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Interim Validation Report Middle Distillate Price Monitoring System

David G. Hopelain, David Freedman,
Thomas H. Rice, and James G. Veitch

December 1978

Lawrence Berkeley Laboratory University of California/Berkeley
Prepared for the U.S. Department of Energy under Contract No. W-7405-ENG-48

LBL-8437 c.2

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INTERIM VALIDATION REPORT

MIDDLE DISTILLATE PRICE MONITORING SYSTEM

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December 1978

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PREFACE

This is an interim report which covers the work performed, to date, by the Energy Information Validation Project at the Lawrence Berkeley Laboratory on the Middle Distillate Price Monitoring System (MDS). The report states the project's findings and conclusions and, where appropriate, sets forth recommendations to improve the accuracy and usefulness of information processed by the system.

Briefly, the MDS collects data on prices and gross margins for No. 2 heating oil from a sample of refiners, resellers and retailers in the petroleum industry. The data, collected and aggregated by the Energy Information Agency (EIA), is used by the Energy Regulatory Agency's (ERA) Office of Fuels Regulation (OFR) to evaluate the level of competition and the reasonableness of prices in the heating oil market. If, on the basis of this information, OFR determines that the objectives of the Emergency Petroleum Allocation Act (EPAA) are not being fulfilled, it may recommend that DOE take remedial actions which may include the reimposition of mandatory price and/or allocation controls for No. 2 heating oil.

One conclusion is that information on average prices and gross margins does not provide a basis for determining whether a market is competitive. Accurate descriptive information on prices and gross margins could be useful for a preliminary analysis--trends or anomalies in these series could prompt further investigation. However, this information could not provide any specific focus for such an inquiry. A second con-

clusion is that there is serious doubt as to the accuracy of the information collected by the system.

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INTERIM VALIDATION REPORT

MIDDLE DISTILLATE PRICE MONITORING SYSTEM

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

I. SYSTEM IDENTIFICATION[a]

A. CURRENT IDENTIFICATION INFORMATION

- Name of System Being Validated: Middle Distillate Price Monitoring System

- Number of Form as Cleared: EIA-9

- EIA Standard Series Number: Not yet known

- Form Clearance Information: Submitted to the Office of Management and Budget for clearance on September 13, 1977. It is scheduled to expire on August 31, 1980.

- Statutory Authority Under Which Reporting Requirements Were Established:

  1. Federal Energy Administration Act of 1974 (P.L. 93-275, Sect. 7 and 13, May 7, 1974, as amended by P.L. 94-332, June 30, 1976; P.L. 94-385, August 14, 1976; P.L. 95-70, July 21, 1977; and P.L. 95-91, August 4, 1977).

  2. Energy Supply and Environmental Coordination Act of 1974 (P.L. 93-319, Sect. 11, June 22, 1974, as amended by P.L. 94-163, December 22, 1975; and P.L. 90-50, July 21, 1977).

  3. Emergency Petroleum Allocation Act of 1973 (EPAA, P.L. 93-159, November 27, 1973, as amended by P.L. 93-511, December 5, 1974; P.L. 94-99, September 29, 1975; P.L. 94-133, November 14, 1975; P.L. 94-163, December 22, 1975; and P.L. 94-385, August 14, 1976.

- Other Current Standard Reference Numbers or Names Identifying the Form: None

B. HISTORICAL IDENTIFICATION INFORMATION

- Names and Numbers of Antecedents to the Present System: Middle Distillate Monitoring System; FEA-P-112-M-1. This system was used during the 1976-77 winter.

- Planned Successors to the System: None

[a]Each item in Section I of the Executive Summary is explained in the corresponding section of the text. For example, "Uses of Output" are summarized in Section 1.F. of the Executive Summary, while a full discussion is contained in Section 1.F. in the main body of the report.

C. IDENTIFICATION OF PURPOSE

- Purpose of the System: To provide the information necessary for ERA's Office of Fuels Regulation to determine whether the objectives of the EPAA, regarding market competition and equitable prices, are presently being fulfilled in the market for No. 2 heating oil.

D. IDENTIFICATION OF INFORMATION COLLECTED

- Reporting Requirements : Firms are required to complete all parts of EIA-9.

- Numerical Information Requested:

  1. Monthly sales volume for No. 2 heating oil

  2. Average unit price for No. 2 heating oil

  3. Monthly domestic purchase volume for No. 2 heating oil

  4. Average unit costs for domestic purchases of No. 2 heating oil

  5. Monthly imported purchase volume for No. 2 heating oil

  6. Average unit costs for imported purchases of No. 2 heating oil

  7. Beginning monthly inventory of No. 2 heating oil

  8. Estimated storage capacity for No. 2 heating oil

- Degree of Resolution for Numerical Information Collected: Items (1) and (2) are requested for <u>each</u> State in which heating oil is sold. Items (3) through (8) are firm aggregates.

- Descriptive Information Requested:

  1. Primary line of business (refiner, reseller, retailer, or reseller/retailer)

  2. Classification of reporting unit (consolidated or unconsolidated)

  3. Various address and firm identification information.

E. IDENTIFICATION OF COLLECTION AND COLLATION PROCESS

1. Universe Identification and Sample Design

- Universe: All refiners, resellers, and retailers of No. 2 heating oil within the political boundaries of the United States.

- Frame: Those firms in the "1974 Market Share Historical File" who were engaged in the No. 2 heating oil business as determined by a census taken through the use of forms P-305 and P-308. The frame was revised slightly in 1977 to include outlets divested by AMOCO. There are 9560 firms in the frame.

- Sample Selection: The frame was stratified into 216 cells by the 1974 size of the firm, location, and location of customers. In each cell the firms were arrayed by 1974 size, and a random start systematic sample was drawn. There are 1463 firms in the sample. This panel reports monthly for an entire year.

- Means of Collecting Information: Mail Survey.

- Reporting Interval: One month.

- Frequency of Data Collection: Monthly.

2. System Implementation

- Collection Agency: Office of Energy Data/EIA is responsible for collecting the information.

- Processing Agency: Data Technology Industries (DTI) receives completed EIA-9 forms from firms. DTI checks, processes, and enters the data on computer files, which are given to EIA. EIA checks the information again and publishes the results. The contract is with EIA/Energy Data.

- Information Volume: DTI collects and processes EIA-9 forms from approximately 1200 firms each month during the heating season , a total of about 3000 records.

- Processing Time: Forms are due 20 days after the reporting period has ended. Data are published 45 days after the reporting period has ended.

- Custodians of Computer Files: Optimum Systems Incorporated (OSI) under contract to EIA/ADP Services.

F. USES OF OUTPUT

1. Prescribed Uses of Data

- Regulatory Requirements: Volume 43, Federal Register, pp. 2917-23, January 20, 1978, establishes requirements regarding data use for the following groups:

  1. ERA's Office of Fuels Regulation: OFR is required to examine MDS data in order to determine if the EPAA objectives of market competition and equitable prices are being fulfilled in the market for No. 2 heating oil.

  2. The ad-hoc Subcommittee of DOE's Fuel Oil Marketing Committee: The Subcommittee is required to review MDS data and to make recommendations regarding benchmark prices and gross margins used by OFR in its analysis in Item (1).

  3. ERA's Office of Administrative Review is required to hold an evidentiary hearing on the marketing and pricing of No. 2 heating oil during the 1977-78 winter. After considering OFR's conclusions and any comments by consumers and industry, OAR is required to forward its recommendations on any needs for further regulatory action, regarding No. 2 heating oil, to ERA's Administrator.

  The MDS is not explicitly required by the Code of Federal Regulations. These regulations merely exempt No. 2 heating oil from price controls. These prescribed uses were established by ERA, in order to fulfill their obligations to see that the objectives of the EPAA continue to be met. (See Appendix A for details)

- Regulatory Decisions Supported by Information: If, based on the conclusions reached by OFR, the ERA Administrator deems it necessary, he may take the following steps:

  1. Audits of individual firms

  2. Public hearings regarding the price of No. 2 heating oil

  3. Voluntary price restraints

  4. Re-imposition of mandatory price and/or allocation controls

2. Publication of Data

- Agency Which Publishes Data: Prices, Costs and Marketing Section of EIA
- Reports Published:
  1. Energy Data Report: Heating Oil Prices and Margins (monthly) (EIA 0031)
  2. Monthly Energy Review (EIA 0035)
  3. Monthly Petroleum Product Price Report (EIA 0032)
  4. Quarterly Report to Congress (EIA 0008)
  5. Monthly Report to the President
- Primary Format of Reports: Tables
- Recipients of Reports: Not yet examined

II. CONCLUSIONS AND RECOMMENDATIONS

A. INFORMATION USEFULNESS

- Information on average prices and gross margins does not provide a basis for determining whether a market is competitive. Accurate descriptive information on prices and gross margins could be useful for a preliminary analysis -- trends or anomalies in these series could prompt further investigation. However, this information could not provide any specific focus for such an inquiry.

B. INFORMATION ACCURACY

With a well-constructed sample survey, a user should be able to determine how much confidence to place in estimates: their uncertainty should be quantified. The Middle Distillate Price Monitoring System does not appear to satisfy this criterion. It is difficult or impossible to judge the accuracy of the estimates derived from this system.

- The frame appears to be seriously incomplete. Preliminary estimates of undercoverage indicate that the frame misses roughly one-third of the firms in the target universe. The impact of the non-sampling error this creates may be large, but it is presently unknown.

- The definitions of No. 2 heating oil used by firms in different segments of the market are not consistent. Again, this creates a non-sampling error which may be large, but is presently unknown.

- The sample design is not suited to the computation of standard errors. Therefore, the impact of sampling error on the estimates can be assessed only by making untestable assumptions. With other equally practical designs, standard errors can be computed directly from the sample.

- The non-response rate, whether measured by number of firms or volume of oil, is about 10 percent -- despite the fact that responses are mandatory.

- In some respects, Form EIA-9 and its instructions are confusing to respondents.

- Answers are sometimes internally inconsistent, and edit routines are not designed to detect these inconsistencies.

Recommendations follow for improving the quality of the information collected by the system. They are discussed in more detail in the body of the report (Section IIC).

- The frame should be revised periodically. Firms that have gone out of business should be dropped, new firms that have come into the market should be added. After revision of the frame, a new sample should be drawn.

- Either the definition of No. 2 heating oil should be clarified, or information should be collected on a better-defined product class, such as: all middle distillate fuel, or all No. 2 oil (heating and diesel).

- The sample should be redesigned to facilitate computation of standard errors, and reduce the burden of reporting.

- More effort should be put into contacting the non-respondents.

- The questionnaire should be revised.

- More sophisticated computer edit routines should be implemented to identify inconsistent reponses.

- A small random sample of forms should be taken each month for close review.

FUTURE WORK TO BE DONE TO COMPLETE THE SYSTEM STUDY

Middle Distillate System

1. Investigate the information required to judge market competitiveness and price equitability. Review relevant paradigms and their associated problems.

2. Investigate the incentives for bias and the process of respondents filling out the forms. Investigate effects of errors introduced in this process.

3. Describe the heating oil market.

4. Investigate coverage and bias due to non-coverage.

5. Investigate bias due to non-response.

6. Estimate sampling error.

EDITORS' NOTE

These reports were prepared under severe time constraints. As a result, only the executive summaries have been fully reviewed. If any differences appear between the executive summary, the main text and the appendicies, the reader should be guided by the executive summary, and secondarily refer to the appendicies about details of content.

INTERIM VALIDATION REPORT

MIDDLE DISTILLATE PRICE MONITORING SYSTEM

I. SYSTEM IDENTIFICATION

A. CURRENT IDENTIFICATION INFORMATION

The Middle Distillate Price Monitoring System (MDS) collects price and volume information on No. 2 heating oil through the use of three questionnaires: EIA-9, FEA P-110-M-1 and FEA P-302-M-1. This validation report focuses solely upon EIA-9, a form developed for, and used exclusively by the MDS.

EIA-9 (temporarily called P-112-M-2) was submitted to the Office of Management and Budget (OMB) for clearance on September 13, 1977.[1] It is scheduled to expire on August 31, 1980. In the supporting statement to its clearance request for OMB, the Federal Energy Administration (FEA) cited three statutes to justify the requested reporting requirements for firms in the market for No. 2 hearing oil. These statutes are:

- Federal Energy Administration Act of 1974 (P.L. 93-275, Sect. 7 and 13, May 7, 1974, as amended by P.L. 94-332, June 30, 1976; P.L. 94-385, August 14, 1976; P.L. 95-70, July 21, 1977; and P.L. 95-91, August 4, 1977). Section 5 of this Act directs FEA's administrator to "be responsible for such actions as are taken to assure that adequate provision is made to meet the energy needs of the Nation." As part of this task, the Administrator is directed to collect information regarding energy shortages and energy prices, respectively, for planning purposes and to "promote free and open competition in all aspects of the

energy field, prevent unreasonable profits within various segments of the energy industry, and promote free enterprise." According to FEA, the information collected by the MDS was needed to insure fulfillment of this and other requirements specified in the FEA Act.

- Energy Supply and Environmental Coordination Act of 1974 (P.L. 93-319, Sect. 11, June 22, 1974, as amended by P.L. 94-163, December 22, 1975; and P.L. 95-50, July 21, 1977). Section 11 of this Act requires the FEA Administrator to collect energy information which he "determines to be necessary to be necessary to assist in the formulation of energy policy or to carry out the purposes of this Act or the Emergency Petroleum Allocation Act of 1973."
- Emergency Petroleum Allocation Act of 1973 (EPAA, P.L. 93-159, November 27, 1973, as amended by P.L. 93-511, December 5, 1974; P.L. 94-99, September 29, 1975; P.L. 94-133, November 14, 1975; P.L. 94-163, December 22, 1975; and P.L. 94-385, August 14, 1976). The EPAA granted temporary authority to the President to control the supplied and prices of petroleum products, "for the purpose of minimizing the adverse impacts of such shortages or dislocations on the American people and the domestic economy." Petroleum regulations enacted in compliance of the EPAA had to fulfill nine objectives. These objectives included the "preservation of an economically

sound and competitive petroleum industry" and "equitable prices". Furthermore, for products which were later exempted from these regulations, the EPAA specifies that these products should be marketed in such a way that they continue to meet the EPAA objectives; otherwise, controls will be reinstituted. Consequently, FEA needed current information on these exempted products (which include No. 2 heating oil) in order to determine whether such controls once again were necessary.

Two other forms are used by the MDS. FEA P-110-M-1, "Refiners' Monthly Cost Allocation Report," collects detailed information regardingthe production costs for petroleum products that are still subject to mandatory controls. This form is completed by all refiners in the United States. FEA P-302-M-1 "Petroleum Industry Monthly Report for Product Prices", collects data on prices, costs, and volumes for all petroleum products, including middle distillates. It is completed by all refiners and by resellers and retailers with annual sales of $50 million or more for controlled petroleum products. As stated earlier, this validation project focuses exclusively on form EIA-9, as P-110 and P-302 are parts of other DOE information systems.

B. HISTORICAL IDENTIFICATION INFORMATION

There was one antecedent to the present Middle Distillate Price Monitoring System. This first system, formulated through an agreement between Frank Zarb, the Federal Energy Administrator, and Congress, was

used during the winter of 1976-77.[2] Zarb assured Congress that, in the event that middle distillates were exempted from mandatory allocation and price controls, the FEA would set up a price monitoring system to track the price level of uncontrolled products. This first monitoring system was installed after middle distillates were decontrolled in July of 1976.[3]

The primary data collection instrument used in the first system was Form FEA P-112-M-1 (called P-112). Forms P-110 and P-302, described above, were also used. EIA-9, the data collection instrument used by the present MDS, is identical to P-112; however, minor changes were made in the instruction sheets given to firms which complete the form.[4]

C. IDENTIFICATION OF PURPOSE

The purpose of the Middle Distillate Price Monitoring System is specified in Federal regulations (Volume 43, Federal Register, pp. 2917-23, January 20, 1978).[5,6] According to these regulations, the purpose of MDS is to determine whether any further regulatory action is needed to fulfill the objectives of the EPAA. The system collects information separately for different DOE regions and different sectors of the market (i.e., refiners, resellers, and retailers) in order to further isolate any possible deviations from the EPAA objectives of market competition and equitable prices for No. 2 heating oil.

D. IDENTIFICATION OF INFORMATION COLLECTED

The information to be collected by the MDS is specified in the regulations (Volume 43, Federal Register, pp. 2917-23). All firms in

the sample are required to complete form EIA-9, which includes both numerical and descriptive information. This form must be completed monthly.

The monthly Sales Volume for No. 2 heating oil is asked for, on EIA-9, for each State in which the firm sells No. 2 heating oil, broken down by categories:

- Residential Sales
- Industrial Sales
- Institutional Sales
- Other Sales to Ultimate Consumers
- Sales to Non-Ultimate Consumers

Finally, each of the above categories (except residential sales) is further divided into the following for which unit price is asked:

- Rack Sales
- Delivered Sales
- Bulk Sales

The following information is provided for the firm as a whole (and is not broken down by State):

- Monthly Domestic Purchases Volume of No. 2 heating oil
- Average Unit Costs for Domestic Purchases
- Monthly Imported Purchases Volume of No. 2 heating oil
- Average Unit Costs for Domestic Purchases
- Beginning Inventory of No. 2 heating oil
- Estimated Storage Capacity for No. 2 heating oil

In addition to this information, firms also must provide some descriptive information regarding their primary line of business (refiner, reseller, retailer, or reseller/retailer), class of reporting unit (consolidated or unconsolidated), and certain address and identification information.

E. IDENTIFICATION OF COLLECTION AND COLLATION PROCESS

1. Universe Identification and Sample Design

Figure 1 illustrates the procedures that were used in the design of the sample: The steps are outlined below:

- The universe for the "market shares" system includes all refiners, resellers, and certain categories of retailers of petroleum products, in the political boundaries of the United States.[7] The universe is an idealized prototype, not directly observable.
- A mailing list was developed of all firms in this universe known to the Federal Energy Administration (FEA), starting from the Dun and Bradstreet credit reference list, a list developed by the Bureau of Mines, and various directories and business lists.
- FEA forms P-305 and P-308 were used to take a census of firms on the mailing list described above. The purpose of the census was to determine the product lines and sales volumes of firms in the list. However, the non-response rate was 20%. From the census results, the "1974 Market Share Historical File" was developed. The initial frame for MDS

FIG. 1

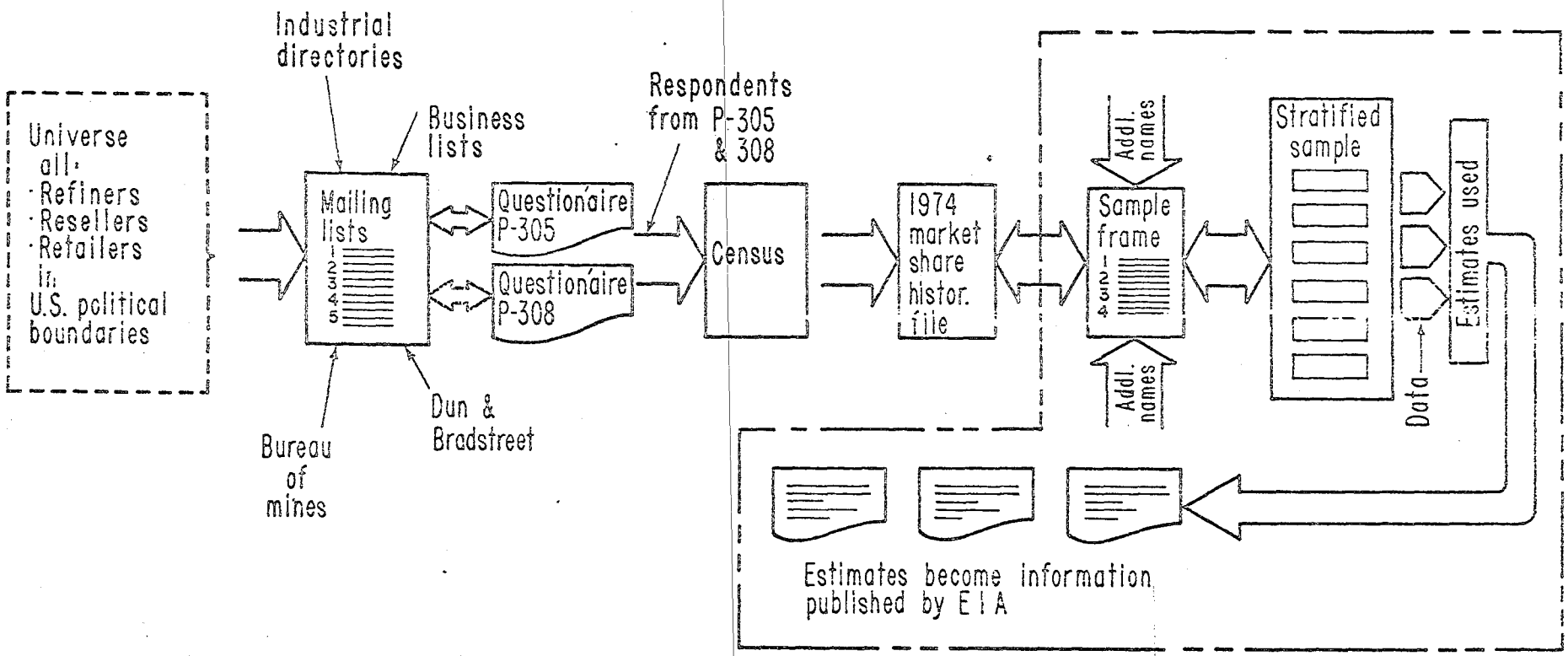

Fig. 1. Procedures used in the design of the Middle Distillate Price Monitoring sample.

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consisted of all firms in the "1974 Market Shares Historical File", involved in the refining, reselling, or retailing of No. 2 heating oil.

- The frame was revised in 1977 to include retail outlets divested by AMOCO Oil Company. There are 9560 firms in the frame.
- The frame was stratified into 216 cells by the 1974 size of firm, location, and customer location. In each cell, the firms were arrayed by 1974 size, and a random start systematic sample was drawn. There are 1463 firms in the sample. This panel reports monthly on form EIA-9.

2. System Implementation

Figure 2 illustrates the flow of information collected from EIA-9. The principal processing procedures are referred to by number in Figure 2, and in the corresponding explanation, below, starting with the completion of EIA-9 by firms (Step 1) and ending with the publication of data by EIA (Step 15). In some instances, actual procedure deviates from this idealized description.

1. A stratified sample of refiners, resellers, and retailers is chosen, as explained in Section I.E.1, above.

2. These firms complete form EIA-9. The forms are due on the 20th of the month following the end of the reporting period (e.g., the January form is due on the 20th of February). 1211 firms should complete EIA-9 each month (the other 252 are out of business, or no longer selling No. 2 heating oil). This panel reports monthly for the entire

FIG. 2

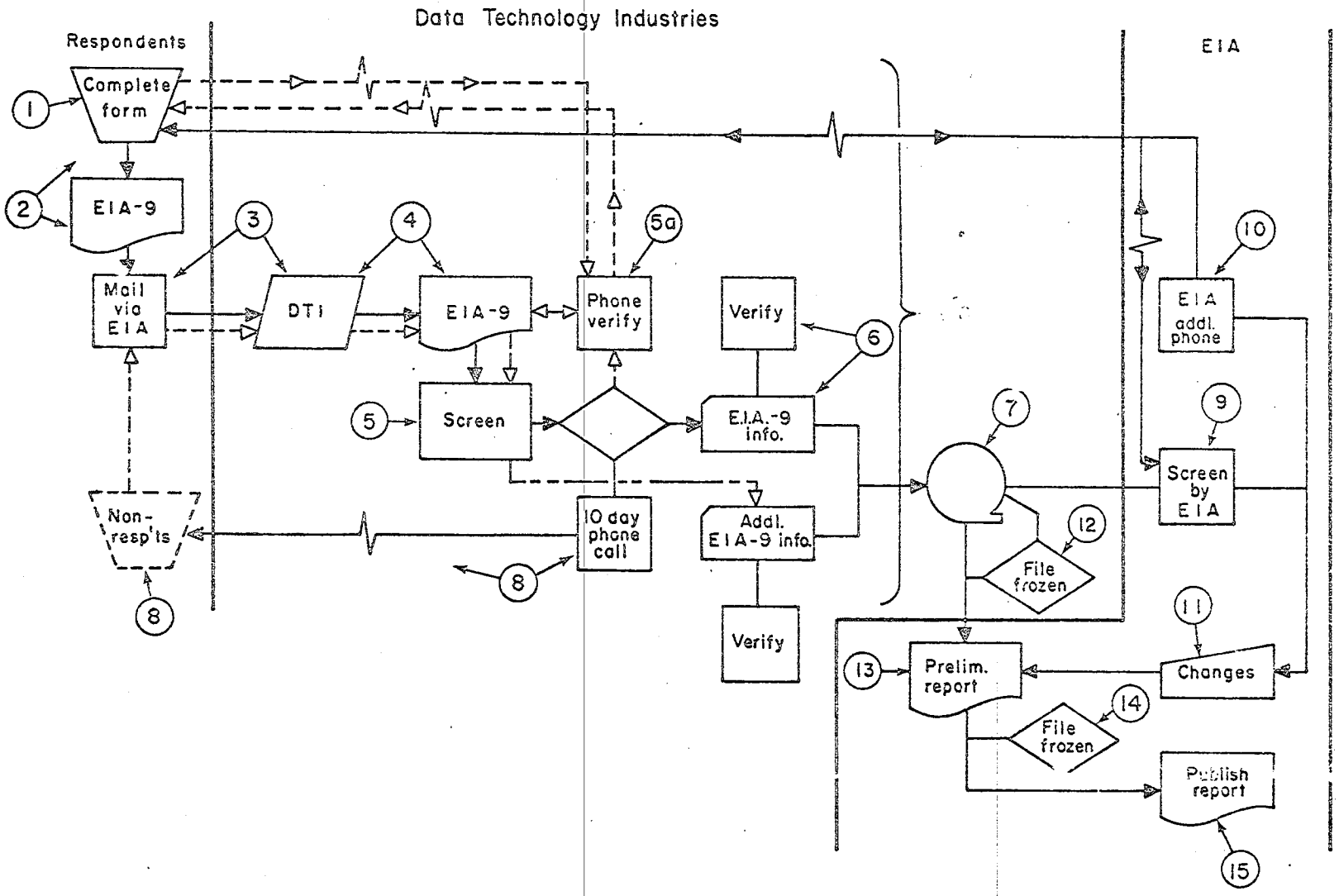

Fig. 2. Flow of information collected from Form EIA-9.

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year.

3. Forms are sent to Data Technology Industries (DTI), which has contracted with EIA to process, edit, and enter the data onto computer files. The contract is with the Office of Energy Data.

4. DTI logs the forms as they are received.

5. DTI visually screens the responses for gross errors, and calls companies in Step 5a when corrections appear to be needed. These corrections are placed on the actual forms.

6. DTI keypunches the EIA-9 data and verifies the keypunching.

7. These data are entered on computer files and are subjected to an editing routine, in order to locate remaining inconsistencies.[8]

8. Ten days after the report is due, DTI begins calling non-respondents, in order to collect missing reports (e.g., non-respondents for January are called on or after March 2).

9. Office of Energy Data statisticians screen the computerized data and make additional checks with respondents.

10. EIA's Prices, Costs, and Marketing section makes additional visual checks of the data, and if appropriate, places calls to respondent firms.

11. This results in further corrections to the reports, but <u>not</u> to the data files.

12. When 100 percent of all Stratum 1 firms,[9] and 80 percent of all other firms, have responded, the file is administratively frozen for the first time.[10]

13. The Prices, Costs, and Marketing section of EIA then prepares a preliminary report containing average prices and gross margins,

for the DOE regions and for the nation as a whole.

14. The file is re-opened and additional data from late respondents are added. The file is then frozen for the second time.

15. EIA's Prices Costs, and Marketing section publishes the Energy Data Report: Heating Oil Prices and Margins. The report is published on the 15th day of the following month (e.g., January data are published on the 15th of March). The actual contents of the report are explained in Section I.F.2., below.

F. USES OF OUTPUT

1. Prescribed Uses of Data

Federal regulations specify the use of data collected by the Middle Distillate Price Monitoring System (Volume 43, Federal Register, pp. 2917-23, January 20, 1978). Figure 3 provides a flow-chart of the data use, specified in these regulations.

