of Special Counsel often supplies information as long as it does not reveal the identity of companies or otherwise disclose the details of specific transactions. DOE officials requesting "Crude Watch" data said that particularly since May 1980 considerable progress has been made in sharing the data on an aggregated basis. However, due to internal restrictions, raw data from the "Crude Watch" reports is not generally provided to the DOE office responsible for monitoring the international petroleum spot market. DOE officials argue that such confidentiality is necessary because the data is proprietary and they assured the oil companies that it would be carefully protected. In our discussions with oil company officials, a few volunteered that their companies report foreign crude oil purchases to the Office of Special Counsel on a weekly basis. However, while these company officials clearly regarded the "Crude Watch" data as proprietary, they did not consider it to be more sensitive, for use within DOE, than the proprietary data submitted in the Transfer Pricing Report, which they understood to be shared among several offices within the Department.

DOE HAS PROPOSED THAT THE INTERNATIONAL
ENERGY AGENCY ADOPT A TIMELY SYSTEM
FOR MONITORING THE CRUDE OIL MARKET

Through the IEA, the United States exchanges a large amount of information with other oil-importing nations.

DOE's International Affairs Office of Consuming Nations coordinates those exchanges of information. This Office relies primarily on the Transfer Pricing reporting system to supply the IEA with price data on crude oil purchased by U.S. oil companies overseas. Until April 1980 DOE's Energy Information Administration aggregated monthly data by producing country and price, deleted all company names, and submitted the data directly to the IEA in Paris. However, during the first 6 months of 1979, it took an average of 80 days from the end of the month during which the reported transactions took place to send the information to the IEA; in some cases delays up to 4 months occurred, or 5 months following the earliest transaction of the reporting period. In April 1980, data collection responsibilities were moved to DOE's Economic Regulatory Administration. Office of Consuming Nations officials believe the reporting period can be slightly shortened, by about 2 weeks.

In June 1979, the United States signed the Tokyo agreement pledging, with six other major oil-importing countries (Canada, the Federal Republic of Germany, France, Italy, Japan, and the United Kingdom), to improve the monitoring of the international petroleum market. To implement this commitment, the Office of Consuming Nations has taken a lead role in advocating the IEA's adoption of a more timely system to monitor international petroleum transactions. Its proposed "quick response" system would provide for semi-monthly reporting of certain transactions having "special relevance in the current market." These could include, for example, spot transactions or crude oil transactions where prices vary more than a certain amount from Government selling prices. Ideally, all parties acquiring petroleum for import into a participating country would be included in the reporting system. The IEA has deferred consideration of this proposal.

CONCLUSIONS AND RECOMMENDATIONS

Four separate DOE systems, two formal and two informal, collect valuable information for monitoring and analyzing the spot market. One formal system, based on the Foreign Oil Supply Agreement Report, was designed for monitoring the international oil market. The other formal system is based on the Transfer Pricing Report, a regulatory form modified for analytical purposes. However, both of these forms lack some important information for analyzing the spot market. We believe that if the Transfer Pricing Report included a definition of spot market, and the Foreign Oil Supply Agreement Report required companies to identify

linkages between contract and spot sales, the forms would provide better quality information for analytical purposes.

Neither of these reports, however, is currently used by DOE's International Affairs Office of Market Analysis, which is the office responsible for analyzing the international petroleum market. Rather, officials there rely on their own largely informal information system--reports in the trade press, personal meetings, telephone contacts and market studies prepared by outside consulting firms. They regard data from the formal system as less timely and useful than their own resources. They also said their analytical responsibilities encompass the world petroleum market, while formal systems are limited to the activities of U.S. companies.

DOE's most systematic and timely data on U.S. oil company involvement in the spot market is collected through "Crude Watch," an informal system based on telephone surveys of the 35 largest oil refiners. Because of the proprietary nature of the data and the Office of Special Counsel's assurances to oil companies, the raw data is not shared with the Office of Market Analysis. However, the data is only a more timely version of some of the same data on the Transfer Pricing Report which is shared within the Department.

We believe DOE could greatly improve the quality and timeliness of spot market monitoring and analysis by providing for better coordination and information sharing among the offices collecting information.

As coordinated by the International Affairs Office of Consuming Nations, DOE regularly reports energy information, aggregated from information on the Transfer Pricing Reports, to the IEA. During the first half of 1979, it took an average of 80 days from the end of a month in which a transaction occurred to report to the IEA. DOE has made recent efforts to improve the timeliness of U.S. reporting to the IEA.

If the U.S. proposal or a similar one to the IEA for a "quick response" information system is adopted, DOE should consider using data from the existing "Crude Watch" system. An official from the Office of International Affairs said he has initiated discussions with the Office of Special Counsel to explore using "Crude Watch" data for this purpose. Such use will, in part, depend on the specifics of which system, if any, is adopted by the IEA.

To improve the timeliness and quality of data used for monitoring U.S. oil company participation in the international crude oil spot market, we recommend that the Secretary of Energy:

- Assure timely sharing of data from existing formal and informal information systems between the Office of Special Counsel for Compliance and the Office of International Affairs, while providing adequate protection for that data which is proprietary.
- Define the term "spot market" on the Transfer Pricing Report.
- Require companies to identify information on linkages between contract and spot sales on the Foreign Oil Supply Agreement Report.
- Use data, in properly aggregated form, from the existing "Crude Watch" information system to meet U.S. requirements of any future IEA "quick response" information system.

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