The Office of Fuels Regulation (OFR) of the Economic Regulatory Administration (ERA) reviews the monthly MDS data. The regulations referred to above specify that OFR will evaluate market competition and price reasonableness by comparing MDS market aggregates to certain benchmarks. Specifically, refiner prices to resellers are compared to a national refiner index, which represents DOE's best guess of what the level of refiner prices would have been if price controls had not been removed. Furthermore, both retailer and reseller gross margins are compared to their respective gross margin benchmarks, for each of DOE's ten regions, and for the nation as a whole.[11] These benchmarks

FIG. 3

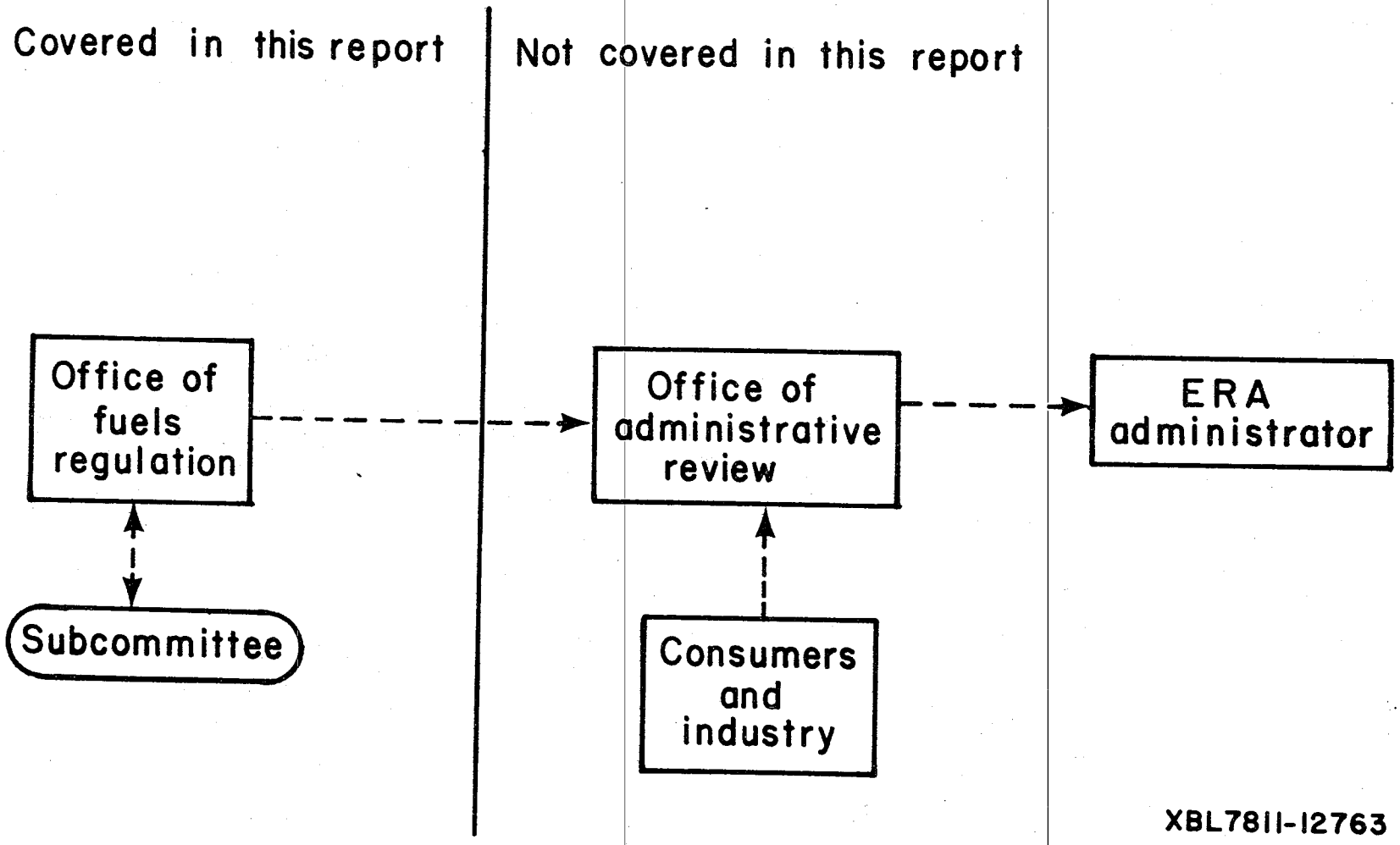


Fig. 3. Use specified by federal regulations of the data collected by the Middle Distillate Price Monitoring System.

are analyzed in Appendix J.[12] According to the Federal Register, "actual average gross margins in excess of the corresponding benchmarks contained in the final report (of OFR) will create the presumption of a need for further regulatory action."

OFR is assisted in its analysis by an ad-hoc subcommittee of DOE's Fuel Oil Marketing Committee. The regulations state that the Subcommittee's purpose was "to advise and assist (ERA) in its evaluation of the marketing of No. 2 heating oil during the (1977-78) heating season.[13] Specifically, the Subcommittee was assigned the task of evaluation the benchmark levels calculated, and the benchmark methodology used, by OFR. It would then forward to OFR its recommendations regarding the reasonableness of prices and gross margins for the DOE regions and for the nation as a whole.

The regulations further specify that in August, 1978, ERA's Office of Administrative Review (OAR) would hold an evidentary hearing "to evaluate the performance of all levels of distribution of the heating oil industry and the need for any further regulatory action."[14] In addition to considering OFR's conclusions[15], consumer groups and industry representatives could present evidence at the hearing.[16] After the hearing, OAR would transmit its findings to the ERA Administrator, who would determine if further regulatory measures are necessary. Possible remedial measures that may be taken by ERA's Administrator include:

- Audits of firms

- Public hearings regarding the price of No. 2 heating oil
- Voluntary price restraints by firms
- Re-imposition of mandatory price and/or allocation controls

This interim report examines data use only by OFR and by the Subcommittee. Since the Office of Administrative Review examines evidence submitted by industry and consumer representatives, in addition to MDS data, it would not be appropriate for LBL to comment on this aspect of the decision-making process.

2. Publication of Data

The Energy Information Agency publishes several reports that include data collected by the Middle Distillate Price Monitoring System. These are:

- Energy Data Report:[17] Heating Oil Prices and Margins (Published monthly) (EIA-0031)
- Monthly Energy Review (EIA 0035)
- Monthly Petroleum Product Price Report (EIA 0032)
- Quarterly Report to Congress (EIA 0008)
- Monthly Report to the President

MDS data are published in tables in these reports. In the Energy Data Report, the only one of these publications which focuses exclusively on the MDS data, prices and gross margins are published separately for:

- Refiners' sales to resellers and retailers

- Resellers' and retailers' sales to other resellers and retailers
- Resellers' and retailers' sales of residential heating oil

These figures are published for each of the ten DOE regions and for the nation as a whole. In addition to these, average residential prices are published for 23 States and the District of Columbia.[18]

Regarding the distribution of MDS information, each of the above reports, except the Energy Data Report, includes information on several petroleum products, in addition to No. 2 heating oil. Consequently, a survey of readers of the reports would be necessary to determine which use the information on heating oil. LBL has not yet checked the distribution list for the Energy Data Report, but will do so prior to the final report.

II. SYSTEM VALIDATION

A. CRITERIA FOR VALIDATION

Two criteria have been applied in the determination of whether this information system is valid: usefulness and accuracy of the information which it provides.

1. Usefulness

The application of the criterion of usefulness is reflected in the following question: Is the information useful? That is, do the measures sufficiently reduce the ambiguity in the phenomenon to the point that the user can accomplish his purposes?

2. Accuracy

Accurate information is that which, as closely as possible, reflects the underlying reality it purports to represent. The application of this criterion is reflected in the following questions:

- Is the sample frame complete?
- Are there clear definitions for the parameters being estimated?
- Is the sample well designed? Can standard errors be computed?
- Is the response rate adequate?
- Is the questionnaire clear? Are the answers consistent and correct?
- Are the edit procedures likely to detect serious errors?
- Is the data processing done correctly?

- Are the estimates consistent with the results obtained from other sources?

B. INFORMATION USEFULNESS

1. Methodological Framework

In Section I, we saw that the Middle Distillate Price Monitoring System was created in response to DOE's obligation under the EPAA to ensure the preservation of a competitive heating oil market and the maintenance of an equitable price for that product. In the implementation of this program, OFR and an ad hoc subcommittee of the Fuel Oil Marketing Committee were given the task of evaluating competition and the economic viability of various segments of the heating oil market. In carrying out this evaluation, OFR and the subcommittee were expected to use the following information provided by EIA:

- Average prices of No. 2 heating oil for the refinery, wholesale and retail segments of the market.
- Average gross margins for the wholesale and retail segments of the market.

In addition, OFR was to calculate, using data provided by EIA:

- An index of what refiners' prices to wholesalers would have been, if price controls had remained in effect; and
- A benchmark which indicated what average wholesaler and retailer gross margins would have been if price controls had remained in effect.

These formulas are analyzed in Appendix J.

The purpose of this section is to discuss, using the criterion of usefulness, the validity of the system. The question to be answered

is: was the information collected by EIA sufficiently unambiguous to enable OFR and the subcommittee to carry out the policies of EPAA by evaluating the competitiveness of the heating oil market and the reasonableness of the price of No. 2 heating oil?

Implicit, if not explicit, in the requirement that data on price and gross margins be collected is the assumption that such information will enable OFR and the subcommittee to determine the level of competition and the reasonableness of prices. Further, it is assumed that, given such information, steps can be taken to ensure the continuation of reasonable prices and competition or to restore them should prices become unreasonable or the level of competition subside. To assess the usefulness of this information, we will examine the correspondence between a theoretical analysis of prices and gross margins and the empirical evidence reflecting the experience of those who tried to use this information.

a. Prices

Average price data alone do not provide sufficient information from which to judge the reasonableness of product prices or the level of market competition. The price of any goods is composed of three components: product costs, non-product costs, and profits. Fluctuations in price can be accounted for by fluctuation in any of these components in a combination of them. In the event of a price increase, the analysis of price data alone does not reveal which of these components contributed to such an increase. Further, the existence of

stable prices is not necessarily an indication that prices are reasonable or that a market is competitive. Such prices could indicate either unjustifiably high initial price levels, or declining factor costs which are not being passed through.

b. Gross Margins

Gross margins, like prices, do not provide unambiguous measures of price reasonableness and competition. Gross margins consist of non-product costs and net profits, and can fluctuate because of changes in either of these factors. Or, like prices, they may remain stable because of offsetting changes in these factors. Without additional information, it is impossible to separate increases in profits from actual increases in non-product costs and, therefore, difficult to explain price or competition levels in detail.

Since profit data are not available to DOE for firms in the heating oil market, average profits can be calculated only if non-product cost data are available. In such a case, profits represent the difference between gross margins and non-product costs. Non-product costs generally fall into one of the seven following categories:

1. Labor costs
2. Transportation costs
3. Storage costs
4. Utility, rent and insurance costs
5. Interest expenses
6. Depreciation
7. Taxes

DOE does not have specific information on any of these non-product costs for wholesalers and retailers.[19] Instead, OFR has relied upon information from the producer Price Index and the Consumer Price Index as a proxy for estimating non-product costs.[20] These indices are analyzed in Appendix J. However, the items in these indices cover a much broader range of items than those included in the seven categories listed above. By relying on aggregate price indices to estimate non-product costs, OFR has only rough estimates of changes in these costs and can therefore make only a rough estimate of profit trends in the industry. With the present information available to it, OFR does not have sufficient basis for determining levels of competition and the reasonableness of price levels in the No. 2 heating oil market, because it cannot directly determine the cause of price increases for any particular company.

This conclusion, however, should not be taken as a justification or argument that more specific and direct data should be collected on prices and gross margins in order to carry out the policies in EPAA. Additional information on profits would not reduce ambiguity to the point that would justify further specific action.

c. Profits

Even if profits could be accurately collected by the EIA or calculated using non-product cost data, monthly profit figures would still not provide sufficient unambiguous evidence to determine the reasonableness of prices or the level of competition. This is because monthly profit levels may fluctuate as a result of a variety of contra-

dictory circumstances. For example, increased profits from one month to another may indicate

- that firms are charging unreasonably high prices in an uncompetitive market.
- that profits, once abnormally low, are reaching normal levels for a competitive industry of similar risk, or
- that unanticipated increases in demand or decreases in supply have lead to a higher short-term equilibrium price in an otherwise competitive market.

Similarly, decreased month-to-month profits could also indicate several different market situations, ranging from excessive short-term competition to collusive setting of low prices by certain firms, in order to squeeze out smaller firms from the market and thus strengthen their oligopolistic position.

Furthermore, profit figures may be ambiguous because of the many ways profits are defined and recorded. There are three generally accepted ways of defining profits: net return on assets, net return on equity, and net return on sales. Firms which may appear to have excessively high profits under one definition may not have high profits using another definition. Furthermore, there is often a fine line drawn between managerial salaries and profits, especially among small owner-managed firms, which makes the meaning of profit data unclear. This problem may be especially acute in the retail market for No. 2 heating oil, which has many such small, owner-operated companies. In addition, different firms use differing accounting methods to serve

alternative purposes; thus, the actual meaning of firm profits will be ambiguous, unless the method of calculation is known and is consistent among firms.[21]

There is a final and more basic reason why firm profits do not provide sufficient information regarding market competition and price reasonableness in a market. Profit levels are positively correlated with the efficiency of a firm; firm profits tend to be higher when the firm uses its factor inputs most efficiently. Firms with profit levels which appear to be at competitive levels may indeed be subject to market competition. It is also possible, however, that such firms have monopolistic advantages, but use their inputs inefficiently and thus also have high costs as well as prices. While such a situation is clearly not in accordance with the objective of the EPAA, profit data alone would not detect its existence.

d. Aggregated Gross Margins and Benchmarks

The foregoing analysis has focused upon the ambiguity which may arise in the interpretation of gross margin data from individual firms. In addition to this, ambiguity may arise during the aggregation of firms' gross margins and the comparison between these aggregates to so-called "benchmark" gross margins. First, aggregate gross margin figures do not necessarily represent the behavior of actual firms in the market. These aggregates (which are analyzed in Appendix J) are volume-weighted composites of bulk sales, rack sales, and delivered sales among firms of various sizes. Firms of different size have

differing characteristics which result in divergent per unit costs. Comparison of such an aggregate gross margin against a benchmark may lead to a situation whereby larger firms with lower per unit costs will be below the benchmark level while smaller firms, with fewer economies of scale at their disposal, tend to have gross margins in excess of the benchmark. In such a case, the benchmark methodology will tend to isolate small firms as responsible for unreasonable heating oil prices when, in fact, the profits of these firms may not be unreasonable, given their size.

There is a second and related reason why comparing aggregate gross margins with benchmarks may lead to ambiguous results. Gross margins, it will be recalled, are the sum of non-product costs and profits. Firms which provide more services than others will have, consequently, higher gross margins. For example, firms which tend to deliver heating oil longer distances, e.g., to rural areas, will tend to have prices which reflect higher gross margins than firms which deliver oil short distances, but the profits of the former group will not necessarily be higher. Without specific profit data or non-product cost figures, it is impossible to determine whether firms with gross margins in excess of benchmark levels are charging unreasonable prices, or are providing more services. Similarly, month-to-month changes in aggregate prices or gross margins may result not from an changes in actual market prices, but because the volume of services sales has increased at the expense of unserviced sales.[22]

2. Actual Data Use

The reasonableness of the foregoing analysis is confirmed by the experience of those who were assigned the task of evaluating the market for No. 2 heating oil. It will be recalled from Section I.F., the regulations provided:

- The Office of Fuels Regulation of ERA will prepare a report evaluating the market for No. 2 heating oil for the 1977-78 heating season.
- The ad hoc subcommittee of DOE's Fuel Oil Marketing Committee will evaluate the market for heating oil and analyze the benchmarks which OFR developed to evaluate price and gross margin levels.

OFR's report was limited to a description of the heating oil markets rather than an evaluation. In its report OFR pointed out a number of limitations in the data and the benchmark methodologies which prevented a more extensive analysis. The limitations found by OFR correspond substantially to the theoretical limitations discussed above. Examples of such explanations found in the report are quoted below:

- The index and benchmarks serve as useful analytical tools by identifying general price and margin trends. However, the nature of the heating oil market makes it difficult to develop any statistical tool which accurately reflects short-run market behavior. Therefore, the index and benchmarks were useful for an overall trend analysis and were intended to serve only as general guides in evaluating price and margin behavior over the heating season.[23]

- benchmarks were not designed to evaluate specific, individual wholesale or retail market changes. Rather, they permit a broader evaluation of aggregate changes. The benchmarks do not permit disaggregation of the average price or gross margin changes that occur to evaluate individual firm prices and margin behavior.[24]

- The data collected did not provide operating costs for resellers and retailers which are needed to evaluate increases in gross margins. No current data were available to permit estimating net margin.* As a result, in order to calculate the wholesale and retail gross margins, the methodology used current month's purchase product costs.[25]

- The need for more precise data was even more apparent at the wholesale level. Because wholesale heating oil marketing operations vary considerably in size, from very large volume deepwater terminal operators to retailers who periodically wholesale much smaller volumes of product, gross margins and operating costs can very considerably. Therefore, when gross margins for large and small wholesalers are combined, an average results which may representative of neither.[26]

*In order to evaluate non-product cost increases of a particular firm, a complete audit of that firm would be required. The resulting burden of auditing all firms would be heavy. OFR is of the opinion that the burden should be only imposed after large changes in gross margins have been detected and statistically evaluated.[27]

Furthermore, an examination of the transcripts of the monthly subcommittee meetings indicates that this group did not use MDS information to assist it in its efforts to determine the level of competition in the heating oil market.[28] When this group did reach conclusions regarding the marketing of No. 2 heating oil, it used data it had collected on its own, rather than MDS data.[29] Interviews with Subcommittee members reveal that they felt they could not use MDS data

for the reason stated above: lack of acual firm cost data made it difficult to evaluate the reasonableness of prices. In addition, MDS data did not provide the types of market information needed to evaluate the level of competition.[30]

3. Conclusions

Information on average prices and gross margins does not provide a basis for determining whether a market is competitive. Accurate descriptive information on prices and gross margins could be useful for a preliminary analysis -- trends or anomalies in these series could prompt further investigation. However, this information could not provide any specific focus for such an inquiry.

C. INFORMATION QUALITY

1. Methodological Framework

In this section, the quality of the information collected by the Middle Distillate System (MDS) will be evaluated. Problems will be identified and solutions will be recommended. The following questions will be addressed:

- Is the sample frame complete?
- Are there clear definitions for the parameters being estimated?
- Is the sample well designed? Can standard errors be computed?
- What is the response rate?
- Is the questionnaire clear? Are the answers consistent? Correct?
- Are the edit procedures likely to detect serious errors?
- Is the data processing done correctly?
- Are the estimates consistent with results obtained from other sources?

These questions are suggested by the standard statistical literature concerning sample surveys.[31] The methods used to address these questions, however, are suggested by the detailed structure of MDS, and are to that extent system-dependent.

2. Sample Frame and Parameters

a. Parameters

MDS estimates average prices and costs for No. 2 heating oil, by type of seller, type of customer, type of sales, and geographical

region. For example, MDS can be used to estimate the average price of all No. 2 heating oil sold to residential customers in New York state in December, 1977. For another example, MDS can be used to estimate the average price of all "rack sales" (where the customer picks up the oil) of No. 2 heating oil by refiners to resellers in New England in December, 1977. These averages are weighed by volume of oil. They apply to an average gallon, not an average transaction or an average customer. The estimation procedure used extrapolates from the sample to all sales (of a specified type) of all No. 2 heating oil in the United States.

b. Frame

The target universe consists of all firms selling No. 2 heating oil in the United States. The frame, or list of known firms in the target universe, was developed as described earlier from the 1974 Market Shares Historical File. It was revised in a minor way in 1977.

Is the frame complete? That is, all or almost all of the firms in the target universe listed in the frame? This question will be addressed by considering the flow of oil through the market, as estimated by MDS[32] A simple conservation-of-oil model is used. If the frame were complete, and responses to the questionnaire used by MDS (form EIA-9) were correct, then:

- Estimated net refiner sales would be approximately equal to estimated total sales by all firms to ultimate consumers.

Likewise:

- Estimated total sales to resellers would be approximately equal to estimated total purchases by resellers.

In fact, estimated net refiner sales exceeded estimated sales to ultimate consumers by about 50 percent. Likewise, estimated total sales to resellers exceeded their estimated total purchases by about 50 percent.[33]

c. Discussion of Results

These are the key quantitative findings of the study, thus far. Two hypotheses are proposed to explain these findings:

- The definitions of No. 2 heating oil used by firms in different segments of the market are substantially inconsistent: the refiners use a broader definition than the resellers.

- The sample frame covers most of the refiners and larger wholesalers, but misses a substantial percentage--as much as 50 percent--of the smaller wholesalers and retailers. Thus, oil disappears from the reporting system as it moves through the market from the refiners to the ultimate consumers.

Both hypotheses are considered very likely, and will be investigated further.

d. The Definition Problem

In the field, No. 2 heating oil is often indistinguishable from No. 2 diesel. As a result, some refiners report total sales of all No. 2 oil (diesel and heating combined) on form EIA-9.[34] This

inflates the estimated volume of refiner sales of No. 2 heating oil. In the reseller and retail segments of the market, some dealers sell exactly the same physical product as either diesel oil or heating oil, depending on what the customer asks for.[35] The distinction between heating oil and diesel oil may often be made only by end use. This distinction is easier to make in the retail segment of the market, where the seller at least comes into contact with the ultimate consumers.[36]

e. Recommendations on the Definition Problem

One possibility is to change the instructions for EIA-9 and clarify the definition of No. 2 heating oil. Another possibility is to collect data only on broader product classifications, which are better defined. One example is "No. 2 oil (heating and diesel)"; another example is "middle distillate (No. 1, 2, and 4 oil)." Sellers could still be asked to estimate type of end use by customers. Essentially, this is what MDS does now. More specific recommendations will be made in the final report.

f. The Sample Frame Problem

There is substantial turnover in the heating oil market: some firms go out of business each year and are replaced by new firms. One study suggests an annual turnover rate approaching 10 percent, by number of firms or sales volume.[37] Under these circumstances, a frame drawn from the 197 Market Shares Historical File is judged likely to miss about one-third of the firms now in the market. Additional, direct evidence of undercoverage in the sample frame was obtained as follows.

National Business Lists provides a list of fuel oil dealers in New England.[38] There are 3,265 dealers on the list--over 50 percent more than the 2,150 firms reported on the MDS sample frame for this region.

An incomplete frame can be a serious problem, because firms not in the frame may well differ from firms in the frame. Thus, it is impossible to extrapolate with any confidence from the sample to the universe, and it is difficult indeed to estimate the probable size of the error.

Information on the price of home heating oil may also be obtained by surveying households.[39]

g. Recommendations on the Sample Frame Problem

The sample frame should be revised periodically, dropping the firms that have gone out of business, and adding new entrants to the market. This is a lot of work. Firms that have gone out of business can be detected by surveying the whole frame periodically. (Such a survey might also ask for sales, number of establishments, and payroll figures, for reasons that will be explained below.)

New entrants to the market can be detected using lists such as those provided by trade associations for National Business Lists. New entrants can also be detected by the following procedure: Take a sample of firms known to be in the market. Ask them to list their suppliers, and also to list those customers who are resellers. New

entrants will show up on both lists. Yellow pages in the phone book are a rich source of information, although they may be difficult to process.

In addition, to test for completeness, the frame can also be compared with data from other sources. One source is the 1977 Census of Business (soon to be published); another is the Census "County Business Patterns"; yet another is the IRS "Statistics of Income" (the latter two are available annually). The Census reports on establishments (not firms), employment, and payroll. The MDS frame lists firms (not establishments), and is therefore not directly comparable to the Census. EIA might consider collecting data on the number of establishments, number of employees, and total payroll, from firms in the MDS frame, to facilitate comparisons with the Census. Another alternative might be to contract with the Bureau of the Census or IRS for periodic tests on the frame.

It might be advantageous for EIA to maintain one master list of companies in the oil business, showing products sold, and volumes. Maintenance involves the kinds of activities described above. Frames for surveys like MDS could be derived from the master list. This could eliminate some of the duplication of effort involved in maintaining a number of different frames.

Another possibility is that EIA should consider the use of area sampling for surveys like MDS.[40] This would eliminate the need for maintaining a list of small firms in the market.

3. Sample Design

a. Introduction

MDS collects reports only from a sample of the firms in the frame. The procedure used to select the sample from the frame is called the sample design. The MDS sample design was described above. Estimates based on a sample differ from the results that would be obtained from a census of all firms in the frame. This difference is called sampling error. Sampling error is impossible to compute from the sample, but its likely size is indicated by a number called the standard error. With some designs, the standard error can be estimated from the sample itself. With other designs, the standard error can be computed from the sample only by making untestable assumptions.

b. MDS Sample Design

Firms in the frame were divided into cells, defined by sales volume (in 1974) and location; separate cells were created for firms thought to be selling in more than one state or region.[41] Within each cell, firms were arrayed by size (1974 sales volume); then a random-start systematic sample was drawn. Sample firms are weighted up by the reciprocal of the selection probability, and ratio estimates are used.[42] No adjustment is made for non-response.

With a random-start systematic sample, standard errors can be computed from the sample only by making untestable assumptions.[43] This makes it difficult to judge the efficiency of the design.[44] Worse, it is difficult to assess the impact of sampling error on the estimates.

c. Recommendations on the Sample Design

The sample should be redesigned so that standard errors can be computed in a routine way. For instance, it would be possible to draw two independent random-start samples in each cell. Or, a simple random sample could be taken in each cell. One object is to be able to judge the impact of sampling error on the estimates. Another object is to reduce the size of the sample without loss of precision, by improving the design: this will reduce the burden of reporting. Detailed recommendations will be made in the final report.

It was recommended that the frame be revised periodically. When the frame is revised, a new sample should be drawn, so that the sample continues to reflect the target universe. Stratification should be based on current sales data obtained from the recommended periodic survey of all firms in the frame.

Periodically changing the sample would have two additional benefits: spreading the burden of reporting more equitably, and reducing panel bias (firms that report over an extended period of time come to behave differently from firms that do not report).

4. Non-Response

a. The Problem

Each month, about 7 percent of the largest firms in the sample fail to return their questionnaires. The non-response rate for the smaller firms is about 15 percent. (By volume of oil, the overall non-response rate is about 10 percent: see Tables 1 and 2.) About five

percent of the firms in the sample failed to report even once during the 1977-78 heating season--even though responses are mandatory.[45]

Non-response can be an important problem, because non-respondents often differ from respondents.[46] The non-response rate in MDS is high enough to cause concern.

b. Recommendations

More effort should be put into contacting non-respondents, especially persistent ones.

TABLE 1

NON-RESPONSE RATES BY STRATUM

STRATUM	TOTAL # FIRMS	NON-RESPONSE RATE
1	164	7
2	103	13
3	432	11
4	240	16
5	85	14
6	187	20
TOTAL	1211	13

TABLE 2

EFFECT OF ADJUSTMENT FOR NON-RESPONSE ON ESTIMATED VOLUME OF OIL

TYPE OF SALE	BEFORE ADJUSTING FOR NON-RESPONSE	AFTER ADJUSTING FOR NON-RESPONSE	PERCENT INCREASE
Ultimate	9	10	11
Non-Ultimate	14	16	11

Total volumes are in billions of gallons.

5. Accuracy of Responses and Editing

Do the companies report accurately on form EIA-9? Do the edit procedures identify incorrect or inconsistent responses? (Edit procedures are used to review forms for missing data, and unlikely or inconsistent responses; in some cases, the responses are revised; in other cases, the form is flagged for further review. Edit procedures can be either manual or computerized.)

In the present study, no attempt has been made to verify EIA-9 reports by auditing procedures. Instead, consistency tests have been applied to the data. Three have been completed, and are described in this section. Other similar tests are in progress. These tests are applied to the data in the "clean" MDS data files--that is, after editing is completed. Thus, both the quality of the initial reports and the quality of the edit procedures are assessed.

a. A Stock-Flow Test

The EIA-9 form asks firms to report their inventories. The responses of non-refiners on this item can be tested for consistency, starting from the theoretical relation:

Change in inventory = purchases - sales

Let

Discrepancy = reported change in inventory

- (reported purchases - reported sales)

For the largest firms, the average absolute discrepancy is about 15 percent of sales. For the remaining firms, the average absolute discrepancy is only about 5 percent of sales. The conclusion: inventory figures for the largest firms may not be too meaningful.

b. A Digit-Preference Test

Schedule A-1 on form EIA-9 (see Appendix D) asks firms to report the volumes of sales to ultimate consumers subdivided into 10 categories (e.g., "residential," "industrial rack sales"). Sales in each of these categories are reported as percentage of the total sales to ultimate consumers on the schedule. For about two-thirds of the forms, all sales were reported in exactly one subcategory: one percentage was 100 percent, the other nine were 0 percent. These results are unlikely, and should be investigated further.

Now consider the firms which are reporting percentages strictly between 0 percent and 100 percent. (See Figure 4). If such firms are reporting accurately, the non-zero percentages should be fairly smoothly distributed over the range from 1 percent to 99 percent.

FIGURE 4

BREAKDOWN OF REPORTED PERCENTAGES

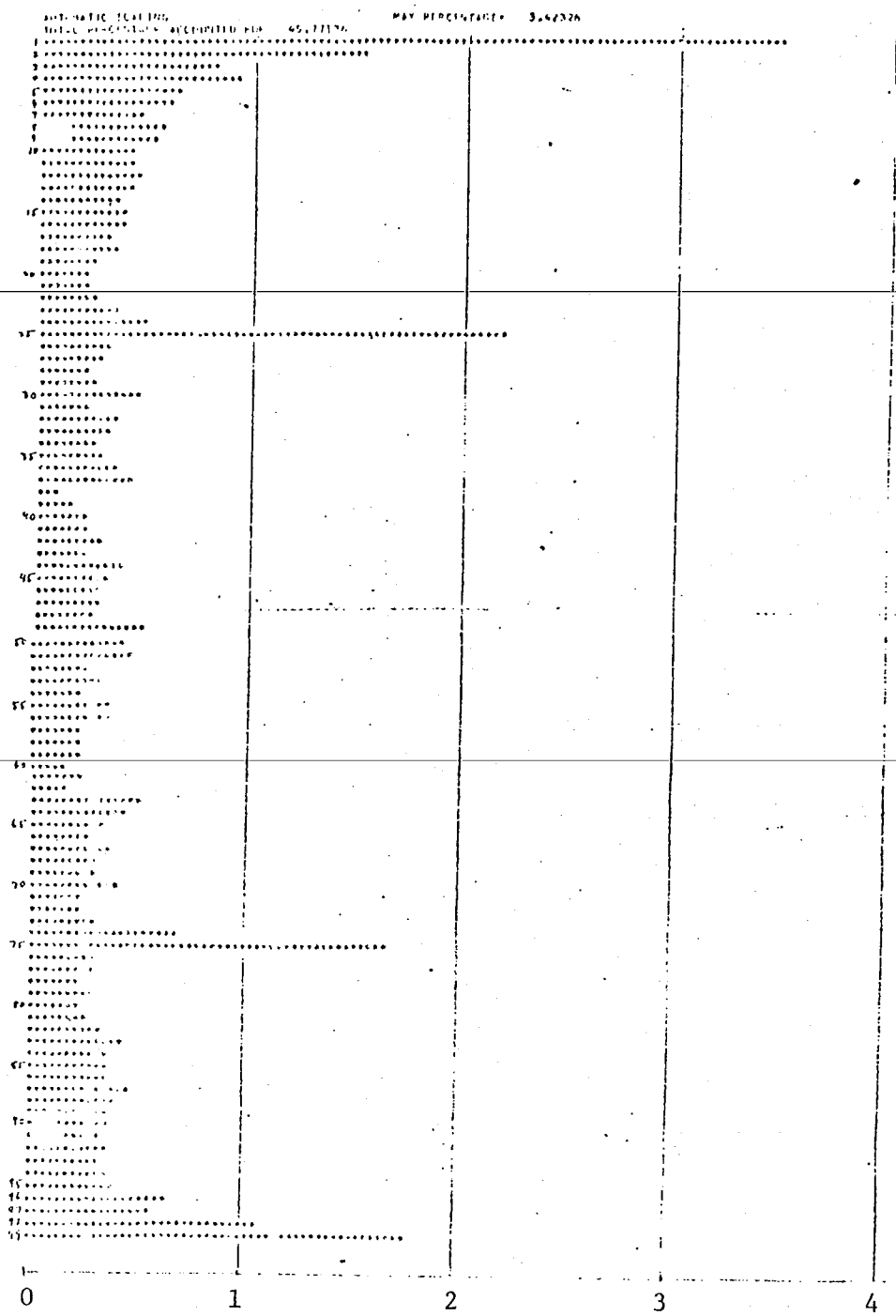


Fig. 4: Number of times each percent (1 - 99) was entered in ultimate sales categories by Stratum 1 scaled as a percentage of total number of entries. 100 percent, not shown here, would have a horizontal axis coordinate of 54.2.

If firms are estimating these percentages crudely, percentages like 10 percent or 25 percent or 50 percent should be very popular. This phenomenon is called digit-preference. In fact, 1 percent was very popular: firms may use 1 percent to mean "just a little." For the largest firms, digit preference is quite marked, as the accompanying histogram shows.[47] The conclusion is that the percentages are being estimated quite crudely by the largest firms.

c. A Test of Consistency Over Time

A firm's sales should not vary wildly from month to month. This suggests taking the ratio of maximum to minimum monthly sales, as reported on EIA-9 over some test period. Large ratios (like 1,000) indicate a gross blunder: "somebody got the decimal point wrong." About 5 percent of the largest firms made gross errors (see Table 3).[48]

In this case, the problem can be identified. The form asks that sales volumes be reported not in gallons, but in "thousands of gallons." Thus, sales of 1,357,123 gallons are to be reported on EIA-9 as "1,357." Firms seem to find this confusing, and sometimes report to the gallon. DTA personnel must then cross out the last three digits, as part of the manual editing. Sometimes, they miss. At other times, the form is filled out correctly, in thousands of gallons, and DTA personnel still cross out the last three digits.[49]

TABLE 3

PERCENTAGE OF GROSS ERRORS

STRATUM	PERCENTAGE WITH RATIO FOR PURCHASES OR SALES OVER 750
1	5%
2	10%
3	1%
4	0%
5	1%
6	1%

d. Recommendations

- The EIA-9 form should be revised for clarity: in particular, volumes should be reported in gallons, not "thousands of gallons."
- More sophisticated computer edit routines should be implemented to identify inconsistent responses.
- Edit routines are designed to examine unusual cases; they do not produce much information about the bulk of the reports. On-going assessment of the quality of the information collected by MDS would be facilitated if a small random sample of forms were taken each month for close review--for instance, in telephone interviews of the respondents.

6. Data Processing

This section describes work in progress, on errors introduced during the data processing phase. To test this, a sample of completed EIA-9 forms was drawn, and independently key-punched.[50] Results are being compared with the data in the MDS computerized data file. Discrepancies will be resolved by going back to the original forms. This test is not yet complete, but the results so far indicate that the transfer of data from the forms to the computer at DTI is of reasonable quality.

7. Consistency With Results Obtained From Other Sources

This section also describes work in progress. Volume estimates derived from the Middle Distillate System will be compared with volume estimates from the following EIA systems: P306-314-320 and FEO 1000. This will provide additional information about the sample frame and inconsistencies in the definition of No. 2 heating oil. Price estimates from MDS will be compared to those reported by the Bureau of Labor Statistics and by Platt's. An attempt will be made to compare the MDS frame to data derived from the Bureau of the Census County Business Patterns. An attempt will also be made to compare the MDS frame to data derived from the IRS "Statistics of Income."

III. CONCLUSIONS AND RECOMMENDATIONS

A. INFORMATION MEANINGFULNESS

Information on average prices and gross margins does not provide a basis for determining whether a market is competitive. Accurate descriptive information on prices and gross margins could be useful for a preliminary analysis -- trends or anomalies in these series could prompt further investigation. However, this information could not provide any specific focus for such an inquiry.

B. INFORMATION ACCURACY

With a well-constructed sample survey, a user should be able to determine how much confidence to place in estimates: their uncertainty should be quantified. The Middle Distillate Price Monitoring System does not appear to satisfy this criterion. It is difficult or impossible to judge the accuracy of the estimates derived from this system.

- The frame appears to be seriously incomplete. Preliminary estimates of undercoverage indicate that the frame misses roughly one third of the firms in the target universe. The impact of the non-sampling error this creates may be large, but it is presently unknown.
- The definitions of No. 2 heating oil, used by firms in different segments of the market are not consistent. Again, this creates a non-sampling error which may be large, but is presently unknown.

- The sample design is not suited to the computation of standard errors. Therefore, the impact of sampling error on the estimates can be assessed only by making untestable assumptions. With other equally practical designs, standard errors can be computed directly from the sample.
- The non-response rate, whether measured by number of firms or volume of oil, is about 10 percent -- despite the fact that responses are mandatory.
- In some respects, Form EIA-9 and its instructions are confusing to respondents.
- Answers are sometimes internally inconsistent, and edit routines are not designed to detect these inconsistencies.

Recommendations follow for improving the quality of the information collected by the system.

- The frame should be revised periodically. Firms that have gone out of business should be dropped; new firms that have come into the market should be added. After revision of the frame, a new sample should be drawn. (See Sect. II.C.2.h.)
- Either the definition of No. 2 heating oil should be clarified, or information should be collected on a better-defined product class, such as: all middle distillate fuel, or all No. 2 oil (heating and diesel). (See Sect. II C.2.E)
- The sample should be redesigned to facilitate computation of standard errors, and reduce the burden of reporting. (See Sect. II C.3.b.)

- More effort should be put into contacting the non-respondents. (See Sect. II.C.4.)
- More sophisticated computer edit routines should be implemented to identify inconsistent responses. (See Sect. II.C.5.)

IV. NOTES AND REFERENCES

1. A copy of EIA-9 appears in Appendix D. The OMB clearance request is in Appendix K.

2. Appendix E contains a letter written by Frank Zarb to Congressman John Dingell, dated June 25, 1976, which describes the proposed monitoring system.

3. A complete history of the present system and its precursor appears in Appendix A.

4. Ibid. The instruction sheet was changed to include more specific clarifications on the confidentiality of data collected.

5. Appendix C contains these regulations.

6. Appendix B contains a list and description of all relevant Federal Register notices regarding both the 1976-77 monitoring system and the current system.

7. A map of the DOE regions appears in Appendix G.

8. Various flagging techniques are used to locate outliers.

9. The strata are defined in Appendix H.

10. This is an idealization. The actual non-response rate is 6.8 percent for stratum 1 firms and over 10 percent for the remaining strata.

11. Appendix G contains a map of the DOE regions.

12. Appendix J contains a description and analysis of all formulas used by OFR in its analysis of the MDS information.

13. 43 FR 2917-23, January 20, 1978.

14. Ibid.

15. Appendix I contains a copy of OFR's final report for the 1977-78 hearing season.

16. See 43 FR 24588, June 6, 1978, which explains the rules of the evendentiary hearing.

17. Appendix F contains a sample copy of the Energy Data Report.

18. Appendix L contains a list of these 24 States.

19. Form P-110 collects information on direct non-product costs for controlled products, only, albeit for all refined products, not for No. 2 heating oil in particular. However, this form is completed only by refiners. No comparable information exists for wholesalers and retailers.

20. In March, 1978, the name of the Wholesale Price Index was changed to the Producer Price Index, by the Bureau of Labor Statistics.

21. See Scherer, F. M. Industrial Market Structure and Economic Performance, Rand McNally, 1970, for detailed description of the problems associated with the use of profits as a tool in economic analysis.

22. This problem is inherent in the use of weighted averages. For example, assume that a firm's price of delivered heating oil is 50¢/gallon and that of oil at the rack is 45¢/gallon. Further assume that 50 percent of the product is delivered and 50 percent is sold at the rack, in month "a." During this month, the weighted average price will be 47.5¢/gallon. Now, assume in month "b" that prices haven't changed, but that 60 percent of the oil is delivered by a company while only 40 percent is sold at the rack. Even though market prices have not changed, the weighted average prices will be 48¢/gallon, an increase of 0.5¢.

23. See footnote 15, above

24. Ibid., Ch. IV.

25. Ibid.

26. Ibid.

27. Ibid.

28. The transcripts contain well over a thousand pages; consequently, they were not included as an exhibit in this report. Information concerning the procurement of the transcripts can be obtained from DOE.

29. DOE, Fuel Oil Marketing Advisory Committee. "White Paper on the Competitive Viability of the Independent Fuel Oil Marketer," December 5, 1977. A copy of this paper appears in Appendix M.

30. Some of the types of market information included in the White Paper were: (a) relative market shares of independent fuel oil dealers; (b) the change in this ratio over time; (c) various profit margins for independent fuel oil dealers; (d) the change in profits over time; (e) a breakdown of non-product costs; (f) an analysis of customer payments schemes and their effects upon

marketer liquidity; and (g) an analysis of firm turnover in the market for No. 2 heating oil. Other information of a descriptive nature is also presented.

31. Two standard texts:

Cochran, Sampling Techniques, Wiley, New York
Hansen, Hurwitz, Madow, Sample Survey Methods and Theory, Wiley, New York

32. The sample design is unbiased, and the estimation procedure essentially unbiased, as discussed below. That is why bias in the estimates should be attributed either to the frame or to response bias (e.g., as would be caused by inconsistent definitions).

In the first test (refiner sales = sales to ultimate consumers), any column of oil is counted only once on each side of the equation. In the second (sales to resellers = purchases by resellers), double-counting affects both sides of the equation equally. These comments assume that the forms are filled out correctly, so that customers are correctly classified as either ultimate consumers or resellers.

33. Totals are over a four-month period, Dec./77-Mar./78. If changes in inventory are taken into account, the discrepancy becomes larger. The percentage discrepancy is not affected if the sample is reweighted to adjust for non-response. The estimates were prepared by LBL staff from the MDS computerized data files, and checked in part by using MDS report writing programs. The estimated totals (adjusted for non-response) are shown below, in billions of gallons.

Test 1: refiner sales = purchases by ultimate consumers

net refiner sales	14
sales to ultimate consumers	9
change in inventory of resellers (decrease)	1

Test 2: sales to resellers = purchases by resellers

sales to resellers	15
purchases by resellers	10

34. Handwritten notes to this effect were observed on completed EIA-9 forms by LBL staff reviewing a sample of such forms.

35. This was reported to LBL staff interviewing resellers.

36. Comparison of EIA-9 with FEO-1000 and P306-314-320 also sheds some

light on the definition problem. FEO-1000 data indicate that No. 2 oil (heating and diesel) accounts for roughly 90% of middle distillate; roughly 2/3 of No. 2 oil is sold as heating oil, and 1/3 as diesel oil. On this basis, No. 2 heating oil should account for 60% of middle distillate production. For the four-month period Dec./77-Mar./78, the following estimates are obtained, in billions of gallons.

EIA-9 net refiner sales of No. 2 heating oil	14
EIA-9 total sales of No. 2 heating oil to ultimate consumers	9
P320 total refiner production of middle distillate	18
P306-314 total sales of middle distillate to ultimate consumers.	16

(These estimates were kindly produced by EIA staff, on request from LBL staff.)

The gap between the P320 production figure of 18 and the P306-314 ultimate sales figure of 16 is probably due to incompleteness of the P306-314 sample frame -- the 1974 Market Shares Historical File from which the MDS sample frame was drawn. This confirms the incompleteness of the MDS sample frame. However, the gap here is substantially less than the gap observed in MDS, pointing up the importance of the definition problem. Even stronger evidence exists for the importance of the definition problem: the FEO-1000 ratios applied to P320 volumes suggest that the production of No. 2 heating oil should be 60% of 18 which equals 11, whereas on EIA-9 the refiners report selling 14.

37. Data Technology Industries (DTI) validation study of the Market Shares Monitoring System, Sec. 5.1.6.3. DTI compared the 1974 and 1976 Dun & Bradstreet files for SIC codes 5982, 5983, 5984. Assuming that the total number of firms was stable over the four years 1974-78, but that in each year 10% of the firms went out of business and were replaced by new firms, then $1 - (.9)^4 \approx 1/3$ of the firms now in the market would not be listed in the 1974 Market Shares Historical File, because they did not exist in 1974. If the number of firms were growing, the situation would be worse. In fact, DTI found some growth between 1974 and 1976.

38. This list is based on the Dun & Bradstreet file, covering SIC 5171, 5172, and 5983. National Business Lists claims to have eliminated duplicates. LBL staff will check the list, on a sample basis, to make sure that the firms on it do in fact sell heating oil. They will also make some effort to check for duplicates.

39. Surveys on energy use in households are now being designed within DOE.

40. With area sampling, geographical units (like SMSAs or rural counties) are selected at random; units with larger populations are given higher probabilities to be selected. Telephone books can then be used to construct frames within the selected areas.

This procedure can be used to sample smaller firms; if desired, larger firms can be sampled from a list.

Surveys on energy use now being designed within DOE use variants of area sampling.

41. The cells can be described in more detail as follows. There are six size strata (annual sales volume, 1974):

Stratum 1	10,000,000 gallons or more
2	5,000,000 to 9,999,999 gallons
3	1,000,000 to 4,999,999 gallons
4	200,000 to 999,999 gallons
5	199,999 gallons or less
6	firms added to frame in 1977.

Some firms in the frame are classified as "multi-region," that is, selling in several DOE regions. Stratum 1 multi-region firms constitute one cell; stratum 2 multi-region firms, a second cell, and so on.

Some firms in DOE region 1 (New England) are classified as "multi-state," that is, selling to several different states within DOE region 1. Stratum 1 multi-state firms in region 1 constitute a cell, and similarly for the other strata and regions.

For the remaining (single-state) firms, the cells form a grid, with rows for each state, and columns for each stratum. Some of the cells, of course, are empty.

Some firms in a cell corresponding to one state do in fact sell in several states. The volumes reported in the A-1 form for each state sold to are weighted up by the reciprocal of the selection probability, as is proper, and no bias is caused.

42. Let c denote a typical cell. Each firm f in the sample from this cell is assigned the same weight w_f. (This is the reciprocal of selection probability.) Suppose firm f in the sample reports sales volume v_f at price p_f, for some category of transactions (like residential sales in New York). The estimate for total volume sold in this category is

$$S = \Sigma_f \, w_f \cdot v_f.$$

The estimate for total revenue is

$$R = \Sigma_f w_f \cdot v_f \cdot p_f.$$

In these sums, the index f runs over all firms in the sample. The estimate for average price (of all oil sold in the given class of transactions) is then R/S.

The weights could be adjusted for non-response, or to reflect the relative sizes of the firms. This should improve the accuracy of the estimates.

In principle, ratio estimates are biased. In practice, this bias is often negligible (Cochran, Chapter 6). It is not considered a problem in MDS.

43. To take an extreme hypothetical example, suppose prices in a universe list alternate in the following manner

.40 .60 .40 .60 .....

and a 1 in 2 random-start systematic sample is drawn. The standard error is 0.10, but the data will be

.40 .40 .40 .....

or

.60 .60 .60 .....

The variability in the estimate cannot be estimated from variability in the data. There is no variability in the data. Less extreme examples are sometimes observed in practice.

The size of a firm in 1974 is probably not well related to its sales volume or prices, in 1978, so random-start systematic sampling in MDS may be equivalent to simple random sampling. On this assumption, it will be possible to compute the standard errors by the usual linearization procedure (Cochran, Chapter 6). This will be done for the final report.

A partial test of the hypothesis that the MDS sample is like a simple random sample can be made, by looking at the relation between price and 1974 size for firms in the sample. If a pattern is found, the hypothesis can be rejected. As the example above indicates, however, even if no pattern is found, the hypothesis cannot be considered as proven.

44. For instance, redesign may make it possible simultaneously to reduce the size of the sample and to improve the precision of the estimates. This is what "efficiency" means. If the MDS sampling

procedure is equivalent to simple random sampling, it will be possible to compute the optimum sampling fraction in each cell. This will be done in the final report. No justification has been found for the sampling fractions used in MDS.

45. These figures were computed by LBL staff from the MDS computerized data files, and cover the period Dec./1977 to Mar./1978. The "largest firms" are those in Stratum 1.

46. Weights should be adjusted for non-response. This will help reduce non-response bias, but does not make the problem go away. Even within a cell, non-respondents are apt to differ from respondents. There is no substitute for a high response rate. In an attempt to see how much bias is caused by non-response, it is proposed to compare late-filers with early-filers, and perhaps to interview some non-respondents.

47. These figures were computed by LBL staff from the MDS computerized data files, and cover the period Dec./77 to Mar./78. "largest firms" are those in Stratum 1.

48. See footnote 47. Max/min ratios were also computed for purchases, inventory, and capacity. Ratios to be examined include: purchases/sales, sales/inventory, inventory/capacity.

    It is also proposed to examine the ratio of state to total sales, and ultimate/non-ultimate sales, for digit preference and stability over time.

    While examining the ratios, LBL staff noticed that for some firms, "reported capacity + reported inventory" is constant over time. This suggest that such firms misinterpret "capacity" as reserve capacity = capacity - inventory.

49. Both errors were observed by LBL staff checking completed--and edited-- EIA-9 forms corresponding to records flagged during the consistency tests described above.

50. The sample comprised all Stratum 1 companies, and a simple random sample of 100 of the remaining firms. EIA-9 forms for the sample companies were taken for the period Dec./77-Mar./78. The sample was selected by LBL staff, and the forms were copied by DTI staff. Keypunching was done at LBL, and the results compared with the MDS computerized data files, copied onto tape for LBL by EIA staff.

V. GLOSSARY

"Middle distillate" means any derivatives of petroleum, including kerosene, home heating oil, range oil, stove oil, and diesel fuel, which have a fifty percent boiling point in the ASTM D86 standard distillation test falling between 371° and 700°F. Products specifically excluded from this definition are kerosene-base and naphtha-base jet fuel, heavy fuel oils as defined in VV-F-815C or ASTM D-396, grades #4, 5, and 6, intermediate fuel oils (which are blends containing #6 oil), and all speciality items such as solvents, lubricants, waxes and process oil.[a]

NO. 2 HEATING OIL[b]

Grade of Fuel Oil	Flash Point °C (°F)	Pour Point °C (°F)	Water and Sediment vol %	Carbon Residue on 10 % Bottoms, %	Ash weight %	Distillation Temperatures, 0°C (°F)			Saybolt Viscosity, s[D]				Kinematic Viscosity, cSt[D]				Specific Gravity 60/60°F (deg API)	Copper Strip Corrosion	Sulfur, %
						10% Point	90% Point		Universal at 38° C (100°F)		Furol at 50° C (122°F)		At 38°C (100°F)		At 50°C (100°F)				
	Min	Max	Max	Max	Max	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Max	Max	Max
No. 2 heating oil. A distillate oil for general purpose heating for use in burners not requiring No. 1 fuel oil	38 or legal (100)	-6[c] (20)	0.05	0.35	...	...	282[c] (540)	338 (640)	(32.6)	(37.9)	...	...	2.0[c]	3.6	...	...	0.8762 (30 min)	No. 3	0.5[B] or legal

Further definitions will appear in the final report.

[a] Federal Energy Guidelines, Section 211.51, Paragraph 13,639.100.

[b] American Society for Testing and Materials. 1977 Annual Book of ASTM, Part 23, D396.

INTERIM VALIDATION REPORT

MIDDLE DISTILLATE PRICE MONITORING SYSTEM

APPENDICES

APPENDIX A

BACKGROUND AND LEGISLATIVE HISTORY

APPENDIX A

BACKGROUND AND LEGISLATIVE HISTORY

Middle distillates, which include No. 2 heating oil, have been subject to price controls and price monitoring almost continuously from 1971 to the present. On July 1, 1976, mandatory price allocation controls were removed to a standby basis.[1] In place of mandatory controls, the Federal Energy Administration instituted the first price monitoring system for middle distillates, to ensure that such prices remained reasonable.[2] The present monitoring system, used during the 1977-78 heating season, was developed as a result of experience gained from the first monitoring system.[3,4]

In order to place the present monitoring system within its historical context and to establish its specific purpose, this Appendix will provide a chronology and description of the Congressional legislation and Executive orders and regulations which have affected the market for middle distillates since price controls were introduced in 1971. It is not the intent of this report to comment on these policies. However, by closely examining the current system in the context of its established purposes, the remainder of the report can determine how successfully the system has fulfilled these intents and purposes.

A. Price Controls Prior to the Emergency Petroleum Allocation Act of 1973

1. Phase I Price Freeze

In passing the Economic Stabilization Act of 1970, the Congress granted to the President the authority to institute general price and

wage controls.[5] On August 15, 1971, one year later, the President proclaimed a ninety-day freeze on almost all consumer prices and wages, in order to "stabilize the economy, reduce inflation, minimize unemployment" and "to improve our competitive position in world trade and to protect the purchasing power of the dollar."[6] He established a Cost of Living Council with the dual purpose of administering the controls and devising post-freeze programs to stabilize prices.[7]

The August price freeze resulted in the fixing of No. 2 heating oil prices at seasonally low summer levels. During a normal year, according to the Bureau of Labor Statistics estimates, winter prices tend to exceed summer prices for No. 2 heating oil by an average of 3.6 percent, exclusive of secular inflationary movement.[8] However, as Figure A-1 shows, these prices did not rise during the 1971-72 winter, but remained at their summer lows.[9] It is reasonable to conclude that refiners, wholesalers, and retailers were required to absorb increased costs usually associated with the winter months and that their profits were reduced for that period.

2. Phase II Price Controls

Phase II of the President's Economic Stabilization Program began in November of 1971, immediately after the ninety-day price freeze had ended, and lasted approximately fourteen months. During this period, firms were allowed to charge prices in excess of pre-freeze levels only to reflect allowable cost increases in effect on or after November 14, 1971, reduced to reflect productivity gains.[10] However, these price

increases were allowable only if they did not result in higher profit margins for the firms.[11] Furthermore, firms with annual sales in excess of $100 million were required to prenotify a newly established Price Commission for approval.[12] Though Phase II regulations allowed for some seasonal price adjustment, such rules did not pertain to most marketers of home heating oil.[13] Consequently, during all of Phase II, these prices continued to be controlled at levels corresponding to the low base level of August 1971. During this fourteen-month period, No. 2 heating oil prices rose by only 0.6 percent, from 19.67 to 19.79 cents per gallon.[14]

3. Phase III Voluntary Price Standards

On January 11, 1973, approximately one and one-half years after the initial price freeze, President Nixon enacted the third part of his economic program, which removed mandatory controls from most market prices.[15] The purpose of removing mandatory price controls was to allow for continued economic growth, which, the administration believed, was being inhibited. Under Phase III, heating oil prices could be increased without regard to profit margins, prior notification, or approval of the government. However, if price increases were judged to be unjustifiable, general or sectoral, price controls could be reinstated.

Heating oil prices increased markedly when mandatory controls were removed in January 1973. No. 2 heating oil prices, which had risen by only 0.6 percent during the previous sixteen months, rose by 6.9 percent in the 60 days following Phase II decontrol.[16] As a consequence of

increased prices among most refined petroleum products, the Cost of Living Council enacted Special Rule No. 1, which imposed price restrictions upon petroleum firms with annual sales of $250 million or more.[17] The Council ruled that the price increases that occurred during January and February of 1973 were justifiable and need not be rolled back.[18] However, subsequent prices could be increased by more than 1.5 percent over Phase II levels only if the increase did not lead to higher profit margins.[19] Nevertheless, average heating oil prices increased by 4.4 percent between March and June, 1973, in part because Special Rule No. 1 applied only to the 23 largest petroleum firms.[20]

4. Phase IV Price Controls

A second general price freeze, lasting for a period of sixty days, was proclaimed by President Nixon in June of 1973, five months after mandatory controls were replaced by Phase III voluntary controls.[21] Figure A-1 shows that No. 2 heating oil prices rose by 10.5 percent during these five months.[22] Phase IV, which followed the price freeze, restored general price controls which were similar to those which existed during Phase II. Prices could rise to reflect a dollar-for-dollar cost pass-through of increased production costs, but no additional increases in net profit margins were allowed.

In addition to these general economic controls, Phase IV established particular regulations with regard to the pricing of petroleum products. Prices in excess of a ceiling price, not rationalized by cost pass-through, had to be rolled back. During the three month period following Phase IV's enactment, prices of No. 2 heating oil rose by 1.35 percent.

This modest increase ended abruptly during the Arab Oil Embargo, which began in October 1973. Even with price increases limited to costs which could be passed-through, No. 2 heating oil prices rose by almost 60 percent, from 23.7 to 37.6 cents per gallon, during the following twelve months.[23]

B. The Emergency Petroleum Allocation Act and the Decontrol of Middle Distillates

In November 1973, one month after the oil embargo began, Congress passed the Emergency Petroleum Allocation Act of 1973 (EPAA).[24] The purpose of the act was to minimize the adverse impacts of the shortages of crude oil, residual fuel oil and petroleum products and resultant dislocations in their national distribution system.[25] The act directed the President to accomplish this goal by promulgating regulations for the mandatory allocation and pricing of these products.[26] These regulations must, "to the maximum extent practicable," provide for the fulfillment of nine specific objectives.[27] Two of these objectives are of particular importance to the price (as opposed to the supply) of middle distillates:

> 1) preservation of an economically sound and competitive petroleum industry; including the priority needs to restore and foster competition in the producing, refining, distribution, marketing and petrochemical sectors of such industry, and to preserve the competitive viability of independent refiners, small refiners, non-branded independent marketers, and branded independent marketers...[28]
>
> 2) equitable distribution of crude oil, residual fuel oil, and refined petroleum products at equitable prices among all regions and areas of the United States and sectors of the petroleum industry, including independent refiners, small non-branded independent marketers, branded independent marketers, and among all users.[29]

The EPAA did not contain provisions for the permanent removal of price and allocation controls for any of the controlled products.[30] A petroleum product could be exempted from the regulations if the latter were no longer needed to fulfill the objectives of the EPAA, but this exemption could last no more than ninety days.[31] In December 1975, Congress approved the Energy Policy and Conservation Act (EPCA),[32] which among other things amended the EPAA by allowing the permanent exemption of individual petroleum products from mandatory price and allocation controls.[33] This legislation provides that a product may be exempted from price controls if the exemption is consistent with the objectives of the EPAA and it is found that "competition and market forces are adequate to protect consumers and that exempting such oil or refined product category will not result in inequitable prices for any class of users of such oil or product."[34]

The EPCA also provided conditions whereby products which have been exempted from mandatory controls can be recontrolled. For any such oil or product,

> the President shall have authority at any time thereafter (exemption) to prescribe a regulation or issue an order respecting either the allocation of amounts, or the specification of price or the manner for determining the price, of any such oil or refined product category upon a determination by him that such regulation or order is necessary to attain, and is consistent with the objectives specified in section 4(b) (1) [of the EPAA].[35]

Pursuant to the provisions of the EPCA, the Federal Energy Administration (FEA) conducted a study in 1976 to determine whether middle

distillates and other refined petroleum products should be exempted from mandatory price and allocation controls. FEA's conclusions were published in its report, "Findings and Views Concerning the Exemption of Middle Distillates from Mandatory Petroleum Allocation and Price Regulations."[36] It concluded that middle distillates were no longer in short supply and that the market forces were strong enough to protect consumers. On behalf of the President, FEA submitted an amendment to exempt middle distillates from the controls on June 15, 1976.[37] Neither House of Congress disapproved the amendment; consequently, controls were removed fifteen days later, on July 1, 1976. In its "Findings and Views" report, the FEA supported, by several arguments, its contention that supplies, prices, and competition in the middle distillate market would not be adversely affected by removal of mandatory controls.

The report concluded that:

(1) there was not shortage of middle distillates;

(2) ample excess refining capacity has existed in recent years;

(3) independent refiners and retailers had increased their market shares to those of the major oil companies over preceding years;

(4) profit levels were near historical levels and were normal compared to other industries of similar risk;

(5) during the control period, firms did not usually charge the maximum allowable price; market forces, not controlled prices, were effectively regulating price levels;

(6) a moderate increase in middle distillate prices would not create serious economic disturbances.

The middle distillate price monitoring system (MDS) is not explicitly required in the Code of Federal Regulations. The regulations were simply amended by adding the following sentence:

> Section 210.35 of Part 210 is amended by addition of a paragraph (b) to read as follows: (b) No. 2 heating oil and No. 2-D diesel fuel are exempt from the provisions of Part 211 and Part 212 of this chapter.[38]

However, prior to the July 1 exemption date, FEA's administrator, Frank Zarb, made an agreement with some members of Congress that the FEA would monitor middle distillate prices when controls were removed.[39] The purpose of price monitoring would be to assure that no subsequent "unwarranted" price increases occurred.[40] While the MDS was designed only to monitor prices, FEA also enacted "set-aside" procedures to ensure that independent suppliers of middle distillates would receive needed supplies. This report, however, deals only with the price monitoring system.

C. The 1976-77 Monitoring System

The first system monitored refinery, wholesale and retail price levels for No. 2 heating oil and No. 2-D diesel fuel, and began during the 1976-77 heating season.[41] Furthermore, actual average retail prices were compared to a calculated price level which would most likely have existed if controls were still in effect. If actual average retail prices exceeded this index price level by more than two cents per gallon, a "trigger" was set off, whereby the FEA would call for public hearings to investigate possible remedial action. This trigger mechanism operated for the nation as a whole, and in addition, for each of the four FEA regions.

The index or trigger price for retail sales of No. 2 heating oil was calculated by taking the average volume-weighted price which prevailed just prior to decontrol, and adjusting this for changes in product costs, changes in the cost and volume of heating oil imports, and the seasonal variation in prices. The FEA added to this a two-cent per gallon flexibility factor, "to allow for statistical error, inherent deficiencies with the operation of the price index, and short-term market aberrations."[42] Region-specific data were used for calculation of the regional indices.

The index price consisted of three parts: a domestic price component, an import component, and the two-cent per gallon flexibility factor. The domestic component was calculated by adjusting the pre-exemption (June 1976) price of No. 2 heating oil for average increased production costs. Included in this adjustment factor were increased crude oil costs accumulated up to the month prior to calculation of the index, and increased non-product costs for refiners, wholesalers, and retailers up to two months prior to calculation of the index.[43] Since no information was collected regarding specific non-product costs of retailers and most wholesalers, increased wages for truckers and warehousemen were used as a proxy for all increased non-product costs incurred by these distributors. Domestic costs were adjusted by a seasonal variation factor. The import component accounted for increased No. 2 heating oil import costs up to two months prior to calculation of the index, along with volumetric changes in the proportion of heating oil imported during different times of the year.

If the national average price or any of the regional average prices exceeded its respective index value by more than two cents per gallon, FEA would hold public hearings within ten days to identify the reasons the index price was exceeded, and it would take appropriate action within another ten days if such was needed to restore prices to or below the index level. Such remedial action could include complete or partial reinstitution of price controls and/or allocation controls.

Data for the monitoring of prices were collected through three questionnaires: FEA forms P-112, P-110 and P-302.[44]

It should be noted that these same instruments were used for the 1977-78 monitoring system (though P-112 is now called EIA-9). P-112 was developed specifically for the monitoring of middle distillate prices. It provided monthly data concerning the price, cost and volume of No. 2 heating oil sold by a sample of firms in each sector of the market. The form was completed by a stratified sample of approximately 600 refiners, wholesalers, and retailers from a universe believed to consist of approximately 7400 firms.[45] P-110 is completed by refiners only, and contains information regarding production costs for petroleum products that are still subject to mandatory allocation and price controls. P-302 is completed by all refiners and by resellers and retailers with petroleum product sales in excess of $50 million annually. It collects price, product cost, and volume data for all petroleum products sold, including middle distillates. The FEA published average price data compiled from these forms on a monthly basis during the 1976-77 heating season.[46]

Data for calculating the index were collected two ways: by a weekly telephone survey during the heating oil season, and by written questionnaire (Form P-112) on a monthly basis. Preliminary estimates of the index price were made from the weekly telephone survey data and aggregated into monthly data on the basis of a moving average. These estimates were updated when the more complete monthly questionnaire data were received.

During the 1976-77 heating season, the trigger mechanism was activated when retail prices in the Northcentral region exceeded the trigger price level by 0.4 cents per gallon in January and by 0.2 cents per gallon in March.[47] The FEA held regional public hearings for the Northcentral region in April and conducted a national hearing in August, but no remedial action was taken. In other cases, preliminary data from the weekly telephone survey indicated that the trigger was exceeded in other regions, but final monthly data ultimately showed that this had not been the case.

D. The 1977-78 Monitoring System

After holding public hearings and evaluating the performance of the MDS during the prior heating season, the Department of Energy, which succeeded the FEA in October 1977, enacted several changes for the 1977-78 heating season. Three significant changes were made with regard to data collection:[48]

(1) The weekly telephone survey was eliminated; consequently, all MDS data would be collected by written questionnaires completed monthly

during the heating season. The same questionnaires (P-112, P-302 and P-110) were to be used, though P-112 was renamed EIA-9 after the instruction sheet was revised.[49] The weekly telephone survey was eliminated, according to DOE, because it was "too confusing and also introduced additional statistical reporting errors."[50]

(2) The sample size for EIA-9 was increased from 600 to 1400 firms, in order to improve the accuracy of the data and to allow DOE to calculate aggregate price averages for ten, rather than four, regions. Furthermore, price data would be published for several individual states which used significant quantities of heating oil.

(3) Monitoring of No. 2-D diesel fuel was eliminated since most interested parties were more concerned with heating oil prices. As a result, the system became No. 2 Heating Oil Price Monitoring System.

Several changes were also made with regard to data analysis:

(1) The trigger mechanism was eliminated.

(2) In addition to average prices, average gross margins, which represent the per unit difference between a firm's sales and purchase price of petroleum, were to be calculated for wholesalers and retailers.

(3) Average refiner prices would be compared with a refiner price index, and average retail and wholesale gross margins would be compared to applicable gross margin benchmarks, all on a monthly basis during the heating season.

(4) An ad hoc subcommittee of DOE's Fuel Oil Marketing Committee was formed to advise the Economic Regulatory Administration as to what action it should take regarding middle distillate pricing and allocation policy.

The January 20, 1978, Federal Register specifies that the overall task to be carried out in the implementation of the EPAA by this system is to evaluate "the nature and intensity of competition in the heating oil market and the economic viability of various sectors of the market."[51] Further, it specifies four steps in the data collection and analysis process, as well as who will take them. These steps are:

(1) EIA will collect questionnaire data for No. 2 heating oil from a sample of firms and shall publish aggregate price and gross margin figures for refiners, wholesalers, and retailers for the ten DOE regions and the nation as a whole.

(2) These data will be analyzed each month by an ad hoc subcommittee of DOE's Fuel Oil Marketing Committee, which is composed of industry, consumer, and State energy office representatives. The Subcommittee was to make recommendations to OFR.

(3) OFR will analyze the data and the Subcommittee's recommendations. At the end of the heating season, it was to publish a final report which included its own analysis and recommendations. In a extreme situation, such as another oil embargo, OFR could recommend the reimposition of price controls. Under less extreme conditions, OFR could,

if it found prices unreasonable, recommend:

(a) audits of individual firm records;

(b) public hearings regarding the price of No. 2 heating oil;

(c) voluntary price restraints.

(4) DOE's Office of Administrative Review (OAR) was to hold an evidentiary hearing in August for the purpose of evaluating the performance of all levels of distribution of the heating oil industry and the need for any further regulatory action. The hearing was to consider all information gathered by EIA, along with any other relevant data used by OFR or participants in the hearing. After considering the testimony, OAR would "transmit its findings to the [Economic Regulatory Administration] for a determination by the Administrator as to what further regulatory action, if any, is needed."[52]

This hearing was held August 21-29, 1978. At the time of this interim report, the Hearing Officer was still considering the submissions.

FIG. A-1

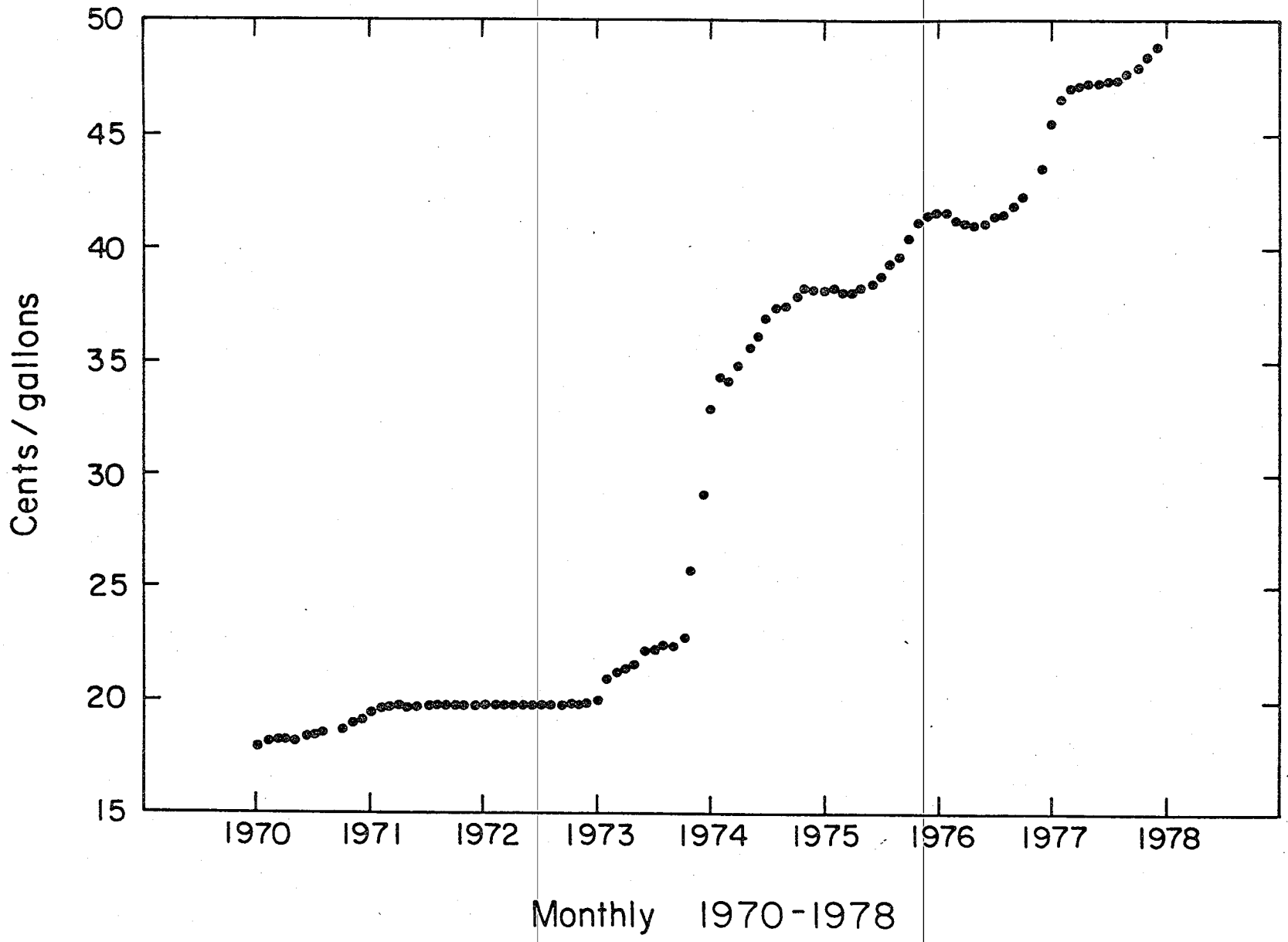


Fig. A-1. Monthly U.S. heating oil prices, 1970 - 1978.

XBL 7811-12759

APPENDIX A REFERENCES

1. See 41 F.R. 24516 (June 16, 1976).

2. 41 F.R. 41155 (September 21, 1976).

3. Appendix B (Federal Regulations) contains a list of all Federal Register notices which are related to the Middle Distillate Price Monitoring System used during both the 1976-77 heating season and the 1977-78 heating season.

4. See 43 F.R. 2917-23, January 20, 1978, for a description of the current Middle Distillate System; see 41 F.R. 41155-62, September 21, 1976, for a description of the first Middle Distillate System.

5. Pub. L. No. 91-380, 84 Stat. 799 (August 18, 1970).

6. Executive Order No. 11615. 3 C.F.R. 1971-1975 Comp., 602 (August 15, 1971).

7. Executive Order No. 11615, 3 C.F.R. 1971-1975 Comp., 602, 603 (August 15, 1971).

8. 41 F.R. 41160 (September 21, 1976).

9. All price data in this section were collected and published by the Bureau of Labor Statistics, U.S. Department of Labor. These figures, compiled for the Consumer Price Index, are published monthly in the BLS publication entitled "Retail Prices and Indexes of Fuels and Electricity." BLS data are used because they represent the only continuous No. 2 heating oil price information from 1970 to present.

10. Executive Order No. 11627, 3 C.F.R. 1971-1975 Comp., 621 (October 15, 1971).

11. 36 F.R. 21792-3 (November 13, 1971).

12. 36 F.R. 21788 (November 13, 1971) (codified at 6 C.F.R. Sect. 101.11.).

13. 36 F.R. 21794. Prices in excess of August 15 levels could be charged if actual prices were higher "during the first 30 days of the period following the seasonal price adjustment in the preceding year." This generally was not the case for No. 2 heating oil. BLS figures show that average residential prices on August 15 were higher than during the previous winter.

14. Bureau of Labor Statistics, "Retail Prices and Indexes of Fuels and Electricity."

15. Executive Order No. 11695, 3 C.F.R. 1971-1975 Comp., 741 (January 11, 1973).

16. Bureau of Labor Statistics, "Retail Prices and Indexes of Fuels and Electricity."

17. 38 F.R. 6283,4 (March 8, 1973).

18. 38 F.R. 6283, 6284 (March 8, 1973).

19. 38 F.R. 6283, 6284 (March 8, 1973).

20. Bureau of Labor Statistics, "Retail Prices and Indexes of Fuels and Electricity."

21. Executive Order No. 11723, 3 C.F.R. 1971-1975 Comp., 769-770 (June 13, 1973).

22. Bureau of Labor Statistics, "Retail Prices and Indexes of Fuels and Electricity."

23. Ibid.

24. Pub. L. No. 93-159, 87 Stat. 627 (November 27, 1973), codified, as amended, at 15 U.S.C.A. Sect. 751 et seq. (1978) (hereinafter Pub. L. No. 93-159).

25. Pub. L. No. 93-159, Sect. 2(b), codified at 15 U.S.C.A. Sect. 751(b) (1978).

26. Pub. L. No. 93-159, Sect. 4(a), codified, as amended, at 15 U.S.C.A. Sect. 753(a) (1978).

27. Pub. L. No. 93-159, Sect. 4(b)(1), codified, as amended, at 15 U.S.C.A. Sect. 753(b)(1) (1978).

28. Pub. L. No. 93-159, Sect. 4(b)(1)(D), codified, as amended, at 15 U.S.C.A. Sect. 753(b)(1)(D) (1978).

29. Pub. L. No. 93-159, Sect. 4(b)(1)(F), codified, as amended, at 15 U.S.C.A. Sect. 753(b)(1)(F) (1978).

30. But see Consumers Union v. Sawhill, 525 F2d 1068, (1975) when the Temporary Emergency Court of Appeals, en banc, concluded that it was within the FEA's discretion to exempt new oil from price ceilings in order to facilitate an overall scheme of crude oil price regulation that met the conflicting Congressional purpose to the maximum extent practicable.

31. Pub. L. No. 93-159, Sect. 4(g)(repealed 1975).

32. Pub. L. No. 94-163, 89 Stat. 871 (December 22, 1975) (relevant portions codified at 15 U.S.C.A. Sect. 751 et seq.) (hereinafter Pub. L. No. 94-163).

33. Pub. L. No. 94-163 Sect. 455 (amending the EPAA by adding Sect. 12), codified at 15 U.S.C.A. Sect. 760

34. Pub. L. No. 94-163 Sect. 455 (amending the EPAA by adding Sect. 12), codified at 15 U.S.C.A. Sect. 760

35. Ibid.

36. Federal Energy Administration. "Findings and Views Concerning the Exemption of Middle Distillates from Mandatory Petroleum Allocations and Price Regulations," June 15, 1976.

37. 41 F.R. 24516 (June 16, 1976).

38. Ibid., 24518.

39. Letter from Frank G. Zarb, Federal Energy Administrator, to Congressman John D. Dingell, dated June 25, 1976.

40. 41 F.R. 30282 (July 22, 1976).

41. See 41 F.R. 41155 (September 21, 1976), for a description of the first Middle Distillate Price Monitoring System.

42. 41 F.R. 41155 (September 21, 1976).

43. Originally there was also established a two-month lag in the computation of crude oil cost increases to refiners. 41 F.R. 41155 (September 21, 1976). This lag was lessened to one month on February 16, 1977, so that refiners would not have to absorb OPEC price increases for an additional month. 42 F.R. 9415.

44. Letter from Nathan H. Finch, Clearance Officer of Federal Energy Administration, to Elmer B. Staats, Comptroller General of the United States, dated July 22, 1976.

45. Ibid., p. 4

46. Data were published in FEA's "Monthly Energy Review," "Monthly Petroleum Statistics," "Quarterly Report to Congress," and "Monthly Report to the President."

47. FEA analyzed these situations in 42 F.R. 36184-219, July 13, 1977.

48. Letter from Nathan H. Finch, Clearance Officer of Federal Energy Administration, to Elmer Staats, Comptroller General of the United States, dated September 13, 1977.

49. Ibid. The instruction sheet was changed to include more specific clarifications on the confidentiality of data collected. However, P-112 and EIA-9 collected the same data types. See source for Reference 48.

50. Ibid., p. 5.

51. See 43 F.R. 2917-23 (January 20, 1978), for a detailed description of the Middle Distillate Price Monitoring System used during the 1977-78 heating season. The Office of Fuels Regulation delegated this task to an independent contractor, but the results were not ready by the August 1978 evidentiary hearing on whether mandatory price controls for middle distillates should be reinstated.

52. 43 F.R. 2921 (January 20, 1978).

APPENDIX B

FEDERAL REGULATIONS

APPENDIX B

FEDERAL REGULATIONS

Entry	Date	Topic
41 FR 17512 (-15)	4/26/76	FEA preliminary study concludes that middle distillates should be exempted from Mandatory Petroleum Allocation and Price Regulations. FEA will submit necessary amendments to Code of Federal Regulations, and announces that it will hold public hearings on its preliminary findings.
41 FR 22591	6/4/76	Environmental assessment of proposed exemption of middle distillates from mandatory regulations.
41 FR 24516 (-21)	6/16/76	FEA adopts proposed amendment exempting middle distillates from mandatory controls.
41 FR 30282 (-306)	7/22/76	FEA proposes post-exemption monitoring system for middle distillate prices. It announces that upcoming public hearings on this subject will be held.
41 FR 34008	8/12/76	Technical clarification of exemption amendments.
41 FR 36352 (& 55)	8/27/76	FEA establishes the Fuel Oil Marketing Advisory Committee, and explains the committee's duties, function, and provisions.
41 FR 41155 (-62)	9/21/76	FEA adopts proposed price monitoring system, with changes.

Entry	Date	Topic
41 FR 42977	9/29/77	FEA announces meeting of Fuel Oil Marketing Advisory Committee (FOMAC).
42 FR 4545 (-26)	1/25/77	FEA announces that upcoming public hearings will be held in Boston and Minneapolis regarding middle distillate supply adequacy and prices.
42 FR 9415 (18)	2/16/77	FEA revises "trigger" formula so that crude oil costs will be calculated with a one-month, rather than two-month, time lag.
42 FR 12082	3/2/77	FEA announces upcoming FOMAC meeting.
42 FR 16807 (-11)	3/30/77	FEA announces that North Central region prices have exceeded the index price, for No. 2 heating oil, during January and March, 1977. It announces that public hearings on the subject will be held in Chicago.
42 FR 27936 (-41)	6/1/77	FEA announces that regional public hearings will be held regarding the performance of the middle distillate price monitoring system during the 1976-77 heating season.
42 FR 36184 (-219)	7/13/77	FEA analysis of the performance of the monitoring system from June, 1976 to April, 1977, including an analysis of why the "trigger" went off.
42 FR 39134	8/2/77	FEA announces upcoming FOMAC meeting.
42 FR 54334	10/5/77	FEA announces upcoming FOMAC meeting.
42 FR 54444 (-50)	10/6/77	FEA proposes plans for revised monitoring system during 1977-78 heating season, and announces public hearings on the subject will be held in Boston, NYC, and Chicago.

Entry	Date	Topic
42 FR 55132 (-33)	10/13/77	DOE announces upcoming FOMAC meeting.
42 FR 59488 (-90)	11/18/77	DOE announces the reinstitution of special set-aside procedures for middle distillates, effective through March, 1978.
43 FR 2917 (-23)	1/20/78	DOE announces adoption of a revised middle distillate price monitoring system for the 1977-78 heating season.
43 FR 16380	4/18/78	DOE announces upcoming FOMAC meeting.
43 FR 17393 (-97)	4/24/78	DOE's Office of Hearings and Appeals (OHA) announces preliminary procedures for the August, 1978, evidentiary hearing.
43 FR 20276 (-77)	5/11/78	OHA extends deadline for comments and petitions regarding the August evidentiary hearing.
43 FR 21347	5/17/78	DOE announces upcoming FOMAC meeting.
43 FR 24588	6/6/78	OHA announces final procedures to be followed regarding the August evidentiary hearing.

APPENDIX C

FEDERAL REGISTER, JANUARY 20, 1978

EFFECTIVE DATE: January 20, 1978.

ADDRESS: Committee for Purchase from the Blind and Other Severely Handicapped, 2009 14th Street North, Suite 610, Arlington, Va. 22201.

FOR FURTHER INFORMATION CONTACT:

C. W. Fletcher, 703-557-1145.

SUPPLEMENTARY INFORMATION: On October 28, 1977 and November 11, 1977, the Committee for Purchase from the Blind and Other Severely Handicapped published notices (42 FR 56772) and (42 FR 58774) of proposed additions to Procurement List 1978, November 14, 1977 (42 FR 59015).

After consideration of the relevant matter presented, the Committee has determined that the commodities listed below are suitable for procurement by the Federal Government under 41 U.S.C. 46-48(c), 85 Stat. 77.

Accordingly, the following commodities are hereby added to Procurement List 1978:

CLASS 7530

Notebook, Stenographer's (IB), 7530-00-223-7939, quantity increased from 2,100,000 annually to 100 percent of the Government's annual requirements.

CLASS 1670

Message Dropper (SH), 1670-00-797-4495.

E. R. ALLEY, Jr.,
Acting Executive Director.

[FR Doc. 78-1619 Filed 1-19-78; 8:45 am]

[3710-08]

DEPARTMENT OF DEFENSE

Department of the Army

CHEMICAL SYSTEMS LABORATORY HUMAN USE COMMITTEE

Meeting

Notice is hereby given of a meeting of the Chemical Systems Laboratory Human Use Committee from 10 a.m. to 4 p.m. on February 6, 1978, and if necessary because of weather or need for continuation of discussion on February 9, 1978. These meetings will be held in room 14 of the Biomedical Laboratory, building E3100, in the Edgewood area of Aberdeen Proving Ground, Md.

The Committee will review and discuss a protocol for testing the demilitarization protective ensemble in a chemical environment. Meetings will be open to the public, but will be limited to space available.

Col. Francis C. Cadigan, Jr., Director, Biomedical Laboratory, Aberdeen Proving Ground, Md. 21010, 301-671-3018, will furnish summaries of the meetings and rosters of committee members upon request.

Dated: January 16, 1978.

FRANCIS C. CADIGAN, Jr.,
Colonel, MC,
Director, Biomedical Laboratory.

[FR Doc. 78-1649 Filed 1-19-78; 8:45 am]

[3128-01]

DEPARTMENT OF ENERGY

VOLUNTARY AGREEMENT AND PLAN OF ACTION TO IMPLEMENT THE INTERNATIONAL ENERGY PROGRAM

Meetings

In accordance with section 252(c)(1)(A)(i) of the Energy Policy and Conservation Act (Pub. L. 94-163), notice is hereby provided of the following meetings:

A meeting of Subcommittee A of the Industry Advisory Board (IAB) to the International Energy Agency (IEA) will be held on January 23, 1978, at the offices of Exxon Corp., 1251 Avenue of the Americas, New York, N.Y., beginning at 9:30 a.m. The agenda is as follows:

1. Opening remarks.
2. Finalize proposed test guide for Allocation Systems Test-2 (AST-2) including:
(a) Review comments on preliminary guide made by Reporting Companies and National Emergency Sharing Organizations (NESOs).
(b) Review items covered in Exxon telex dated December 22, 1977, to IEA Secretariat.
(c) Handling of base period final consumption.
3. Review Gulf proposal for data to be used by the Industry Supply Advisory Group (ISAG) in AST-2.
4. Review ISAG work procedures in evaluating Phase 2 offers in AST-2.
5. Review ISAG data formats.
6. Review reference materials required by ISAG in AST-2.
7. Future work program.
(a) Plans for NESO and Reporting Company briefing meetings—schedule, agenda, participation and responsibility.
(b) Schedule for other meetings required prior to AST-2.
(c) Tentative schedule of meetings required following AST-2.

A meeting of Subcommittee A of the Industry Advisory Board to the International Energy Agency (IEA) will be held on January 24 and 25, 1978, at the offices of Exxon Corp., 1251 Avenue of the Americas, New York, N.Y., beginning at 9 a.m. on January 24. The agenda is as follows:

1. Opening remarks.
2. Approve proposed final test guide for AST-2.
3. Review items related to AST-2.
(a) Proposed data to be used by ISAG.
(b) Status of government legal clearances required.
(c) ISAG work procedures for evaluation of Phase 2 offers.
(d) ISAG data formats.
(e) Reference material required by ISAG.
(f) Plans for Reporting Company/NESO briefing meetings.
4. Review Secretariat proposal for revised handling of base period final consumption.
5. Future work program.

A meeting of the Industry Advisory Board (IAB) to the International Energy Agency (IEA) will be held on January 26, 1978, at the offices of Mobil Oil Corp., 150 East 42nd Street, New York, N.Y., beginning at 9:30 a.m. The agenda is as follows:

1. Opening remarks by Chairman including:
(a) Communications to and from IEA.
(b) Report on meeting of the Standing Group on Emergency Questions (SEQ) of December 13, 1977.
2. Matters arising from record note of IAB meeting on December 1, 1977.
3. Position of Reporting Companies under:
(a) EEC competition regulations.
(b) U.S. Voluntary Agreement.
4. Report by IEA Secretariat on status of National Emergency Sharing Organizations (NESOs).
5. Report on and discussion of work of Subcommittee A, including:
(a) Spring 1978 Allocations Systems Test, including:
i. Approval of final test guide and associated procedures.
ii. Review of clearances required for data seen by ISAG members.
iii. Review of status of other governmental or legal clearances required for AST-2.
iv. Future work program.
(b) Review of IEA Secretariat's revised proposal for handling base period final consumption data.
6. Report on and discussion of work of Subcommittee C, including:
(a) Extraordinary and additional costs.
(b) Settlement of disputes.
(c) Pricing in an emergency.
(d) Membership of subcommittee.
7. Report on Industry Supply Advisory Group (ISAG).
8. Dates and venues of future meetings of IAB and subcommittees.

As provided in section 252(c)(1)(A)(ii) of the Energy Policy and Conservation Act, these meetings will not be open to the public. As provided by section 209.32 of DOE regulations, IEP requirements and unanticipated procedural delays in processing this notice require the usual seven day notice period to be shortened.

Issued in Washington, D.C., January 18, 1978.

WILLIAM S. HEFFELFINGER,
Director of Administration,
Department of Energy.

[FR Doc. 78-1922 Filed 1-19-78; 8:45 am]

[3128-01]

Economic Regulatory Administration

SYSTEM TO MONITOR NO. 2 (HOME) HEATING OIL PRICES

Notice of Adoption

AGENCY: Economic Regulatory Administration, Department of Energy.

ACTION: Notice of adoption of monitoring system.

SUMMARY: The Economic Regulatory Administration ("ERA") of the Department of Energy ("DOE") hereby announces the adoption of a system to be used by ERA to monitor No. 2 heating oil (also referred to as home heating oil) prices during the current heating season (November 1977 through March 1978). The Energy Information Administration ("EIA") of DOE will conduct a survey of sellers of No. 2 heating oil to obtain information on actual prices and gross margins for the refining, wholesaling and retailing sectors and will publish such information monthly. During the current heating season ERA will review this price information and any other available information on the marketing of No. 2 heating oil to determine whether any further regulatory actions are appropriate. DOE will task a subcommittee of its Fuel Oil Marketing Advisory Committee, comprised of representatives from ERA, industry, consumers and State Energy Offices, to advise and assist ERA in its evaluation of the marketing of No. 2 heating oil during the current heating season.

To assist in the evaluation of price increases to nonultimate consumers at the refining level, an index estimating what price levels would have been allowed under continued price controls will be computed and published monthly. To assist in the evaluation of price increases at the wholesaling and retailing levels, ERA will develop benchmark margins for No. 2 heating oil at the wholesaling and retailing levels which will reflect the marketing costs and allow sufficient margins to further the objectives of the Emergency Petroleum Allocation Act of 1973 (Pub. L. 93-159, "EPAA"). DOE will hold a public evidentiary hearing in August 1978 to consider the need for further regulatory action with regard to No. 2 heating oil in light of all available information. In order to ensure that consumer interests are adequately represented at the hearing, representatives of consumer interests are invited to submit applications to the DOE Office of Administrative Review of the ERA for financial assistance to facilitate their participation.

ADDRESSES: Send complaints to: Middle Distillate Complaint Section, Office of Fuels Regulation, Economic Regulatory Administration, Department of Energy, Room 6222, 2000 M Street NW., Washington, D.C. 20461, Telephone: Washington, D.C. metropolitan area, Alaska, and Hawaii: 202-254-8583, all other areas 800-424-8002. Send petitions for intervenor funding to Office of Administrative Review, Economic Regulatory Administration, Department of Energy, 2000 M Street NW., Washington, D.C. 20461, 202-254-5134.

FOR FURTHER INFORMATION CONTACT:

Ed Vilade (Media Relations), Department of Energy, 12th & Pennsylvania Avenue NW., Room 3104, Washington, D.C. 20461, 202-566-9833.

Gerald P. Emmer (Office of Petroleum Allocation), Economic Regulatory Administration, 2000 M Street NW., Room 2304, Washington, D.C. 20461, 202-254-7200.

Ben McRae (Office of General Counsel), Department of Energy, 12th & Pennsylvania Avenue NW., Room 5134, Washington, D.C. 20461, 202-566-9565.

Paul Burke (Office of Fuels Regulation), Economic Regulatory Administration, 2000 M Street NW., Washington, D.C. 20461, 202-254-5338.

William C. Gillespie (Prices, Costs, and Marketing Branch), Energy Information Administration, 12th and Pennsylvania Avenue NW., Washington, D.C. 20461, 202-566-9307.

SUPPLEMENTARY INFORMATION:

I. BACKGROUND

II. DISCUSSION OF COMMENTS

III. MONITORING SYSTEM ADOPTED

A. COLLECTION OF DATA

B. PUBLICATION OF DATA

C. EVALUATION OF REFINING, WHOLESALING AND RETAILING SECTORS

1. Refining sector.
2. Wolesaling and retailing sectors.
3. Complaints from the public.
4. Evidentiary hearing.
5. Intervenor funding.

D. REMEDIAL ACTIONS

1. Audits.
2. Hearings.
3. Further measures.
4. Reimposition of controls.

I. BACKGROUND

Following the July 1, 1976 exemption of middle distillates, including No. 2 heating oil and No. 2-D diesel fuel, from price and allocation controls (41 FR 24518, Junde 16, 1976), the Federal Energy Administration ("FEA") instituted a system which monitored the actual average prices of No. 2 heating oil to ultimate consumers and No. 2-D diesel fuel to ultimate consumers for on-highway use on a national and regional level (41 FR 41155, September 21, 1976; 42 FR 9415, February 16, 1977). Pursuant to a commitment given to Congress for the 1976-77 heating season, FEA compared these prices against indices which FEA had developed as estimates of what the national and regional prices of No. 2 heating oil to ultimate consumers and No. 2-D diesel fuel to ultimate consumers for on-highway use would have been if regulatory controls were still in effect, plus a flexibility factor of two cents per gallon. FEA published both the actual prices and the index prices.

In July and August 1977, FEA held regional and national hearings at which consideration was given to what action, if any, should be undertaken with respect to middle distillate prices. In light of the statements presented at these hearings and written comments received with regard to this matter, FEA determined not to reimpose price controls on middle distillates, but to continue the monitoring of middle distillate prices so that the Agency would possess the information with which to determine what further action, if any, would be appropriate with regard to middle distillates.

On September 30, 1977 (42 FR 54444, October 6, 1977), FEA issued a proposed system to monitor middle distillate prices. Under this system, FEA would have continued to survey the prices of No. 2 heating oil and No. 2-D diesel fuel However, since prior hearings and written comments had indicated that the greatest concern of consumers related to residential prices of No. 2 heating oil, FEA proposed calculation and publication of national and regional indices only for residential sales of No. 2 heating oil. These indices would have been calculated in the same manner as the indices for No. 2 heating oil during the 1976-77 heating season except that only residential prices would have been estimated as though controls had been continued and the calculation mechanism would have been refined to reflect criticisms that had been made of specific components thereof.

On October 17 and 20, 1977, regional hearings on this proposed system were held in Boston, Chicago and New York. On October 19 and 20, 1977, a national hearing was held in Washington, D.C. Written comments were requested by October 21, 1977. Following an analysis of the statements made at the hearings and of the written comments, representatives of DOE (which, effective October 1, 1977, had assumed the functions of FEA) met with representatives of the industry, of consumer groups and of the general public in an effort to identify their concerns more precisely. On December 5, 1977, the DOE Fuel Oil Marketing Advisory Committee submitted its extensive White Paper on the competitive viability of independent fuel oil marketers.

II. DISCUSSION OF COMMENTS

In their comments, retailers contended that the market for retail sales of No. 2 heating oil is highly competitive. Retailers generally opposed any index that reflected DOE's calculation of hypothetically controlled prices at the retail level on the grounds that such a system would threaten the economic viability of many retailers by focusing too much public attention on

retail sales and by forcing the freezing of retail margins at an unrealistically low figure. They stated that the monitoring of actual prices at each market level would give DOE adequate information. In addition, retailers commented unfavorable on the reporting burden which the proposed monitoring system would place on them.

Refiners opposed the proposed monitoring system as unnecessary in light of the performance of the industry during the 1976-77 heating season. Moreover, several difficulties with the calculation of the index contained within the proposed system were asserted. Several refiners also indicated that they would prefer a system which would furnish the public with the average prices charged at different market levels.

Consumer groups generally supported the proposed monitoring system as an improvement over the system employed during the last heating season, especially with regard to its emphasis on residential sales and the use of smaller geographic regions. They indicated preference, however, for a system which would produce information of a more current and localized nature with regard to actual prices and stated that the proposed system would not provide sufficient data for distribution levels other than the retail level. They also contended that an analysis based on the margins of firms at each distribution level would provide a more valid indication of possible abuses than a comparison of actual prices against the proposed index at the retail level.

III. Monitoring System Adopted

Based on all the information available, DOE has determined that a program of continued and expanded monitoring of No. 2 heating oil is needed. Accordingly, DOE will implement a program designed to monitor each level of the No. 2 heating oil distribution system—refining, wholesaling, and retailing. Monitoring will be effectuated through a number of approaches. Whenever any element of this process of gathering and evaluating information on the marketing of No. 2 heating oil produces a finding that regulatory action is necessary to achieve the objectives of the EPAA, DOE will undertake appropriate action. This program for monitoring and evaluating the performance of refiners, wholesalers and retailers with regard to the marketing of No. 2 heating oil has been established only for the 1977-1978 heating season. Any program for future heating seasons will be considered in light of the findings on this heating season.

A. COLLECTION OF DATA

To insure that ERA has sufficient information on the prices charged for No. 2 heating oil so that it might determine what action, if any, is appropriate, EIA will collect information with regard to the prices of No. 2 heating oil through the utilization of the following forms: (1) Form P-302-M-1 which surveys all refiners and all resellers and retailers who derive $50 million or more in annual revenues from the sale of petroleum products to determine the amounts sold and the weighted average selling prices for various petroleum products, including No. 2 heating oil, sold at the wholesaling and retailing levels by the reporting firms; (2) Form P-110-M-1 which surveys all refiners to determine the monthly allocation to covered products of increased costs over the base period for calculating the appropriate cost pass through under the regulations; and (3) Form P-112-M-1 which surveys a scientifically selected sample of firms which sell No. 2 heating oil to determine the cost of purchased product, the selling price and the amounts of No. 2 heating oil sold to various categories of buyers by the reporting firms. Form P-302-M-1 is being revised to require disclosure of the percentage of the volume of total refinery output accounted for by No. 2 heating oil, and more complete information on refiners' non-product costs.

B. PUBLICATION OF DATA

DOE believes that both industry and consumers will find the information reported to DOE valuable in evaluating the performance of market forces in establishing the prices charged for residential sales of No. 2 heating oil. Therefore, after EIA has compiled these data, it will publish a summary of its findings with regard to average sales prices and average gross margins at the refining, wholesaling, and retailing levels. This summary will enable consumers to determine the degree to which any increases in price reflect changes in product costs or increases in gross margins. (In any analysis based on gross margins, it should be recognized that average gross margins do not reflect average net profits of said firms, since a firm's average gross margin generally includes various cost elements, such as transportation, storage, wages, insurance, interest expenses, services, etc.) Publication of the summary will necessarily occur two months after the month to which the findings pertain, to allow for the reporting, verification and compilation of the data.

For sales of No. 2 heating oil to non-ultimate consumers by refiners, DOE will publish for the nation and each DOE region (1) the actual average price, (2) the range of prices, and (3) the average gross margin (i.e., the weighted average of the difference between selling prices for sales to non-ultimate consumers and the weighted average cost of crude oil and purchased product for each refiner; Appendix I contains a more detailed explanation of the calculation of this gross margin).

For sales of No. 2 heating oil to non-ultimate consumers (i.e., resellers, retailers, and reseller/retailers) by nonrefiners, DOE will publish for the nation and each DOE region (1) actual average prices, (2) the range of prices, and (3) the average gross margin (i.e., the weighted average of the difference between selling prices for sales to non-ultimate consumers and the weighted average cost of purchased product for each nonrefiner; Appendix II contains a more detailed explanation of the calculation of this gross margin).

For residential sales of No. 2 heating oil, DOE will publish for the nation, each DOE region and those states with significant sales of residential No. 2 heating oil (a list of which appears in Appendix V) (1) the actual average prices, (2) the range of prices, and (3) the average gross margin for nonrefiner firms selling to residential users (i.e., the weighted average of the difference between the residential selling price and the weighted average cost of purchased product for each nonrefiner; Appendix III contains a more detailed explanation of the calculation of this gross margin).

DOE recognizes the value of information of a more current and localized nature regarding actual average prices for residential sales of No. 2 heating oil than that which DOE will collect. To that end, DOE has established a pilot program assisting the New England States in pursuing alternative methods of monitoring residential heating oil prices on either a weekly or biweekly basis during the current heating season. These efforts are designed to identify and test methods to be utilized by State Energy Offices in developing price monitoring systems to meet their own state needs. States participating include Vermont, Connecticut, Massachusetts, Rhode Island, New Hampshire, and Maine.

C. EVALUATION OF REFINING, WHOLESALING AND RETAILING SECTORS

1. *Refining sector.* DOE will evaluate the available information on prices charged by refiners for sales of No. 2 heating oil to non-ultimate consumers so that possible unjustified price increases can be identified and appropriate action taken. To aid in this evaluation of prices at the refining level for sales to non-ultimate consumers, DOE will establish an index for the nation and each DOE region which will estimate what price levels would have been allowed under the provisions of 10 CFR 212.83 if price controls had been continued. The indices will be based on June 1977 instead of May 1973) prices adjusted to reflect

changes in crude oil, non-product and purchased product costs, computed in the same manner as in 10 CFR 212.83, plus cost increases not recouped between June 1977 and the month to which the indices refer. (Appendix IV contains a more detailed explanation of these indices.) DOE will compare against these indices the corresponding actual average prices for sales of No. 2 heating oil to non-ultimate consumers by refiners. In order to assist the industry and the public in evaluating the published information on refiner prices, DOE will publish on a national and regional basis the index prices for refiner sales of No. 2 heating oil.

The Office of Fuels Regulation of ERA will analyze refiner prices and gross margins throughout the current heating season, and will present this analysis to a subcommittee of the Fuel Oil-Marketing Committee ("Subcommittee"), comprised of representatives of industry, consumer groups, state energy offices, and DOE, established to advise the Office of Fuels Regulation on the evaluation of the marketing of No. 2 heating oil during the current heating season. The Subcommittee will assist the Office of Fuels Regulation in the analysis of refiner prices and gross margins throughout the current heating season. DOE will make available data from its present refinery audit program, and ERA Office of Enforcement or the Office of Special Counsel for Compliance may initiate refinery audits either on their own initiative, or in response to requests by the Subcommittee, State Energy Offices or complaints to DOE.

2. *Wholesaling and retailing sectors.* Section 4(b)(1) of the EPAA sets forth the objectives to be achieved with regard to the allocation and pricing of petroleum products. In order to establish more clearly whether these objectives are being achieved with regard to No. 2 heating oil, the Office of Fuels Regulation will study the marketing of No. 2 heating oil by wholesalers and retailers during the current and prior heating seasons so that trends within the heating oil industry can be identified and their impact on the goals of the EPAA can be analyzed. Inasmuch as the policy stated in section 4(b)(1) of the EPAA contemplates more than equitable price levels, such study will include not only the causes of any price increases for No. 2 heating oil, but also the nature and intensity of competition in the heating oil market and the economic viability of various sectors of that market. Copies of the DOE Fuel Oil Marketing Advisory Committee White Paper analyzing the competitive viability of independent marketers will be available to the public through the Office of Fuels Regulation.

Although this study by the Office of Fuels Regulation will yield a comprehensive analysis of the factors which influence the marketing of No. 2 heating oil by wholesalers and retailers, DOE believes that the wholesale and retail marketing of No. 2 heating oil should be evaluated on a continuous basis throughout the current heating season so that appropriate regulatory actions can be considered on a timely basis. The effectiveness of any action by DOE during the heating season will be dependent on the length of time necessary for an identification and evaluation of indicators of whether the objectives of the EPAA are being achieved. If the marketing of No. 2 heating oil is subject to an event, such as an embargo on foreign crude oil, resulting in a large increase in prices charged for No. 2 heating oil, which is not justified by corresponding increases in product and non-product costs, DOE will immediately undertake the necessary regulatory response, including reimposition of controls. With regard to events for which the causes and effects are not so clear, DOE will not undertake regulatory action without the verification and evaluation of data concerning those events.

The information collected and verified by EIA with regard to prices charged for No. 2 heating oil may indicate possible frustration of the objectives of the EPAA. The timely utilization of this information, however, requires fair benchmarks against which the information can be compared. Therefore, the Office of Fuels Regulation will develop benchmark margins at the wholesaling and retailing levels for the nation and DOE regions for each month of the current heating season. Development of these benchmark margins will seek to accommodate the recoupment of all increased product and non-product costs and allow margins appropriate to the objectives of the EPAA, including preserving the competitive viability of independent marketers.

To insure a balanced analysis of each month's information, the Office of Fuels Regulation will present to the Subcommittee, by the fifteenth day of the month in which EIA publishes survey data on the price of No. 2 heating oil during a particular month of the current heating season, the following information: (1) the initial analysis of published data; (2) identification of distribution levels and/or regions where the data indicate potential unreasonable margin increases; (3) preliminary benchmark margins utilized in its analysis; and (4) the factors included in determining such benchmark margins. The Subcommittee will convene to consider this presentation from the Office of Fuels Regulation. ERA will choose a disinterested mediator who shall guide the discussion so that proper consideration shall be given to the views of each Subcommittee member and qualified nonmember with regard to the cost elements to be considered in determining appropriate benchmrks and the relationship between such benchmarks and actual surveyed gross margins. The Subcommittee will then forward to the Office of Fuels Regulation its recommendations with respect to the reasonableness of gross margins for any particular distribution level or region of the nation. Moreover, the Subcommittee may suggest to the Office of Fuels Regulation the need for audits, conferences, or hearings to clarify discrepancies between actual average prices and benchmarks or to determine the actual wholesaler or retailer costs with regard to a specific item in the benchmark calculation.

After the conclusion of the Subcommittee meeting, the Office of Fuels Regulation will hold a public hearing to allow public comment on the reasonableness of No. 2 heating oil prices and the degree of competition and the viability of the retailing and wholesaling sectors, using the most recently published survey data by EIA on prices of No. 2 heating oil as the basis for such hearings. It is anticipated that the Subcommittee or members thereof may participate in these hearings.

Based on the results of the Subcommittee meeting, public hearings, analyses undertaken as a result of Subcommittee recommendations, and other action undertaken by DOE, the Office of Fuels Regulation will make and publish reports for each month of the heating season. These reports will detail the current status of the development of procedures to construct benchmarks for analyzing the reasonableness of No. 2 heating oil prices at the retailing and wholesaling levels and set forth actual average prices and actual average gross margins as well as benchmark margins for the latest month with regard to which EIA has published information on prices of No. 2 heating oil. A final report will be made on or before June 30, 1978, detailing procedures for the calculations of benchmarks for No. 2 heating oil at the wholesaling and retailing levels and containing benchmarks for each month of the current heating season based upon this procedure.

Moreover, DOE will request the Office of Enforcement to conduct audits of individual wholesalers and retailers in response to requests by the Subcommittee, State Energy Offices, or a significant number of complaints against a particular firm. DOE may also select firms for audit on a basis independent of their inclusion or exclusion for the list of firms which must file Form P-112-M-1.

If an audit discloses that a firm has a gross margin substantially in excess

of its historical gross margin and the gross margin currently employed in calculating the benchmark for that particular distribution level or region, DOE will promptly schedule a conference with that firm to determine whether the firm is charging excessive prices. DOE will attempt to negotiate a remedial course of action with respect to any entity which is found to be charging excessive prices. Moreover, as a result of such audits, DOE may undertake audits and hold hearings concerning the distribution level and/or region or particular area which contains the firm(s) potentially charging excessive prices to determine whether controls should be reimposed upon the particular distribution level and/or region.

3. *Complaints from the public.* To insure the achievement of all of the objectives of EPAA, DOE hereby establishes a mechanism to receive and evaluate complaints from individuals, organizations or State Energy Offices concerning the marketing of No. 2 heating oil. Complaints with respect to prices charged by refiners, wholesalers and retailers should be addressed to: Middle Distillate Complaint Section, Office of Fuels Regulation, Economic Regulatory Administration, Department of Energy, Room 6222, 2000 M Street NW., Washington, D.C. 20461; Telephone: Washington, D.C. metropolitan area, Alaska and Hawaii, 202-254-8583; all other areas, 800-424-8002.

4. *Evidentiary Hearing.* In July 1978, the Office of Fuels Regulation will publish its preliminary findings regarding the reasonableness of No. 2 heating oil prices during the 1977-78 heating season. In August 1978, the Office of Administrative Review will hold an evidentiary hearing to evaluate the performance of all levels of distribution of the heating oil industry and the need for any further regulatory action. The preliminary findings of the study of the marketing of No. 2 heating oil during the current and prior heating seasons by the Office of Fuels Regulation, the June report of the Office of Fuels Regulation on benchmarks for the 1977-78 heating season, and any other information obtained during the 1977-78 heating season will be considered at this hearing. The hearing will be conducted in a manner designed to test the validity of all data and conclusions introduced therein, including cross examination and rebuttal. Petitions which request specific administrative action by DOE with regard to the manner in which the evidentiary hearing will be conducted, or any other matter which bears on the hearing, should be filed with the Office of Administrative Review. With regard to the evaluation of the need for further regulatory action, actual average gross margins in excess of the corresponding benchmarks contained in the final report will create the presumption of a need for further regulatory action. After consideration of the testimony, written comments and other available information, the Office of Administrative Review will transmit its findings to the ERA for a determination by the Administrator as to what further regulatory action, if any, is needed.

5. *Intervenor funding.* In order to ensure that consumer interests are adequately represented at the evidentiary hearing, any non-profit organization whose principal function involves the furtherance of consumer interests may submit an application for financial assistance to the Office of Administrative Review. An application to receive financial assistance to enable the organization to participate in the hearing should be filed in the form of a Petition for Special Redress. Each petition of this type should contain a detailed description of the purposes and functions of the organization which requests financial assistance and should indicate whether the organization operates on a non-profit basis. The Petition should also contain a description of the type of information which the petitioner plans to present at the hearing and the reasons why the petitioner's involvement in the hearing will substantially contribute to a full and fair determination of the complex and important issues to be considered in that proceeding. A budget which itemizes the expenses that the petitioner projects it will incur in order to present its position to the DOE should also be included. Finally, the Petition should be accompanied by documentation which establishes that unless the requested financial assistance is provided the organization involved will be unable to bear the costs of participating in the proceedings. The Petition must be filed with the Office of Administrative Review on or before February 21, 1978. The following Decision and Orders may be consulted for guidance as to the principles which have been applied in the past to applications for financial assistance of this type. *Consumers Union of United States, Inc.*, 5 FEA ¶ 87,014 (February 18, 1977), Supplemental Order, 5 FEA ¶87,014 (March 17, 1977); *Consumer Federation of America*, 5 FEA ¶ 87,034 (April 15, 1977), 5 FEA ¶ 87,040 (May 6, 1977), 5 FEA ¶ 87,051 (June 10, 1977).

D. REMEDIAL ACTIONS

If the analysis of the information supplied by any element of the monitoring system indicates that some price increases for No. 2 heating oil might be unjustified, ERA will undertake appropriate actions with regard to No. 2 heating oil which may include:

1. *Audits.* DOE may, at any time, conduct audits of firms to obtain more detailed information than the monitoring system provides. Firms will be selected for auditing on a basis independent of their inclusion or exclusion from the list of firms which must file Form EIA-9. The information obtained from these audits will be utilized to develop a more comprehensive background on the various factors which influence the price levels for No. 2 heating oil.

In order to have the capability to pursue audits on a timely basis, DOE will complete standby audit plans and designate standby audit groups which will allow such a "quick reaction" capability.

2. *Hearings.* ERA will hold public hearings throughout the current heating season to examine the factors which influence price levels for home heating oil. Such hearings may focus on the entire industry or on a particular market level and/or region. If appropriate, public hearings and audits will be coordinated to insure the inclusion of audit findings in the hearing records. Moreover, no later than August 1978, ERA will hold an evidentiary hearing to evaluate the performance of the industry during the 1977-78 heating season in light of the objectives of section 4(b)(1) of the EPAA and the effectiveness of the monitoring system.

3. *Further Measures.* DOE recognizes that there are other intermediate actions which may be more effective than audits or hearings. If there are significant price increases at any market and/or regional level, ERA may suggest price restraint on a voluntary basis for the appropriate sectors of the industry concerned. If it appears that the degree of voluntary price restraint is insufficient to achieve the goals of the EPAA, DOE will consider reimposition of controls.

4. *Reimposition of Controls.* Unless there is a strong showing that immediate reimposition of partial or complete controls is required to achieve the objectives of the EPAA during the current heating season, taking into account the possible dislocations that might result, ERA would not consider reimposition of controls until possibly the following heating season. Furthermore, ERA may reimpose controls on the entire industry or only on a particular market level and/or region.

In this regard, to the extent that market forces may in some instances be inadequate to restrain prices, ERA believes that individual firms should not be encouraged to charge prices that reflect excessive margins in the belief that excessive revenues obtained during a period of decontrol would be permitted to be retained following the reimposition of controls. Accordingly, should reimposition of controls

become necessary, ERA may require such firms to demonstrate that prices charged during the period of decontrol did not reflect excessive margins. To the extent that firms are found to have charged prices that reflect excessive margins, ERA may (following the reimposition of controls) require such firms to make adjustments to prices to reflect revenues received during the period of decontrol, which are found to have resulted from prices unreasonably in excess of those sufficient to insure the survival of the firm as an economically viable and competitive entity, and reflective of a competitive market place.

Issued in Washington, D.C., January 13, 1978.

JOHN F. O'LEARY.
Deputy Secretary,
Department of Energy.

APPENDIX I.—GROSS MARGIN FOR REFINERS' SALES TO NONULTIMATE CONSUMERS

$$M_n^t = \frac{\sum_{i=1}^{m} N_i^t (P_{ni}^t - q_{pi}^t C_{pi}^t - [1-q_{pi}^t] C_{ci}^t)}{\sum_{i=1}^{m} N_i^t}$$

Where:

M_n^t = Refiners' average gross margin for sales of No. 2 heating oil to nonultimate consumers.

P_{ni}^t = Average selling price for the ith refiner in month t for all sales of No. 2 heating oil to nonultimate consumers reported on Form EIA-9.

C_{ci}^t = Average per unit cost of crude oil purchased by the ith refiner in month t reported on Form P-110.

q_{pi}^t = Ratio of purchases of No. 2 heating oil to total sales of No. 2 heating oil by the ith refiner in month t. If purchases are greater than sales, then $q_{pi}^t = 1$.

C_{pi}^t = Average per unit cost of No. 2 heating oil purchased by the ith refiner in month t reported on Form EIA-9.

N_i^t = Volume of sales of No. 2 heating oil to nonultimate consumers in month t by the ith refiner as reported on Form EIA-9.

m = Number of refiners with sales to nonultimate consumers as reported on Form EIA-9.

This formula refers to the national average gross margin for sales of refiners to nonultimate consumers. Regional margins would be calculated by using average prices derived for the given region.

APPENDIX II—GROSS MARGIN FOR WHOLESALERS' SALES TO NONULTIMATE COMSUMERS

$$M_w^t = \frac{\sum_{i=1}^{n} W_i^t (P_{wi}^t - C_{pi}^t)}{\sum_{i=1}^{n} W_i^t}$$

where:

M_w^t = Wholesalers' (i.e., nonrefiners) average gross margin for sales of No. 2 heating oil to nonultimate consumers in month t.

P_{wi}^t = Average selling price for all sales of No. 2 heating oil by the ith nonrefiner to nonultimate consumers in month t as reported on Form EIA-9.

C_{pi}^t = Average per unit cost of No. 2 heating oil purchased by the ith nonrefiner in month t as reported on Form EIA-9.

W_i^t = Volume of sales of No. 2 heating oil to nonultimate consumers in month t by the ith nonrefiner as reported on Form EIA-9.

n = Number of nonrefiners with sales of No. 2 heating oil to nonultimate consumers reporting Form EIA-9.

This formula refers to the national average gross margin for sales by nonrefiners to nonultimate consumers. Regional margins would be calculated by using data only for the given region.

APPENDIX III.—NONREFINERS' GROSS MARGIN FOR RESIDENTIAL SALES OF NO. 2 HEATING OIL

$$M_r^t = \frac{\sum_{i=1}^{n} R_i^t (P_{ri}^t - C_{pi}^t)}{\sum_{i=1}^{n} R_i^t}$$

Where:

M_r^t = Average gross margin for residential sales of No. 2 heating oil in month t by nonrefiners.

P_{ri}^t = Average selling price in month t for all residential sales of No. 2 heating oil reported by the ith nonrefiner on Form EIA-9.

C_{pi}^t = Average per unit cost of No. 2 heating oil purchased in month t reported by the ith nonrefiner on Form EIA-9.

R_i^t = Volume of sales of No. 2 heating oil to residential users in month t reported by the ith nonrefiner of Form EIA-9.

n = Number of nonrefiner firms with sales of No. 2 heating oil to residential users reporting on Form EIA-9.

This formula refers to the national average gross margin for sales to residential consumers by nonrefiners. Regional margins would be calculated by using data only for the given region.

APPENDIX IV.—GUIDELINE FOR REFINERS' PRICE FOR SALES OF NO. 2 HEATING OIL TO NONULTIMATE CONSUMERS

Guideline Price = June Wholesale Price + Increased Cost (c/qsl) + Accumulated Unrecouped Increased Costs

$$P_a^t = P_o^o + \frac{d^t + B^t}{S^t}$$

Where:

P_a^o = Actual weighted average wholesale price of refiners in June 1977, for No. 2 heating oil, derived from form EIA-9. Only those refiners reporting the form EIA-9 will be included (nearly all refiners that sell No. 2 heating oil report form EIA-9). The wholesale price is the weighted average price for nonultimate consumer sales, which includes rack, delivered, and bulk sales.

P^t = Guideline wholesale price of refiners in month t for sales of No. 2 heating oil to nonultimate consumers.

S^t = Volume of sales of No. 2 heating oil sold by refiners in month t to nonultimate consumers.

d^t = Increased costs over June 1977 in month t allocated by refiners to sales of No. 2 heating oil to nonultimate consumers, computed as follows:

Increased Costs = Percentage of Wholesale Sales Attributable to No. 2 Heating Oil (Changes in crude costs + Changes in nonproduct Costs) + Changes in purchased product costs

$$d^t = \frac{S_r^t}{V^t}\left(Q^{t-1}\left(\frac{C^{t-1}}{Q^{t-1}} - \frac{C^o}{Q^o}\right) + \left(V_c^{t-1} - \frac{N_c^{t-1}}{V_c^o} N_c^o\right)\right) + q^{t-1}\left(\frac{c^{t-1}}{q^{t-1}} - \frac{c^o}{q^o}\right)$$

Where:

S^t = Volume of sales of No. 2 heating oil by refiners to nonultimate consumers in month t, reported on form EIA-9.

V^t = Total volume of sales of refined products in month t, reported on form P-302.

Q^{t-1} = Volume of crude oil purchased in month $t-1$, reported on form P-110.

Q^o = Volume of crude oil purchased by refiners in June 1977, reported on form P-110.

C^{t-1} = Total cost of crude oil purchased by refiners in month $t-1$, reported on form P-110.

C^o = Total cost of crude oil purchased by refiners in June 1977, reported on form P-110.

V^{t-1} = Volume of sales of all refined products in month $t-1$, reported on form P-302.

V_c^{t-1} = Volume of sales of controlled products in month $t-1$, reported on form P-302.

V^o = Volume of sales of all refined products in June reported on form P-302.

V_c^o = Volume of sales for controlled products in June 1977 reported on form P-302.

N_c^{t-1} = Increased nonproduct costs for controlled products in month $t-1$, reported on form P-110.

N_c^o = Increased nonproduct costs for controlled products in June 1977, reported on form P-110.

q^{t-1} = Volume of No. 2 heating oil purchased by refiners in month $t-1$, reported on form EIA-9.

q^o = Volume of No. 2 heating oil purchased by refiners in June 1977, reported on form EIA-9.

c^{t-1} = Total cost of No. 2 heating oil purchased by refiners in month $t-1$, reported on form EIA-9.

c^o = Total cost of No. 2 heating oil purchased by refiners in June 1977, reported on form EIA-9.

B^t = Accumulated unrecouped costs applicable to time period t.

Accumulated unrecouped increased costs = Sum of increases in costs attributable to No. 2 heating oil—prior to current month. Sum of increases of revenue obtained from sales of No. 2 heating oil prior to current month.

$$B^t = \sum_{i=o}^{t-1} [d^i - S^i (P_a^i - P_a^o)]$$

Where:

U'—Increased costs over June 1977 incurred by refiners allocated to sales of No. 2 heating oil to nonultimate consumers in month i.

S'—Sales of No. 2 heating oil by refiners to nonultimate consumers in month i.

B'—Accumulated unrecouped costs applicable to time period i.

P_a'—Actual weighted average price of refiners in month i for sales of No. 2 heating oil to nonultimate consumers derived from form EIA-9.

P_a^o—Actual weighted average price of refiners in June 1977 for sales of No. 2 heating oil to nonultimate consumers, derived from form EIA-9.

Symbols used in the formula refer to time periods as follows:

i—Refers to each month accumulated in the summation formula for unrecouped costs.

o—Refers to June 1977.

t—Refers to the month for which the selling price is being computed.

$t-1$—Refers to the month one month before the month for which the selling price is being computed.

Subscripts used in the formulas refer to the following:

a—Refers to actual prices.

c—Refers to controlled products.

r—Refers to residential prices and sales volumes.

These formulas calculate the guideline price for the national average.

The formulas used to calculate the guideline prices for the DOE regions are the same except the June 1977 national price to nonultimate consumers (P_a^o) would be replaced by average prices to nonultimate consumers for the regions.

These formulas are not entirely consistent with the calculations under 10 CFR 212.83 in that allocations are based on sales of No. 2 heating oil rather than production of No. 2 heating oil, refiners' nonproduct cost increases for No. 2 heating oil are estimated based on refiners' nonproduct cost increases for controlled products reported to the DOE, and the base period is June 1977 rather than May 1973.

The revised form P-302-M-1 will provide information as to the production of No. 2 heating oil and refiners' total nonproduct costs. When this information becomes available, the formulas will be adjusted to make allocations on the basis of production and revised nonproduct cost estimates. The estimated prices for prior months will be recalculated to reflect allocation on the basis of production and revised nonproduct estimates.

APPENDIX V

States with statistically valid residential heating oil survey prices

State	State code	DOE region
Alaska	AK	10
Connecticut	CT	1
Delaware	DE	3
District of Columbia	DC	3
Idaho	ID	10
Illinois	IL	5
Indiana	IN	5

APPENDIX V—Continued

States with statistically valid residential heating oil survey prices

State	State code	DOE region
Maine	ME	1
Maryland	MD	3
Massachusetts	MA	1
Michigan	MI	5
Minnesota	MN	5
New Hampshire	NH	1
New Jersey	NJ	2
New York	NY	3
Ohio	OH	5
Oregon	OR	10
Pennsylvania	PA	3
Rhode Island	RI	1
Vermont	VT	1
Virginia	VA	3
Washington	WA	10
West Virginia	WV	3
Wisconsin	WI	5

[FR Doc. 78-1453 Filed 1-16-78; 12:46 pm]

[6560-01]

ENVIRONMENTAL PROTECTION AGENCY

[FRL 846-2]

RECEIPT OF ENVIRONMENTAL IMPACT STATEMENTS

Pursuant to the President's Reorganization Plan No. 1, the Environmental Protection Agency is the official recipient for environmental impact statements (EIS) and is required to publish the availability of each EIS received weekly. The following is a list of environmental impact statements received by the Environmental Protection Agency from January 9 through January 13, 1978. The date of receipt for each statement is noted in the statement summary. Under the Guidelines of the Council on Environmental Quality the minimum period for public review and comment on draft environmental statements is forty-five (45) days from this FEDERAL REGISTER notice of availability (March 6, 1978). The thirty (30) day period for each final statement begins on the day the statement is made available to the Environmental Protection Agency and to commenting parties.

Copies of individual statements are available for review from the originating agency. Back copies are also available at 10 cents per page from the Environmental Law Institute, 1346 Connecticut Avenue, Washington, D.C. 20036.

Dated: January 17, 1978.

PETER L. COOK,
Acting Director,
Office of Federal Activities.

DEPARTMENT OF AGRICULTURE

Contact: Mr. Brrett Deck, Coordinator, Environmental Quality Activities, U.S. Department of Agriculture, Room 307A, Washington, D.C. 20250, 202-447-6827.

FOREST SERVICE

Draft

Cooperative Gypsy Moth Suppression Program, 1978, January 8: This draft EIS presents the selection criteria for regulatory programs and discusses each viable alternative which may be considered for state-federal cooperative projects in suppressing gypsy moth infestations in the Northeastern United States. Several alternative plans are suggested, utilizing the aerial application of carbaryl, trichlorfon, diflubenzuron, and acephate. Adverse impacts include the possible adverse effect of diflubenzuron upon aquatic organisms and carbaryl upon honeybees. (ELR Order No. 80019.)

Tahoe NF Timber Management Plan, several California counties, January 11: Proposed is a revision of the existing Timber Management Plan which establishes a timber harvesting level and schedule for the Tahoe National Forest, Calif., for the next decade beginning FY 1978. Six alternatives are outlined with a yield of between 2,000 million board feet to 1,000 million board feet per decade. Adverse impacts include a possible effect upon water and soil quality, including some erosion; changes in fish and wildlife habitat; and changes in the vegetative structure, microclimate and plant relationships. (ELR Order No. 80032.)

Salt Lake Planning Unit, several Utah counties, January 13: Proposed is a land management plan for the Salt Lake Planning Unit, an area encompassing 138,000 acres of National Forest and other lands in the State of Utah. Four alternative plans outline resource management in areas such as air, water, recreation, wildlife, range forage, timber, insect and disease control, and mineral development. The proposed plan calls for 95 percent of the Unit to remain relatively undisturbed except for trail construction, ski area expansion, and people-use associated with recreation activities. (ELR Order No. 80035.)

Final

Beaver Creek Wilderness, Mineral Prospecting, McCreary County, Ky., January 11: Proposed is the conditional approval, with prescribed modifications, of a prospecting plan submitted by the Greenwood Land and Mining Co. of Parkers Lake, Ky. The Company claims to own mineral rights beneath and around the Beaver Creek Wilderness, and proposes to use motorized equipment to prospect for coal at 22 sites. It also intends to deep and surface mine in the Wilderness, based on information gathered by prospecting. Approximately 11 acres of land surface will be cleared, excavated, regraded and revegetated at 17 prospecting sites within the Wilderness. Comments made by: USDA, COE, DOI, EPA, and State and local agencies. (ELR Order No. 80025.)

Supplement

Naches-Tieton-White River (S-1), several Washington counties, January 13: This statement supplements a draft EIS originally filed with CEQ in August 1977. The Forest Service has subsequently re-inventoried roadless and undeveloped areas within the planning unit and has added 84,970 acres for a total of 375,750 acres under consideration for wilderness study. (ELR Order No. 80038.)

DEPARTMENT OF DEFENSE, ARMY CORPS

Contact: Dr. C. Grant Ash, Office of Environmental Policy Department, Attn: DAEN-CWR-P, Office of the Chief of Engineers,

APPENDIX D

EIA-9
AND INSTRUCTIONS

EIA 9
1/77
Supersedes FEA-P112-M-1

U.S. DEPARTMENT OF ENERGY
Energy Information Administration
Code 2895
Washington, D.C. 20461

Form Approved
O.M.B. No. 38-R0200

This report is mandatory under Public Law 93-275.

No. 2 HEATING OIL SUPPLY/PRICE MONITORING REPORT

Schedule A-O

PART I - IDENTIFICATION DATA

1. Reporting Period: MO. YR.

2. Report Coverage Indicator:
(a) ☐ Parent or parent and consolidated entities
(b) ☐ Unconsolidated entity

3. Name and EIN of Parent Firm:
Name _____
EIN

4. EIN:

5. EIA Control Number:

6. Revised Report:
(a) ☐ (b) MO. YR.

7. Firm Name:

8. Change of Address Indicator: ☐

9. Street/Box/RFD

10. City:

11. State:

12. Zip code:

13. Contact Person:

14. Title:

15. Telephone Number:

16. Type of Entity: *(Check one box)*
(a) ☐ Retailer
(b) ☐ Reseller
(c) ☐ Reseller/Retailer
(d) ☐ Refiner

17. Enter the number of pages submitted with this filing for Schedule A-1 .....

18. Enter the following information on No. 2 heating oil for the operations of the entire firm during this reporting period:	VOLUME (000 of gal) (a)	UNIT COST ($/gal) (b)
(a) Beginning inventory		$.
(b) Purchases — 1. Domestic	gp	$.
2. Imported	gp	$.
		UNIT PRICE ($/gal)
(c) Sales (Total of Schedule A-1, Item 2)	gp	$.
19. Estimate the total storage capacity available for No. 2 heating oil on the first day of the reporting period (in thousands of gallons)		

PART II - CERTIFICATION

I certify that the information provided herein and appended hereto is true and accurate to the best of my knowledge.

Name	Title
Signature	Date

TITLE 18, USC 1001. Makes it a crime for any person knowingly and willingly to make to any Agency or Department of the United States any false, fictitious or fraudulent statements as to any matter within its jurisdiction.

EIA 9
12/77
Supersedes FEA-P112-M-1

Form Approved
O.M.B. No. 38-R0200

Schedule A-1 - State Volume/Price Statistical Report

A separate Schedule A-1 must be submitted for each state in which the firm sells No. 2 heating oil

1. If this is an amended report, fill in the date of the revision below. If this is not an amended report, leave blank.

MO DA YR

2. Firm Name: _____

3. Page ___ of ___

4. EIA Control Number: ___

5. Reporting Period: MO YR

Item 1. Enter the abbreviation of the state for which this schedule is being filed (See Appendix A - List of State Codes)	State
Item 2. Enter the total volume of sales of No. 2 heating oil sold in this state during the reporting period (thousands of gallons)	

Item 3. *State Selling Prices* - Enter the following information for No. 2 heating oil sales in this state during the reporting period.

Type of Customer (a)	Volume of sales (Thousands of gallons) (b)	Estimated percentage of sales (%) (c)	Unit Price (Dollars per gallon) (d)
A. Sales to ultimate consumers	R		
1. Residential			$.
2. Industrial			
a) Rack sales			$.
b) Delivered sales			$.
c) Bulk sales			$.
3. Institutional/Utility			
a) Rack sales			$.
b) Delivered sales			$.
c) Bulk sales			$.
4. Other			
a) Rack sales			$.
b) Delivered sales			$.
c) Bulk sales			$.
B. Sales to other than ultimate consumers	N, W		
a) Rack sales			$.
b) Delivered sales			$.
c) Bulk sales			$.

EIA 9
11/77
Supersedes FEA-P112-M-1

U.S. DEPARTMENT OF ENERGY
Energy Information Administration
Code 2895
Washington, D.C. 20461

Form Approved
O.M.B. No. 38-R0200

No. 2 HEATING OIL SUPPLY/PRICE MONITORING REPORT

I. PURPOSE

Form EIA 9 is designed to provide the data necessary for the U.S. Department of Energy's Energy Information Administration (EIA) to execute its role in monitoring certain volumetric, cost, and price movements within the U.S. petroleum industry and performing analyses and projections related to energy supplies, demands, and prices.

II. WHO SHOULD SUBMIT

Form EIA 9 has been sent to a scientifically selected sample of firms which sell No. 2 heating oil. Each sample firm which has been selected and notified by the Energy Information Administration must complete and submit this form each month.

III. TO WHOM

Firms must send Form EIA 9, and any schedules and attachments that may be required to:

U.S. Department of Energy
Energy Information Administration
Code 2895
Washington, D.C. 20461

Requests for further information and/or additional forms may be directed to the address above or by telephone to (202) 254-3047.

IV. WHEN TO FILE

The form EIA 9 must be submitted to the EIA no later than twenty (20) days after the close of each calendar month.

V. SANCTIONS

The timely submission of Form EIA 9 by a firm required to report is a mandatory requirement under EIA regulations. Late filing, failure to file, failure to keep records, or failure otherwise to comply with these instructions, may result in criminal fines, civil penalties and other sanctions as provided by law (10 CFR 212.126 (c) and 212.130).

VI. DEFINITIONS

"Bulk Sales" means sales by a supplier to customers of large quantities of product, such as; barge, cargo ship, pipeline and in-tank transfers. In bulk sales the supplier provides the transportation to the customer location.

"Delivered Sales" means a sale by a supplier to a customer when the supplier provides the transportation for the product to the customer location. Delivered sales do not include bulk sales.

"Firm" means any association, company, corporation, estate, individual, joint-venture, partnership, or sole proprietorship or any other entity, however organized, including charitable, educational, or other eleemosynary institutions, and the Federal government including corporations, departments, Federal agencies, and other instrumentalities, and State and local governments. The DOE may, in regulations and forms issued in this part, treat as a firm: (1) a parent and the consolidated and unconsolidated entities (if any) which it directly or indirectly controls, (2) a parent and its consolidated entities, (3) an unconsolidated entity, or (4) any part of a firm.

"Industrial" means those persons who purchase No. 2 heating oil for use in the operation of their businesses, including space heating of business premises. Sales to factories, service industries, apartment buildings and office buildings are considered to be of the typical variety which are to be included within this category. Transactions with this type customer usually involve bulk shipments, lower unit prices and relatively large dollar amounts, when compared to those applicable to residential sales.

"Institutional/Utility" means public utilities and State and Federal organizations who purchase No. 2 heating oil for their own use. As a general rule, transactions with this type of customer involve bulk shipments, lower unit price and relatively large dollar amounts, when compared to those applicable to residential sales. Sales to public utilities, State supported universities, State governments, the Federal government and other State or Federally supported organizations should be considered to be within the overall institutional/utility category.

"No. 2 Heating Oil" means heating oil grade No. 2 as defined in American Society for Testing and Materials (ASTM) D396-71.

"Other" means those sales which are transacted with respect to types of customer not considered to be included within the categories listed herein as (A) residential, (B) institutional/utility, or (c) industrial, and (D) sales to other than ultimate consumers.

"Parent and Consolidated Entities" means a parent and those firms, if any, directly or indirectly controlled by the parent which are consolidated with the parent for the purposes of financial statements prepared in accordance with generally accepted accounting principles. An individual shall be deemed to control a firm which is directly or indirectly controlled by him or his father, mother, spouse, children or grandchildren.

"Rack Sale" means the sale by a supplier to customers who purchase products FOB at the supplier's terminal (or rack) and provide their own transportation for the product.

"Refiner" means a firm or that part of such a firm which refines covered products or blends and substantially changes covered products, or refines liquid hydrocarbons from oil and gas field gases, or recovers liquefied gases incident to petroleum refining and sells those products to resellers, retailers, reseller-retailers or ultimate consumers. "Refiner" includes any owner of covered products which contracts to have those covered products refined and then sells the refined covered products to resellers, retailers, reseller-retailers or ultimate consumers.

"Reporting Period" means the calendar month to which the cost and price information reported relates. It is the month preceding the month in which the form is required to be filed. The reporting period begins with the first day of the month and continues through the last day of the month.

"Reseller" means a firm (other than a refiner or retailer) or that part of such a firm which carries on the trade or business of purchasing covered products, and reselling them without substantially changing their form to purchasers other than ultimate consumers.

"Reseller-Retailer" means a firm (other than a refiner) or that part of such a firm which carries on the functions of both a reseller and retailer.

"Residential" means those persons who purchase No. 2 heating oil for the specific purpose of heating their homes. These purchases are usually of small volume and carry a relatively high unit price when compared to prices associated with sales to high volume type customers.

"Retailer" means a firm (other than a refiner or reseller) or that part of such a firm which carries on the trade or business of purchasing covered products and reselling them to ultimate consumers without substantially changing their form.

"Ultimate Consumer" means an individual or firm which purchases product for its own consumption and not for resale.

"Unconsolidated Entity" means a firm directly or indirectly controlled by a parent but not consolidated with the parent for purposes of financial statements prepared in accordance with generally accepted accounting principles. An unconsolidated entity includes any firm consolidated with the unconsolidated entity for purposes of financial statements prepared in accordance with generally accepted accounting principles. An individual shall be deemed to control a firm which is directly or indirectly controlled by him or his father, mother, spouse, children or grandchildren.

"Unit" means one U.S. gallon.

"Unit Cost" means the total cost of product purchased during the reporting period divided by the total number of units purchased.

"Unit Price", with respect to a type of customer, means the total revenues derived from the sale of product during the reporting period to the type of customer divided by the total number of units sold to that type of customer.

Note: **In the event firms do not maintain information in sufficient detail to provide actual unit prices as defined above, estimates of unit prices may be provided. The basis for the estimates must be consistent with the standard accounting records maintained by the firm. The estimating procedure and data supporting the estimates should result in a reasonable accurate estimate which will be subject to review should the company be selected for audit.**

VII. GENERAL INSTRUCTIONS

All firms who must submit the form must complete parts I and II of the cover page and a schedule A-1 must be completed for each state in which the firm has sales of No. 2 heating oil.

This form and instructions require only basic information. The EIA, may, however, request additional data in particular cases.

For purposes of this form, all prices must be shown in [illegible] units of U.S. dollars per U.S. gallon and expressed to the nearest hundredth of a cent. Accordingly, 25-¾ cents must be shown as .2575 (it should not be 25.75 cents). Sales volumes should be reported in thousands of gallons. Round numbers to the nearest thousand, e.g. enter 6,500 gallons as 7, enter 6,400 gallons as 6.

If more space is needed for any item than is available, complete additional schedules and number the pages at the top of the schedule according to the number of pages that will be submitted. For example, if two pages of a schedule are submitted, the first page should be numbered "Page 1 of 2," and the second page should be numbered "Page 2 of 2."

VIII. SPECIFIC INSTRUCTIONS

Form EIA 9 must be completed as follows:

Part I - Identification Data

This part must be completed each time the Form EIA 9 is prepared.

Item 1 Reporting Period

Enter the month and year of the reporting period.

Item 2 Report Coverage Indicator:

Place a check mark in the box that describes the type of firm submitting this report. Refer to the Definitions section to ascertain the type of firm.

Item 3 Name and EIN of Parent Firm:

If Item 2 (b) is checked, enter the name of the parent firm and the Employers Identification Number (EIN) of the parent firm.

Item 4 EIN

Enter the reporting firm's Internal Revenue Service (IRS) Employer Identification Number (EIN). If the EIN is not known, the reporting firm may contact its nearest IRS office for its EIN number.

Item 5 EIA Control Number

Enter the control number which has been assigned to the reporting firm by the EIA. If the reporting firm does not presently have a control number, the EIA will assign one.

Item 6 Revised Report

If this submission is to revise information previously provided, check box (a) and fill in the date the revision is being made in (b). If this is not a revised report leave Item 6 entirely blank.

Item 7 Firm Name

Enter the legal name of the reporting firm.

Item 8 Change of Address Indicator

Check this box if the name or address of the reporting firm has changed since the last submission.

Items 9 - 12 Address

Enter the complete address of the reporting firm, including ZIP code. Enter the state abbreviation and ZIP code in the appropriate boxes, entering one digit or letter per box. Use the official United States Postal Service abbreviations (Appendix A - List of State Codes) when entering the state abbreviation.

Items 13 - 15 Contact Person

Enter the name, title, and telephone number, including area code, of an individual within the reporting firm who may be contacted for additional information regarding this submission.

Item 16 Type of Entity

Check the box which indicates the type of entity to which this form applies. Refer to the Definitions section to ascertain the type of entity.

Item 17 Schedules Filed and Number of Pages

Enter the appropriate number of pages filed for Schedule A-1.

Item 18

For the operations of the entire firm, enter the following for No. 2 heating oil volumes and prices:

a) *Beginning inventory* - Enter the total amount of No. 2 heating oil in inventory and its unit cost on the first day of the reporting period. In this instance, unit cost of inventory may be calculated according to the standard accounting method historically used by the firm. Refiners are not required to fill in column (b), Unit Cost of Beginning Inventory.

b) *Purchases* - Divided between (1) domestic, and (2) imported sources, enter in column (a) the total amount of No. 2 heating oil purchased during the reporting period, and in column (b) its unit cost.

c) *Sales* - Enter the total amount of sales of No. 2 heating oil sold during the reporting period and its unit price.

Item 19

Enter the total estimated storage capacity available for No. 2 heating oil on the first day of the reporting period.

Part II - Certification

This part must be completed each time the Form EIA 9 is submitted.

Type or print in block letters the name and title of the individual who has signed the certification and the date of signing in the spaces provided on the form. The individual who signs and certifies this Form EIA 9 must be the Chief Executive Officer of the parent corporation *or* another executive officer authorized to sign for him for this purpose. In the latter case, the reporting firm *must* file with EIA a letter of authorization *signed by the Chief Executive Officer* which identifies other officials authorized to certify forms for the firm. A sample format for this letter is available from EIA.

PROVISIONS FOR CONFIDENTIALITY OF INFORMATION

Company data will be treated as confidential and proprietary to the extent that it is entitled to such treatment under Section 14 of the Federal Energy Administration Act of 1974 (Public Law 93-385) and the Department of Energy Organization Act (Public Law 95-91). Publishing of this information will be limited to aggregations and will be displayed within Region and by national average.

INSTRUCTIONS FOR SCHEDULE A-1 STATE VOLUME/PRICE STATISTICAL REPORT

A separate schedule A-1 must be submitted for each individual state in which the firm sold No. 2 heating oil during the reporting period.

Complete the following firm identification information at the top of each schedule.

1. Revised Date

If this is a revised report, fill in the date of the revision. Whenever a schedule is revised, resubmit only the schedule which is being revised (in its entirety) along with the Identification Data (Part I) and the Certification (Part II). If this is not an amended report, leave blank.

2. Firm Name

Enter the name of the reporting firm.

3. Page

Enter the page number of this schedule and the total number of schedule A-1 submissions being filed with this submission.

4. EIA Control Number

Enter the control number which has been assigned to the reporting firm by the EIA.

5. Reporting Period

Enter the month and year of the reporting period.

Enter the following information for the sale of No. 2 heating oil during this reporting period by the firm for this state.

Item 1. State

Enter the abbreviation of the state for which this schedule is being filed (See Appendix A - List of State Codes).

Item 2. Volume of Sales

Enter the total volume of sales of No. 2 heating oil sold in this state during the reporting period. *Carefully prepared estimates* of sales, in thousands of gallons, will be acceptable.

Item 3 State Selling Price

Enter the following information for No. 2 heating oil sales in this state during the reporting period.

Item A Sales to Ultimate Consumers

Enter all sales of No. 2 heating oil to ultimate consumers in this state during the reporting period.

Column a - Type of Customer

Divide all sales among the following major categories:

(1) Residential
(2) Industrial
(3) Institutional/Utility
(4) Other

Except for residential sales, these categories must be divided between (a) rack sales, (b) delivered sales, and (c) bulk sales.

Column b - Volume of Sales

Enter the volume of No.2 heating oil sold to ultimate consumers in item (A) and enter all other sales of heating oil in item (B) below.

Column c - Estimated Percentage of Sales

Enter the estimated percentage of No. 2 heating oil sold to each type of customer in column (a) during the reporting period. *Carefully prepared estimates* of the percent of sales to each type of customer will be acceptable. The total of all entries within item A must equal 100 percent.

Column d - Unit Price

Enter the unit price (see definitions section) of No. 2 heating oil sold to each type of customer in column (a) in this state during the reporting period.

Item B Sales to Other Than Ultimate Consumers

Enter all sales to customers that will resell No. 2 heating oil in this state. The entries in columns (c), and (d) are the same as in item (A) above. The total of all column (c) entries within item (B) must equal 100 percent.

APPENDIX A

List of Standard State Abbreviations

AL	Alabama	MT	Montana
AK	Alaska	NE	Nebraska
AZ	Arizona	NV	Nevada
AR	Arkansas	NH	New Hampshire
CA	California	NJ	New Jersey
CO	Colorado	NM	New Mexico
CT	Connecticut	NY	New York
DE	Delaware	NC	North Carolina
DC	District of Columbia	ND	North Dakota
FL	Florida	OH	Ohio
GA	Georgia	OK	Oklahoma
GU	Guam	OR	Oregon
HI	Hawaii	PA	Pennsylvania
ID	Idaho	PR	Puerto Rico
IL	Illinois	RI	Rhode Island
IN	Indiana	SC	South Carolina
IA	Iowa	SD	South Dakota
KS	Kansas	TN	Tennessee
KY	Kentucky	TX	Texas
LA	Louisiana	UT	Utah
ME	Maine	VT	Vermont
MD	Maryland	VA	Virginia
MA	Massachusetts	VI	Virgin Islands
MI	Michigan	WA	Washington
MN	Minnesota	WV	West Virginia
MS	Mississippi	WI	Wisconsin
MO	Missouri	WY	Wyoming

GPO 928-280

APPENDIX E

LETTER FROM FRANK ZARB TO CONGRESS

FEDERAL ENERGY ADMINISTRATION
WASHINGTON, D.C. 20461

JUN 25 1976

OFFICE OF THE ADMINISTRATOR

Honorable John D. Dingell
House of Representatives
Washington, D.C. 20515

Dear Mr. Dingell:

The Federal Energy Administration (FEA) has recently been asked for additional information regarding its contingency plan for middle distillate prices in the event Energy Actions 3 and 4 are not disapproved by the Congress. The key elements of the contingency plan are:

- a quick response monitoring system that will compare actual prices on a weekly basis with estimates of what they would have been if regulatory controls were still in effect;

- a series of automatic steps that will immediately unfold if prices in the decontrolled market exceed by 2 cents the estimate of what they would have been with continued controls; and

- an emergency allocation system to insure that no marketer loses his supplies without adequate time to arrange a new supplier.

Each of these aspects of the overall plan is explained in greater detail in the following.

The price monitoring system will include not only the comprehensive statistical reporting systems that FEA has in place, but also a telephone survey of scientifically selected samples of jobbers and dealers and of those refiners accounting for a majority of middle distillate production. With these mechanisms FEA will track price trends at the refinery, wholesale, and retail levels on a monthly basis during April through September and on a weekly basis during October through March. From this up-to-date data on price and sales volumes, FEA will

monitor price trends, both regional and national, and will make a weekly computation during the heating season of the weighted average price of middle distillates.

This estimate will be compared to a projection of what price trends would have been under continued regulation. This projection will be generated by taking into account three principal factors:

(1) The current level and projected increase in the cost of crude oil under the provisions of the Energy Policy and Conservation Act and incorporating projections of the increased dependence on imports and imported crude prices.

(2) An index that best reflects the increased cost of doing business for refiners and marketers. The specific index to be used will be selected after an evaluation of comments as to the appropriateness of alternative indices to be considered at the public hearings.

(3) A seasonal pattern of price variations derived from an analysis of the years 1968 to 1972 inclusive. This will provide a long enough period of reasonable market conditions to establish an appropriate pattern of seasonal variations to be expected without controls.

We will have these two systems in place and operational by the end of July this year as a result of an expedited rule-making. We will, of course, begin immediately to collect data from available sources and do our preliminary computations during the public hearings and rulemaking process so that we would have at least preliminary bench-mark values even before the end of July.

Any time the estimate of actual prices exceeds the projections of regulated prices by more than 2 cents per gallon, we will hold public hearings within 10 days to determine the causes of such an increase and to solicit comments on various actions necessary to restore average prices to levels at or below those reflected in the index within no more than one month.

Among the options available to FEA for accomplishing this result are: reimposition of complete allocation and price controls over the entire industry, imposition of partial sets of allocation or price controls over the entire industry, imposition of full or partial controls over certain segments of the industry, and modification of FEA's entitlements program to reduce the cost of imported middle distillates. In any

event, FEA will take within ten days of completion of the hearings such action as may be required to restore prices within a month to levels at or below those reflected in the index.

We cannot, of course, specify in advance exactly what action we will take since we have no way of knowing what type of contingency may develop that will require corrective action. As you know, we see no problems in the market with supply or prices at the current time, but if some unforeseen problem does develop we can and will fashion an appropriate remedy immediately. Since no single action can appropriately respond to all contingencies, it is far better to base the action on the facts and circumstances at the time so as to be sure that it will remedy the problem with the least interference with other objectives. It would be both unnecessary and unwise, for example, to reimpose controls over the entire industry if we found that the price increase problem was limited to the refining sector. Even then, depending on why refinery prices were rising, it might be more effective to grant entitlements to distillate imports than to reimpose price controls on refiners and run the risk of reducing production.

To assure that no marketer is placed in a position of not having a reasonable time to arrange for supplies, FEA will promulgate a proposed rulemaking immediately after the exemption is effective to establish a "set-aside" reserve of supply that would be used throughout the coming heating season for assignment to those few marketers who are temporarily unable to find a supplier after demonstrated good faith efforts to do so. Such marketers would be assigned as much as their currently authorized base period volumes from the FEA set-aside for up to 90 days if required to permit them to make their own supply arrangements or for longer if required to preclude hardship to consumers. This provision, expected to be used only infrequently, provides a "safety net" to preclude the process of decontrol itself from imposing unduly sudden transitions on any individual marketer. By giving him a reasonable time to locate a willing supplier, it assures him a fair chance to make his own way in a free market.

FEA will continue to monitor and report to Congress on market share trends in the industry. In the event of sharp swings in market shares or widespread problems of supply cutoffs that appear to be contrary to the Emergency Petroleum Allocation Act (EPAA) objective of preserving the competitive viability of the independent sector of the industry, FEA

will immediately convene public hearings to determine the necessity for reimposing controls or if required will take whatever emergency action is deemed appropriate before convening hearings.

In any case, you may be assured that FEA is fully cognizant of its responsibilities under the Emergency Petroleum Allocation Act and that it will take whatever action is required to see that the objectives set out in that Act are in fact realized to the maximum practicable extent.

I hope you find this information helpful. If I can be of further assistance, please let me know.

Sincerely,

Frank G. Zarb
Administrator

APPENDIX F

ENERGY DATA REPORT

DOE/EIA-0031/2(78)

Energy Data Report

United States
Department of Energy

Energy Information
Administration

Washington, D.C. 20461

For information call Tracy Tapscott
Telephone: (202) 566 9307

Heating Oil Prices and Margins
(Advance Release)

February 1978

Preliminary statistics for February from the Energy Information Administration's (EIA) revised survey of No. 2 heating oil sellers indicate that average residential heating oil prices nationwide (Table 1) rose from 48.5 cents per gallon in January 1978 to 48.7 cents per gallon in February 1978. In New England (Region 1), the New York-New Jersey area (Region 2), the Mid-Atlantic area (Region 3), and the Great Lakes area (Region 5), which are the regions with the most residential heating oil sales, prices increased respectively from 49.4 to 49.5; 49.2 to 49.4; 48.1 to 48.4 cents per gallon in the first three regions; and remained stable in Region 5 at 46.4 cents per gallon.

Prices of No. 2 heating oil sales by refiners to resellers and retailers (Table 2) fell nationwide by 0.4 cent per gallon from 36.8 cents per gallon in January to 36.4 cents per gallon in February. In Region 1, refiners decreased these prices by 0.4 cent per gallon. Refiners' average gross margin for sales to resellers and retailers, which is the average selling price minus the average costs of crude oil and purchased No. 2 heating oil, fell nationwide by 0.8 cent per gallon from 7.3 cents per gallon in January to 6.5 cents per gallon in February. In Region 1, refiners' average gross margin decreased by 0.9 cent per gallon.

Prices of sales by resellers to retailers and other resellers (Table 3) fell nationwide by 0.3 cent per gallon from 37.8 cents per gallon in January to 37.5 cents per gallon in February. In Region 1, prices decreased by 0.1 cent per gallon. Resellers' average gross margins increased from 1.5 to 1.6 cents per gallon from January to February.

Average gross margins for sales by resellers and retailers to residential users (Table 4) increased by 0.5 cent per gallon nationwide. Residential prices for selected states are shown in Table 5.

Table 1. Average Residential Heating Oil Prices

DOE Region	Average Residential Price	
	January 1978	February 1978
1	49.4	49.5
2	49.2	49.4
3	R48.1	48.4
4	R47.5	47.7
5	R46.4	46.4
6	N/A	N/A
7	44.5	44.8
8	R45.2	45.5
9	R44.7	45.5
10	47.4	47.3
National Average	R48.5	48.7

NOTE: Data for regions marked N/A (Not Available) in all tables are not published in order to prevent disclosure of individual company proprietary information. Large differences between published regional averages and the national average may occur because prices and margins of firms in these regions are included in the national average.

Prepared May 1, 1978, in the Office of Energy Data and Interpretation.

Table 2. Refiners' Heating Oil Sales to Resellers and Retailers: Average Prices and Gross Margins

DOE Region	Refiners' Average Price Jan. 1978	Refiners' Average Price Feb. 1978	Refiners' Average Gross Margin Jan. 1978	Refiners' Average Gross Margin Feb. 1978
1	37.3	36.9	7.7	6.8
2	37.3	36.9	8.0	7.2
3	37.6	37.3	R8.4	7.6
4	R36.8	36.6	R7.0	7.1
5	36.9	36.7	R6.8	6.6
6	33.7	32.6	R3.8	2.8
7	36.5	36.2	R6.8	5.6
8	37.1	37.3	R7.5	7.1
9	34.1	35.5	N/A	N/A
10	R36.2	36.0	R7.2	6.6
National Average	R36.8	36.4	R7.3	6.5

R = Revised.

Table 3. Resellers' and Retailers' Heating Oil Sales to Other Resellers and Retailers: Average Prices and Gross Margins

DOE Region	Resellers' and Retailers' Average Price Jan. 1978	Resellers' and Retailers' Average Price Feb. 1978	Resellers' and Retailers' Average Gross Margin Jan. 1978	Resellers' and Retailers' Average Gross Margin Feb. 1978
1	37.9	37.8	R1.5	1.6
2	38.1	37.6	1.8	1.9
3	38.7	38.2	R1.4	1.4
4	R37.9	38.9	R1.1	1.6
5	R37.5	36.2	1.5	1.2
6	N/A	N/A	N/A	N/A
7	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A
9	N/A	N/A	N/A	N/A
10	N/A	N/A	N/A	N/A
National Average	R37.8	37.5	R1.5	1.6

R = Revised.

Table 4. Average Gross Margins for Resellers' and Retailers' Sales of Residential Heating Oil

DOE Region	Nonrefiners' Average Gross Margin January 1978	Nonrefiners' Average Gross Margin February 1978
1	R11.1	11.4
2	11.3	11.7
3	R10.2	10.7
4	R9.9	10.4
5	R8.3	9.0
6	N/A	N/A
7	R7.7	8.2
8	R6.6	6.6
9	N/A	N/A
10	R11.1	11.4
National Average	10.5	11.0

R = Revised.

Table 5. Average Residential Heating Oil Prices for Selected States

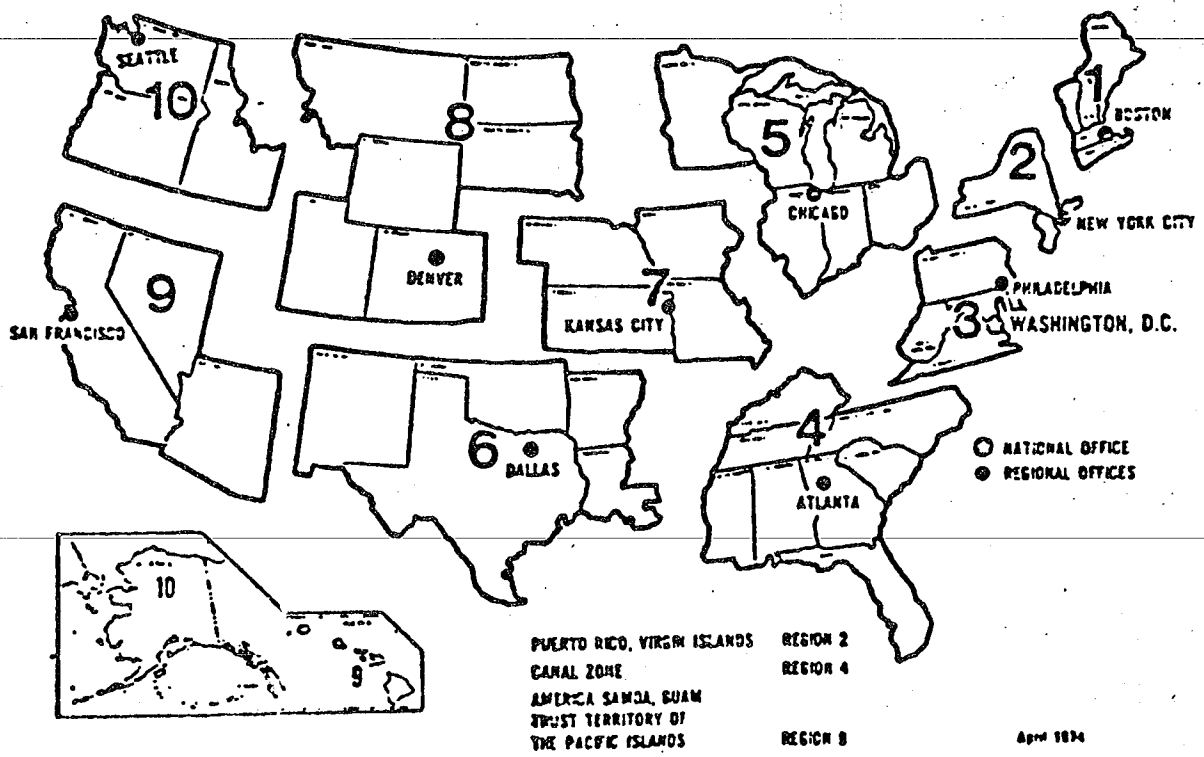
State	Average Residential Price Jan. 78	Average Residential Price Feb. 78	State	Average Residential Price Jan. 78	Average Residential Price Feb. 78
Alaska	R52.9	51.7	New Hampshire	R49.3	49.4
Connecticut	49.9	50.1	New Jersey	R48.6	48.8
Delaware	48.6	48.6	New York	R49.5	49.6
Washington D.C.	49.0	49.7	Ohio	46.7	46.6
Idaho	44.0	44.5	Oregon	46.0	46.1
Illinois	R45.9	45.9	Pennsylvania	48.1	48.5
Indiana	R46.9	46.9	Rhode Island	R49.8	49.5
Maine	R49.0	48.9	Vermont	R50.8	50.8
Maryland	R48.0	48.0	Virginia	R48.0	48.5
Massachusetts	R49.0	49.1	Washington	R47.6	47.7
Michigan	47.3	47.3	West Virginia	47.0	46.6
Minnesota	R45.2	45.[illegible]	Wisconsin	45.6	45.7

R = Revised.

APPENDIX G

DOE REGIONS

DEPARTMENT OF ENERGY
REGIONAL STRUCTURE



APPENDIX H

SAMPLE DESIGN AND ESTIMATION PROCEDURES

APPENDIX H

SAMPLE DESIGN AND ESTIMATION PROCEDURES

1. Sample Design for the EIA-9 System

From the universe or sample frame, a stratified sample was drawn, and it is this sample which reports on the EIA-9 form. The stratification scheme splits the frame into categories, each category or cell being determined by two variables. The first variable is the size of the firm, determined by volume of sales in 1974; this variable splits the firms into five size strata. A sixth stratum was added in 1977, but is size-independent as it consists only of outlets divested by AMOCO at that time. The strata are set forth in Table H-1.

The second variable is location of firm by state. For any one location, a firm may fall into one of two categories: (1) local sales within its state; (2) multi-state sales within a region. A special case is firms selling nationally across regions (see Table H-2)

2. Calculation

Within each cell the firms were ranked by volume of ultimate sales and then from a random start every n^{th} one was picked, 1/n being the sampling ratio for a given cell. The sampling ratio does vary between cells. The integer n will be referred to as the "sample weight," or "weight" for short.

TABLE H-1
SIZE-STRATA VARIABLE DRAWN FROM THE SAMPLE FRAME

Stratum	Company Annual Ultimate Sales
1	10,000,000 gallons and over
2	5,000,000 - 9,999,999 gallons
3	1,000,000 - 4,999,999 gallons
4	200,000 - 999,999 gallons
5	200,000 gallons and under
6	New establishments

TABLE H-2

LOCATION VARIABLE DRAWN FROM THE SAMPLE FRAME

Code	Region
01	Boston - Single-state
11	Boston - Multi-state
02	New York - Single
12	New York - Multi
03	Philadelphia - Single
13	Philadelphia - Multi
04	Atlanta - Single
14	Atlanta - Multi
05	Chicago - Single
15	Chicago - Multi
06	Dallas - Single
16	Dallas - Multi
07	Kansas City - Single
17	Kansas City - Multi
08	Denver - Single
18	Denver - Multi
09	San Francisco - Single
19	San Francisco - Multi
10	Seattle - Single
11	Seattle - Multi
99	Multi-region

APPENDIX I

FINAL REPORT OF THE OFFICE OF FUELS REGULATION

DOE/ERA-0019
UC-13

Analysis of No. 2 Heating Oil Prices for the 1977-78 Heating Season

June 30, 1978

U.S. Department of Energy
Economic Regulatory Administration
Office of Fuels Regulation
Washington, D.C. 20461

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ANALYSIS OF HOME HEATING OIL PRICES FOR THE 1977-1978 HEATING SEASON

EXECUTIVE SUMMARY

JUNE 30, 1978

This report presents the factual findings of DOE's Office of Fuels Regulation (OFR)[1/] regarding No. 2 heating oil price data for the 1977-1978 heating season. OFR's analysis was based on data gathered by the Energy Information Administration (EIA) in connection with the current program to monitor the prices of home heating oil.

Following the exemption of middle distillates from price and allocation controls on July 1, 1976, the Department of Energy (DOE), then the Federal Energy Administration, monitored home heating oil prices, first with a retail price trigger (in the 1976-1977 heating season), then with a refiner index and wholesale/retail benchmarks (in the 1977-1978 season). For the 1977-1978 season, a subcommittee of the Fuel Oil Marketing Advisory Committee, composed of representatives of consumer groups and the home heating oil industry, was created to advise DOE's OFR on the index and benchmarks, as well as on the market behavior of No. 2 heating oil.

1/ OFR is an office within the Economic Regulatory Administration (ERA) of DOE.

OFR analyzed average prices and gross margins and compared them to the appropriate index and benchmarks designed for that purpose. In addition, OFR also assessed the refiner index and benchmark methodologies.

Prices

The price findings address all levels of the heating oil distribution chain.[2/] Specifically, from the month of June 1977 through March 1978, OFR found that:

- The average price paid by residential customers increased 5.2 percent;
- The average increase in the prices wholesalers charged other wholesalers and retailers was 1.6 percent;
- The average increase in prices that wholesalers paid refiners was 1.4 percent; and
- The refiner index was marginally exceeded twice during the heating season and, on average, refiner prices to wholesalers were below the guideline.

Margins

Average gross margins (selling price minus purchase price) were analyzed for retailers, wholesalers, and refiners. In addition, the average retail and wholesale margins were compared to guideline benchmarks. For the period from June 1, 1977 through March 31, 1978, OFR found that:

2/ The main report discusses OFR's findings in detail, and contains appropriate exhibits showing the data used.

Retail Gross Margins

- On a national basis, average retail gross margins increased 1.3 cents per gallon, or 13.3 percent.

- On a regional basis, retail gross margin increases approximated the national average, with the exception of Region 3, where the increase was 1.8 cents per gallon.

- At the retail level, average gross margins generally conformed to retail benchmarks, with the exception of Region 10, in which the benchmark was exceeded during the entire heating season.

Wholesale Gross Margins

- On a national basis, average wholesale gross margins remained relatively constant, actually decreasing by 0.2 cents per gallon.

- On a regional basis, average wholesale gross margins exhibited significant variations compared with benchmark calculations.

- At the wholesale level, average gross margins did not correspond to benchmarks as consistently as they did at the retail level. Average gross margins in Region 1 exceeded the benchmark in three of the five heating season months, and gross margins in Region 3 exceeded the benchmark in every month. The national average exceeded the benchmark twice, in January and February.

Refiners Gross Margins

- On a national basis, refiners average gross margins remained stable, showing a slight decline from June 1977 through March 1978.

- For the majority of regions, refiners average gross margins fluctuated between an increase and a decrease of 0.6 cents per gallon from the base margin.

Analytic Constraints

The usefulness of the index and the benchmarks is limited by methodological and data problems -- some of which are inherent in the calculation of averages.

The index is limited by:

- Several methodological constraints (e.g., base month distortion, purchased product cost allocations, inventory cost accumulation timing), which combine to limit its single-month comparison value; and
- The lack of refinery yield data and nonproduct cost data, which limit the use of the index for single-month comparisons.

The benchmarks are limited by:

- An inability to disaggregate gross margin data into individual nonproduct costs in order to explore specific margin fluctuations;
- The use of a data reporting system not primarily designed to monitor average gross margins;
- The use of historic seasonality factors which cannot be used definitively to compare average gross margins against the benchmark methodology; and
- The significant variations in the generally small wholesale margins, which limit the application of the wholesale benchmark for single-month comparisons.

A discussion of each of these points is presented in the following chapters.

CHAPTER I

INTRODUCTION

CHAPTER I

INTRODUCTION

More than 16 million homes in the United States use middle distillate as a primary energy source for heating.[1/] These homes are served by 7,000 to 8,000 independent marketers, both wholesalers and retailers, who receive their product from refiners. Refiners also sell a small portion of their home heating oil directly to residential consumers. Home heating oil is normally resold several times between production at a refinery and delivery to a consumer.

The middle distillate segment of the petroleum industry consists of refiners, wholesalers and retailers. The product does not always flow directly from the refinery to wholesaler, to retailer, to residential consumer. Refiners typically sell a large part of their heating oil production to wholesalers in bulk quantities. They also sell lesser amounts to retailers and consumers. Most wholesalers sell directly to retailers, although a lesser portion of the product is sold directly to residential consumers. Retailers sell to consumers.

1/ Middle distillates include heating oil (No. 1 and No. 2) kerosene, range oil, stove oil and diesel fuel (No. 1 and No. 2). This report is concerned primarily with that portion of middle distillates that is eventually sold as No. 2 heating oil to homeowners.

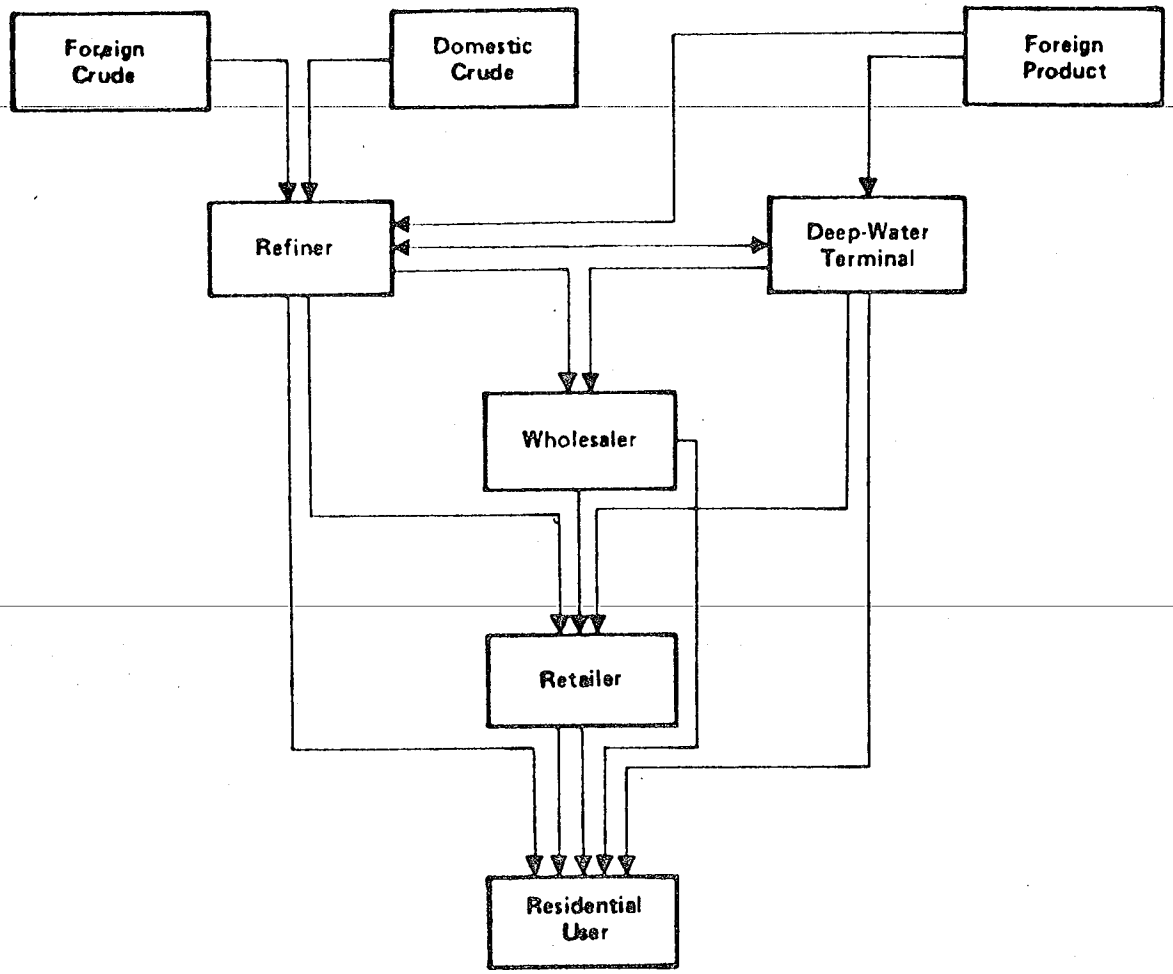
Refiners often sell to one another, as do wholesalers and retailers. (A schematic representation of the structure of the home heating oil industry appears in Exhibit I-1.) As a result of these complex relationships, the reported prices approximate the average of transactions of all types at the stated market level rather than the prices charged by any particular firm for a specific type and volume of sale.

Following the July 1, 1976 exemption of middle distillates, including No. 2 heating oil and No. 2-D diesel fuel, from price and allocation controls[2/], the Federal Energy Administration (FEA) instituted a system for monitoring, nationally and regionally, the actual average prices of No. 2 heating oil to ultimate consumers.[3/] For the 1976-1977 heating season, FEA compared actual national and regional retail prices of No. 2 heating oil to estimates of what these prices would have been had regulatory controls remained in effect. These estimates included a flexibility factor of 2 cents per gallon.

2/ 41 FR 41155, September 21, 1976; 42 FR 9415, February 16, 1977.

3/ 41 FR 24518, June 16, 1978.

Exhibit I.1
Structure of the Heating Oil Industry



SOURCE: Economic Regulatory Administration, Office of Fuels Regulation.

In July and August 1977, FEA held regional and national hearings to specifically consider what action, if any, should be taken with respect to the middle distillate market. In light of the statements presented at these hearings and written comments received, FEA decided not to reimpose price controls on middle distillates but to continue to monitor middle distillate prices.

On September 30, 1977,[4/] FEA issued a proposed system to monitor middle distillate prices. Under this system, FEA proposed to survey the prices of No. 2 heating oil and to develop and publish national and regional indices for residential sales of No. 2 heating oil.

Following an analysis of the comments on this proposed system, which disclosed the need to provide a more comprehensive and equitable method of tracking heating oil prices from refiners to residential consumers, FEA revised the original proposal to include development of:

- A refiners' index price for sales to wholesalers and retailers;
- A benchmark gross margin for wholesalers' reflecting marketing costs and reasonable rates of return on investment; and

---

4/ 42 FR 54444, October 6, 1977.

- A benchmark gross margin for retailers' sales to residential consumers.

Subsequently, the Department of Energy (DOE)[5/] designed a program for monitoring the price and gross margin of No. 2 heating oil at each point in the distribution system -- refining, wholesaling and retailing -- for the 1977-1978 heating season.[6/] Under this program, DOE's Energy Information Administration (EIA) expanded the number of firms in its survey of sellers of No. 2 heating oil to obtain statistical estimates of residential prices for selected states and DOE regional classifications (see Exhibit I-2). In November 1977, the EIA began publishing monthly information on average prices and gross margins for the refining, wholesaling, and retailing segments of the industry which were computed from sellers' prices and costs of heating oil purchases provided by the firms in the survey.

To help it evaluate the performance of the market and the adequacy of the benchmarks and index as an explanation of market behavior, ERA appointed a Middle Distillate Monitoring Subcommittee of the Fuel Oil Marketing Advisory

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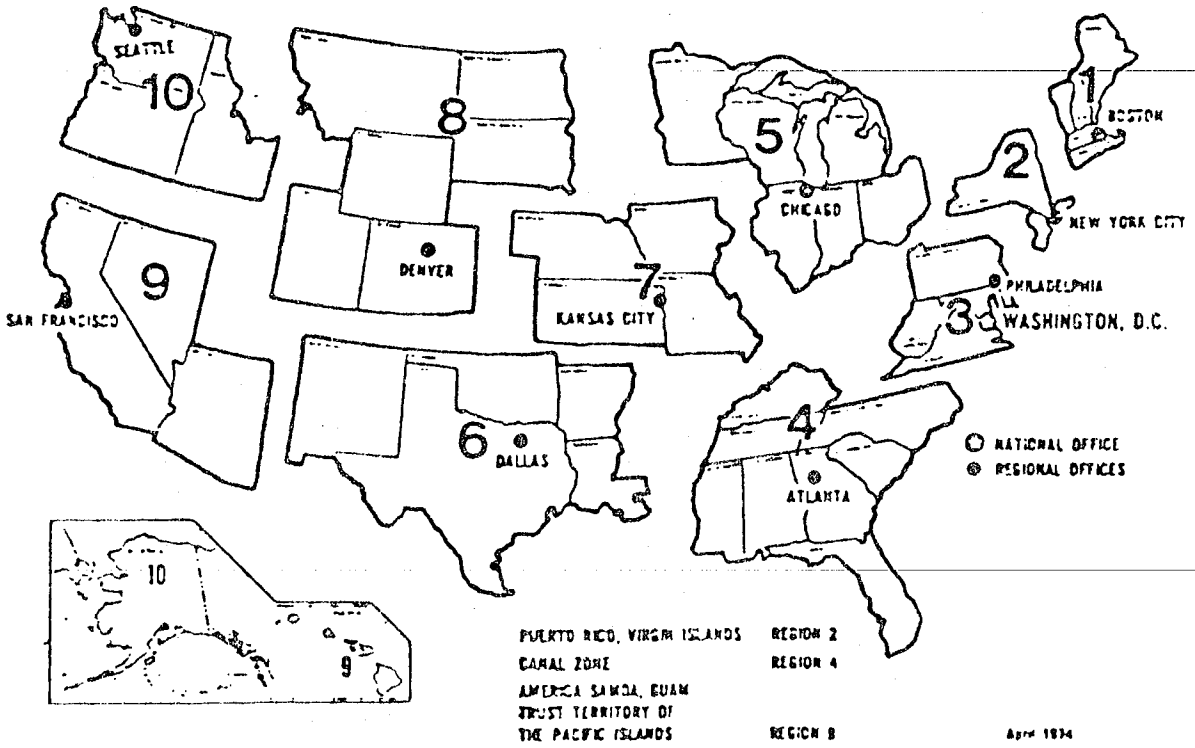
5/ DOE assumed the functions of FEA effective October 1, 1977.

6/ 43 FR 2917, January 20, 1978.

Exhibit I-2 DEPARTMENT OF ENERGY
REGIONAL STRUCTURE



Committee in January 1978. The Subcommittee, which was composed of representatives of industry, consumer organizations, and state energy offices, provided DOE with advice on a number of key issues that affect the middle distillate market. However, the Subcommittee was unable to advise DOE sufficiently on market performance and on the refinement of the index and benchmark methodology. Specifically, because early Subcommittee sessions focused on possible liability, under antitrust law, of some members of the Subcommittee, attention was diverted from the task of advising ERA on the enhancement of the methodologies. Moreover, the Subcommittee was unable to arrive at a consensus on the reasonableness of prices charged and the causes of price increases.

DOE's Office of Fuels Regulation (OFR) performed analyses of the heating oil price data gathered by EIA. OFR's findings on the behavior of prices and margins for home heating oil during the 1977-1978 heating season reflect the market trends that have historically characterized the industry. 7/

7/ No widespread shortages were experienced during the 1977-1978 heating season. Therefore, OFR concluded supplies of home heating oil were adequate to meet demand. However, for those interested in the statistical information on supply, summary information is provided in Appendix A.

The data provided to OFR by EIA consisted of the following: For sales of No. 2 heating oil by refiners to intermediate customers (i.e., wholesalers, retailers, and wholesalers/retailers), EIA provided national and regional data on the average price, the range of prices, and the average gross margin (i.e., the difference between the weighted average of selling prices to intermediate customers and the weighted average cost of purchased product and crude oil for each refiner). For sales of No. 2 heating oil by nonrefiners to intermediate customers, EIA provided national and regional data on average prices, the range of prices, and the average gross margin. For residential sales of No. 2 heating oil, EIA published national, regional and state-level[8/] prices and national and regional average gross margins for non-refiner firms selling to residential users.

Using these data in conjunction with the refiner index and benchmark methodologies to analyze heating oil market behavior, the OFR found that nationally, from June 1977 through March 1978:

- Price increases ranged from 5.2 percent at the retail level to 1.4 percent at the refinery level, with no significant excesses noted in the refiner index;

8/ For those states with significant sales of No. 2 heating oil.

- Large market fluctuations precluded consistently meaningful comparisons between benchmarks and average gross margins on a monthly basis; and

- Although the index and benchmarks were, in fact, calculated and compared with average prices and gross margins, both tools were constrained by methodological and data limitations, some of which are inherent in the calculation of averages.

Each of these overall findings is expanded upon in the remainder of this report.[9/] Specifically, Chapter 2 discusses No. 2 heating oil prices at the various points in the distribution chain. These prices are compared with

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9/ The Federal Register notice which adopted the 1977-1978 home heating oil monitoring system provided that "A final report will be made on or before June 30, 1978, detailing procedures for the calculations of benchmarks for No. 2 heating oil at the wholesaling and retailing levels and containing benchmarks for each month of the current heating season based upon this procedure." It also provided for a study of the marketing of No. 2 heating oil by wholesalers and retailers during the current and prior heating seasons so that trends within the heating oil industry can be identified and their impact on the goals of the Emergency Petroleum Allocation Act of 1973 (EPAA) can be analyzed. This report is separate and distinct from that study which will be developed by an independent contractor and will include not only the causes of any price increases for No. 2 heating oil but also the nature and intensity of competition in the heating oil market and the economic viability of various sectors of that market.

the refiner index price derived from the methodology ERA used to estimate what refiner prices to wholesalers would have been if controls had been in effect for middle distillates during the 1977-1978 heating season. Chapter 3 presents the average gross margins with the benchmarks developed by OFR to serve as reference points. Chapter 4 summarizes the methodology used in this evaluation, and assesses the sufficiency of the data and analytical tools.

CHAPTER II

1977-1978 HEATING OIL PRICES

CHAPTER II

1977-1978 HEATING OIL PRICES

In examining the price behavior of No. 2 heating oil for the 1977-1978 heating season, OFR found that:

- The average price paid by residential customers increased 5.2 percent between June 1977 and March 1978;
- The average increase in the prices wholesalers charged other wholesalers and retailers was 1.6 percent;
- The average increase in prices that wholesalers paid refiners was 1.4 percent; and
- The refiner index was slightly exceeded twice during the heating season and, on average, refiner prices to wholesalers were well below the guideline established by the index.

Residential Customer Prices

Data from the EIA survey of sellers of No. 2 heating oil indicate that nationwide suppliers increased residential heating oil prices on the average 2.4 cents per gallon (5.2 percent). The average national residential price increased from 46.2 cents per gallon in June 1977 to 48.6 cents per gallon in March 1978 (see Exhibit II-1). The average price increases for Region 1 (New England), Region 2 (New York-New Jersey), and Region 3 (Mid-Atlantic), which account for roughly 80 percent of U.S. residential heating oil sales,[1/] were 2.4 cents, 2.4 cents, and 2.6 cents per

---

1/ Regions 4, 6, 7, 8, 9 and 10 account for approximately 10 percent, by volume, of the residential home heating oil sales.

Exhibit II.1

Prices to Residential Customers*
(cents per gallon)

DOE Region	1977			1978			Change: June to March	
	Jun	Nov	Dec	Jan	Feb	Mar	Actual	Percent
1	47.0	48.5	48.9	49.4	49.5	49.4	2.4	5.1
2	46.9	48.1	48.6	49.2	49.3	49.3	2.4	5.1
3	45.8	47.0	47.5	48.1	48.4	48.4	2.6	5.7
4	44.9	46.1	46.6	47.5	47.6	47.7	2.8	6.2
5	44.9	45.7	46.1	46.4	46.4	46.5	1.6	3.6
6	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
7	43.0	44.2	44.5	44.5	45.2	44.4	1.4	3.3
8	44.5	45.4	45.7	45.2	45.5	45.0	0.5	1.1
9	42.3	44.9	44.5	44.7	45.6	47.0	4.7	11.1
10	46.4	47.4	47.3	47.4	47.5	47.7	1.3	2.8
U.S. average	46.2	47.6	47.9	48.5	48.6	48.6	2.4	5.2

SOURCE: Energy Information Administration.

*March data are preliminary.

gallon, respectively. These were among the highest price increases observed. The price increase in Region 5 (Upper Mid-West), which accounts for about 10 percent of residential heating oil sales, was 1.6 cents per gallon (about 3.6 percent), and was among the lowest of the price increases.

Wholesale Prices to Wholesalers and Retailers

Prices on sales of heating oil by wholesalers and retailers to other wholesalers and retailers increased nationwide by 0.6 cents per gallon from June 1977 to March 1978 (see Exhibit II-2). This represents a price increase of about 1.6 percent. The highest price increase noted in this category was 1.0 cents per gallon (2.7 percent) in Region 1. In Region 4 the price decreased by 0.9 cent per gallon, or 2.3 percent.

Refiner Prices to Wholesalers

Refiner prices for sales of heating oil to wholesalers increased nationwide by 0.5 cent per gallon from June 1977 to March 1978 (see Exhibit II-3). This is less than a 1.4 percent increase nationwide.

Refiner sales to wholesalers include rack sales to distributors buying at terminals and refineries, deliveries by refineries to wholesalers with some storage capabilities, and bulk sales by pipeline and vessel. The average price increases

Exhibit II.2

Wholesalers' Prices to Resellers and Retailers*
(cents per gallon)

DOE Region	1977 Jun	1977 Nov	1977 Dec	1978 Jan	1978 Feb	1978 Mar	Change: June to March Actual	Change: June to March Percent
1	36.6	37.5	37.9	37.9	37.7	37.6	1.0	2.7
2	37.0	37.5	37.7	38.1	37.4	37.4	0.4	1.1
3	37.5	38.4	38.4	38.7	38.2	38.4	0.9	2.4
4	39.0	39.0	39.0	37.9	38.7	38.1	(0.9)	(2.3)
5	36.3	36.9	37.5	37.5	36.3	36.3	0.0	0.0
6	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
7	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
8	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
9	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
10	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
U.S. average	**36.4**	**37.0**	**37.5**	**37.8**	**37.5**	**37.0**	**0.6**	**1.6**

SOURCE: Energy Information Administration.

*March data are preliminary.

Exhibit II.3

Refiners' Prices to Wholesalers*
(cents per gallon)

DOE Region	1977 Jun	1977 Nov	1977 Dec	1978 Jan	1978 Feb	1978 Mar	Change: June to March Actual	Change: June to March Percent
1	35.8	36.7	37.1	37.3	36.9	36.9	1.1	3.1
2	35.7	36.6	36.9	37.3	36.9	36.7	1.0	2.8
3	36.6	37.1	37.4	37.6	37.4	37.2	0.6	1.6
4	35.9	35.8	36.3	36.8	36.9	36.0	0.1	0.3
5	36.1	36.9	36.8	36.9	36.7	36.5	0.4	1.1
6	33.4	33.8	33.8	33.7	32.6	32.8	(0.6)	(1.8)
7	35.7	36.3	36.5	36.5	36.1	35.8	0.1	0.3
8	35.3	36.5	36.7	37.1	37.1	36.6	1.3	3.7
9	35.0	35.7	35.8	34.1	35.0	35.0	0.0	0.0
10	35.5	36.2	36.3	36.2	36.0	35.9	0.4	1.1
U.S. average	35.6	36.3	36.6	36.8	36.4	36.1	0.5	1.4

SOURCE: Energy Information Administration.

*March data are preliminary.

in Regions 1, 2, and 3 were 1.1, 1.0, and 0.6 cent per gallon, respectively. The average refiner price increases in other regions were small, ranging from 0.1 cent to 0.4 cent per gallon except for Region 8 (Rocky Mountain), where prices rose 1.3 cents per gallon. In Region 6 (Southwest), prices declined by 0.6 cent per gallon.

To estimate the average price refiners would have charged wholesalers if price controls had been in effect for the period June 1977 to June 1978, a refiner index was developed. The index calculated the increased costs of crude oil, purchased product and nonproduct costs, as well as unrecouped costs from previous months. These average cost increases were added to the weighted average June 1977 price for sales of No. 2 heating oil from refiners to other suppliers.

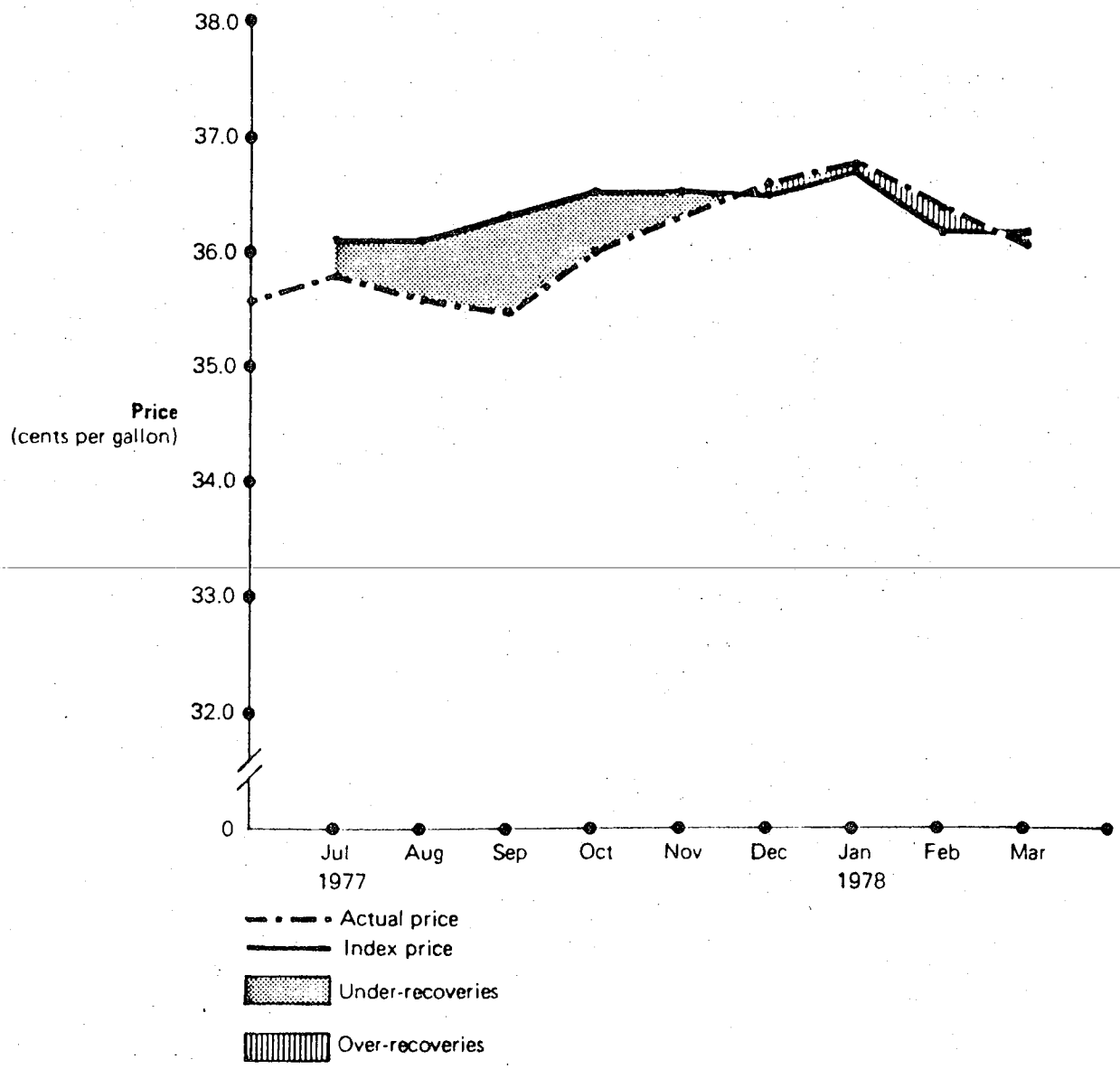
The actual average refiner price to wholesalers was compared with the refiner index for the period July 1977 through March 1978. Over that period, actual prices exceeded the index twice: by 0.1 cent per gallon in December 1977 and by 0.2 cent per gallon in February 1978.

In all other months, the actual price was equal to or below the refiner index price (see Exhibit II-4).

When the allowable cost increases were compared with cost increases recovered for the period July 1977 through March 1978, refiners had an estimated $1.68 million of costs left that could have been passed through. Exhibit II-5 presents this calculation.

Exhibit II.4

National Average Refiner Price to Wholesalers Compared to Refiner Index
(cents per gallon)



SOURCE: Economic Regulatory Administration, Office of Fuels Regulation

* March data are preliminary.

Exhibit II.5

Calculation of Net Under-Recovery by Refiners
For The Period July 1977 Through March 1978
Using the May Base Scenario*

Sales of heating oil to non-ultimate consumers:	2,628.46 million gallons
Increased costs available for pass-through in March 1978 (cents per gallon):	
Crude oil	.486
Nonproduct	.390
Purchased product	–.042
Available bank**	–.270
Total	**.564**

2,628.46 million gallons times .54 cents per gallon =

14.82 million dollars in available costs

Increased cost recovery during March 1978 (cents per gallon):	
Actual price, March 1978	36.1
Actual price, June 1977	35.6
Difference	**0.5**

2,628.46 million gallons times .5 cents per gallon =

13.14 million dollars in cost recovery

14.82 million dollars in costs available for pass-through less

13.14 million dollars in costs actually recovered, =

1.68 million dollars in under-recovery

SOURCE Economic Regulatory Administration, Office of Fuels Regulation

* See Chapter IV for explanation.

** Cumulative over-recovered costs through end of February.

CHAPTER III

1977-1978 HEATING OIL GROSS MARGINS

CHAPTER III

1977-1978 HEATING OIL GROSS MARGINS

Understanding the reasons for variations in residential heating oil prices requires isolating prices at all points in the distribution chain. For purposes of OFR's evaluation, these points are the retail level, defined as all sales to residential accounts; the wholesale level, defined as all sales to intermediate customers by wholesalers and retailers; and the refiner level, defined as all sales to intermediate customers by refiners.

Price variations at all levels of the distribution chain are normally the result of changes in purchased product costs or in gross margins. As previously stated, gross margin is the selling price minus the cost of purchased product (or the average cost of crude and purchased product, for refiners), and includes both nonproduct costs and profit.

To evaluate levels of average gross margins, benchmarks were established for comparison purposes. Benchmarks are a useful analytical tool because they indicate general margin trends and identify abnormal regional changes.

Benchmarks are more useful when they are compared with average gross margins on an annual or seasonal basis as opposed to a month to month comparison. (The constraints involved in using benchmarks as an analytical device are discussed in more detail in Chapter IV.)

A review of average gross margin data and a comparison of the benchmarks with these margins allowed OFR to determine certain aspects of market behavior. Specifically, for the period of June 1977 through March 1978, OFR found:

- Retail gross margins
  - On a national basis, the average increase in retail gross margins was 1.3 cents per gallon, or 13.3 percent.
  - On a regional basis, average retail gross margin increases were not substantially higher than the national average, with the exception of Region 3 where the increase was 1.8 cents per gallon.
  - The average gross margins were generally close to or below the benchmarks, with the exception of Region 10.
- Wholesale gross margins
  - On a national basis, average wholesale gross margins remained relatively constant, actually decreasing by 0.2 cent per gallon, or 14.3 percent.
  - On a regional basis, average wholesale gross margins varied considerably from benchmark calculations.

- The average wholesale gross margins did not correspond to benchmarks as consistently as they did at the retail level. Gross margins in Region I exceeded the benchmark in 3 of the 5 heating-season months, while gross margins in Region 3 exceeded the benchmark in every month. The national average exceeded the benchmark twice, in January and February.

- Refiner gross margins

  - On a national basis, average refiner gross margins remained relatively stable.

  - Most regions experienced marginal changes in refiner gross margins ranging from an increase of 0.6 cent per gallon to a decrease of 0.6 cent per gallon.

Retail Gross Margins

Nationally, average retail gross margins increased by 1.3 cents per gallon from June 1977 to March 1978. On a regional basis, increases in average gross margins ranged from 0.5 cent per gallon in Region 7 to 1.8 cents per gallon in Region 3 (see Exhibit III-1). In general, at the retail level, average gross margins increased gradually through the heating season.

The national average gross margin stayed below the benchmark for the June 1977 to March 1978 period (see Exhibit III-2). The actual average margin increased 1.3 cents per gallon, whereas the benchmark increased 1.6 cents a gallon. For the period November through March, both the average gross margin and the benchmark increased 0.9 cent per gallon.

Exhibit III.1

Comparison of Actual Retail Gross Margins to Benchmarks*
(cents per gallon)

	1977	1978											
DOE Region	June Base Period Gross Margin	November Margin	November B.M.	December Margin	December B.M.	January Margin	January B.M.	February Margin	February B.M.	March Margin	March B.M.	Margin Change: June to March Actual	Margin Change: June to March Percent
1	10.1	10.8 –	11.0	10.8 –	11.3	11.1 –	12.0	11.5 –	11.7	11.4 –	11.7	1.3	12.9
2	10.4	10.9 –	11.3	11.2 –	11.6	11.3 –	12.3	11.6 –	12.0	11.9 –	12.0	1.5	14.4
3	9.1	9.8 –	9.9	10.0 –	10.2	10.2 –	10.8	10.7 –	10.5	10.9 –	10.5	1.8	19.8
4	8.6	9.2 –	9.8	9.4 –	9.9	9.9 –	10.0	10.3 –	10.6	10.2 –	10.4	1.6	18.6
5	8.1	7.7 –	8.9	8.2 –	9.4	8.3 –	9.3	8.9 –	9.0	8.8 –	9.5	0.7	8.6
7	7.0	7.2 –	7.7	7.1 –	8.1	7.7 –	8.1	8.5 –	7.8	7.5 –	8.0	0.5	7.1
10	10.5	11.1 –	10.7	11.1 –	10.8	11.1 –	10.8	11.3 –	10.9	11.7 –	10.9	1.2	11.4
U.S. average	**9.8**	**10.2 –**	**10.5**	**10.4 –**	**10.8**	**10.5 –**	**11.3**	**11.0 –**	**11.1**	**11.1 –**	**11.4**	**1.3**	**13.3**

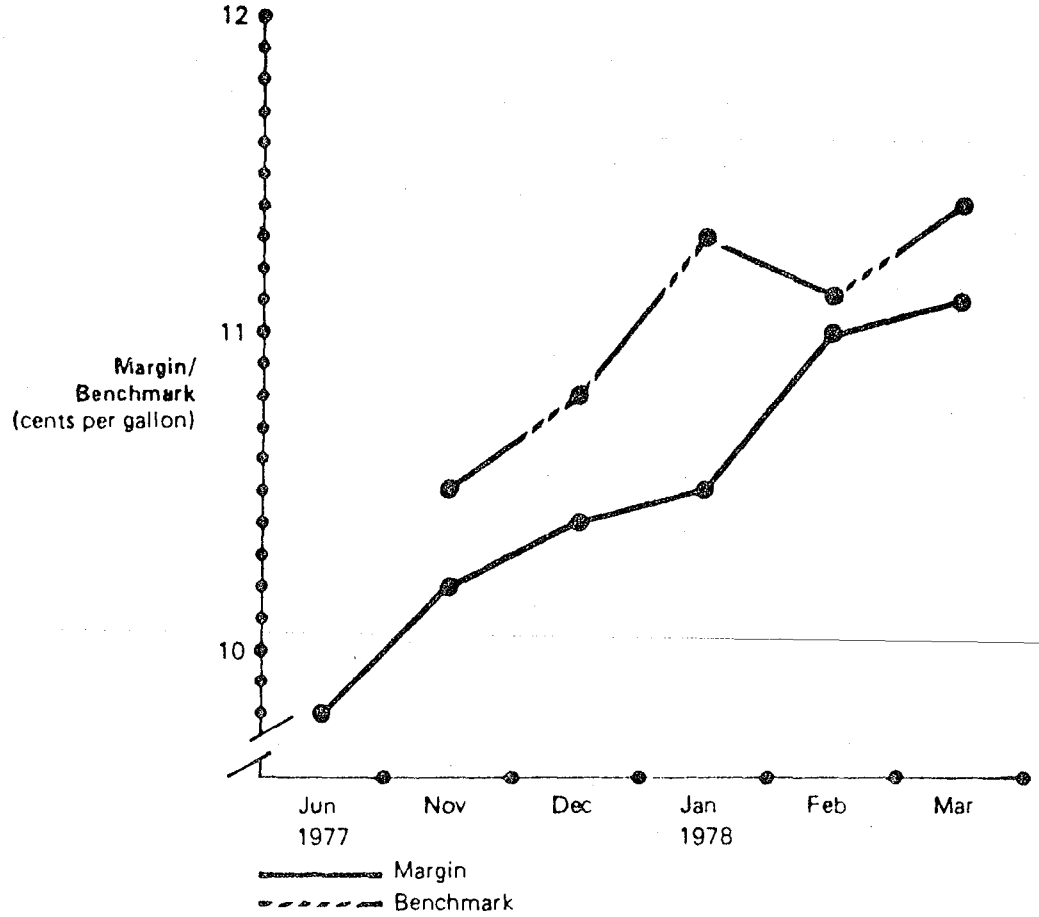
SOURCE: Economic Regulatory Administration, Office of Fuels Regulation (Benchmarks); Energy Information Administration (Margins)

NOTE: Data for regions 6, 8, and 9 were insufficient for statistically valid samples in all months.

*March data are preliminary.

Exhibit III.2

Comparison of Retail (Residential) Margins to Benchmarks*
U.S. Average



SOURCE. Economic Regulatory Administration, Office of Fuels Regulation

* March data are preliminary.

Regionally, average gross margins generally remained below benchmarks except in a few regions. The benchmark was exceeded in Region 3 by only 0.2 cent per gallon in February and 0.4 cent per gallon in March. Average retail gross margins exceeded the benchmark during the entire heating season in Region 10. (This region accounts for less than 3 percent of heating oil residential sales by volume.)

Although the benchmarks were exceeded in Regions 3 and 7 for two months and one month, respectively, the average margins for those regions were far below benchmarks in the preceding or following months. Moreover, where the benchmarks were exceeded, limitations of the benchmark methodology, rather than excessive increases in margins appear to be the cause.

In Region 10 where the benchmarks were exceeded in all heating season months, OFR had a special problem with the treatment of the seasonal factor in the benchmark calculation. A definite seasonal factor for the average gross margin in Region 10 could not be estimated due to the absence of a seasonal pattern over the estimating period, which was January 1974 to March 1977. The OFR, therefore, did not include a seasonal factor in the benchmark for Region 10.

Wholesale Gross Margins

Wholesalers historically have operated on a gross margin of about 1.0 cents to 1.5 cents per gallon. Nationally, average wholesale gross margins remained about the same from June 1977 (1.4 cents per gallon) to March 1978 (1.2 cents per gallon). On a regional basis, changes in average gross margins ranged from a decrease of 0.7 cent per gallon in Region 5 to an increase of 0.3 cent per gallon in Region 3 (see Exhibit III-3).

The national average benchmarks were exceeded in January and February, 1978, but only by 0.1 cent per gallon in both cases. However, average gross margins were above benchmarks on a monthly basis in a number of regions. In Region 1, the benchmark was exceeded from December through February. Once again, the actual margins were only 0.1 cent per gallon over the benchmark in December and January. In February, the benchmark was exceeded by 0.3 cent per gallon. However, the gross margin in Region 1 dropped 0.5 cent per gallon in March, to a level of 0.2 cent per gallon below the benchmark. In Region 3, the benchmark was exceeded by 0.2 to 0.3 cent per gallon in every month. This may be explained by a lower than normal margin in the base period. Specifically, for the June base period, the

Exhibit III.3

Comparison of Actual Wholesaler Gross Margins to Benchmarks*
(cents per gallon)

	1977	1978													
DOE Region	June Base Period Gross Margin	November		December		January		February		March		Margin Change: June to March	
		Margin	B.M.	Margin	B.M.	Margin	B.M.	Margin	B.M.	Margin	B.M.	Actual	Percent
1	1.4	1.4 –	1.4	1.5 –	1.4	1.5 –	1.4	1.8 –	1.5	1.3 –	1.5	(0.1)	(7.1)
2	1.7	2.0 –	1.7	1.4 –	1.7	1.8 –	1.8	1.7 –	1.8	1.5 –	1.8	(0.2)	(11.8)
3	1.2	1.5 –	1.2	1.4 –	1.2	1.4 –	1.2	1.4 –	1.2	1.5 –	1.3	0.3	25.0
4	2.5	2.6 –	2.6	2.0 –	2.6	1.1 –	2.6	1.5 –	2.6	1.9 –	2.6	(0.6)	(24.0)
5	2.0	1.7 –	2.0	1.4 –	2.1	1.5 –	2.1	1.2 –	2.1	1.3 –	2.1	(0.7)	(35.0)
U.S. average	**1.4**	**1.3 –**	**1.4**	**1.2 –**	**1.4**	**1.5 –**	**1.4**	**1.6 –**	**1.5**	**1.2 –**	**1.5**	**(0.2)**	**(14.3)**

SOURCE: Economic Regulatory Administration, Office if Fuels Regulation (Benchmarks); Energy Information Administration (Margins).

NOTE: Data for regions 6, 7, 8, 9, and 10 were insufficient for statistically valid samples in all months.

*March data are preliminary.

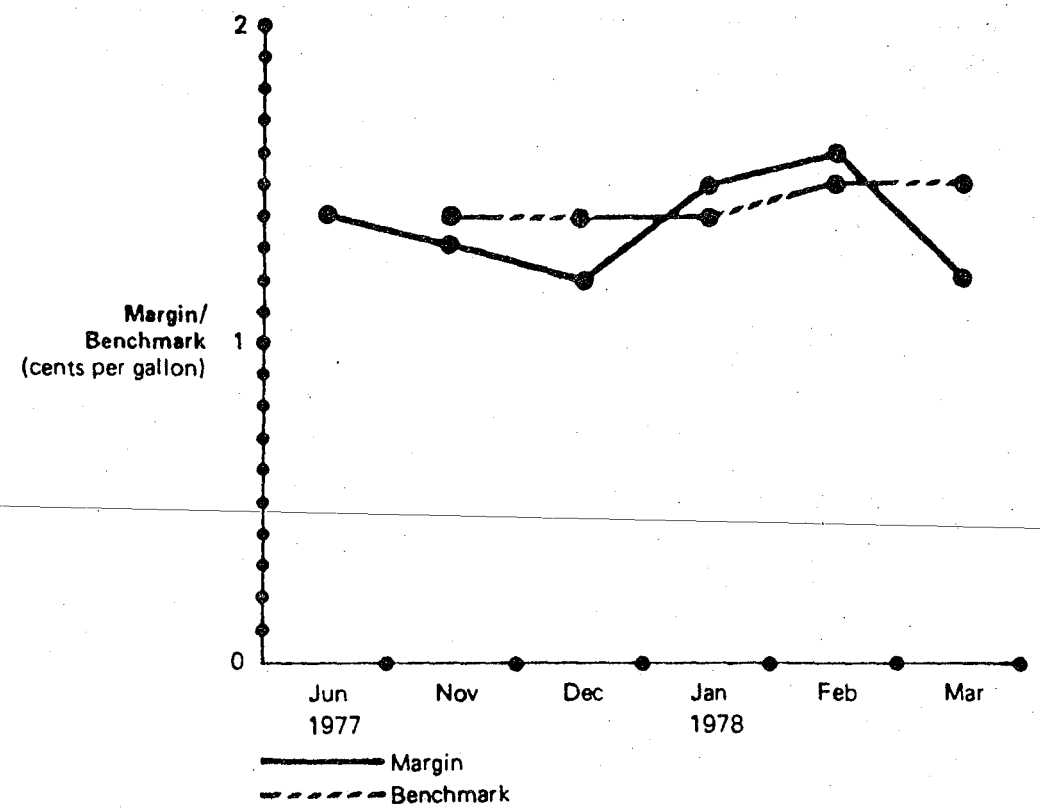
Region 3 gross margin was 0.2 cent per gallon below the the national average and lower than any other region. In a number of instances where the monthly gross margin exceeded the benchmark in a specific month, the gross margin was below the benchmark in either the preceding or succeeding months (see Exhibit III-4).

Refiner Gross Margins

Nationwide, refiner average gross margins remained relatively stable, showing a slight decline (with the exception of January 1978) from June 1977 to March 1978 (see Exhibit III-5). Regionally, except for Region 6, Region 8, and Region 10, changes in gross margins were less than a cent, ranging from an increase of 0.6 cent per gallon in Region 9, to a decrease of 0.6 cent per gallon in Region 4 and in Region 7. In Region 8, the sharp increase in the average March 1978 gross margin of 2.6 cents per gallon over the June 1977 base was due to a substantial decline in the cost of crude to one refiner who received a one-time reimbursement of entitlement costs. The substantial increase of 2.1 cents per gallon in Region 10 was due to the fact that one refiner's crude oil purchase costs were unusually low in a single month. The decline in the average gross margin in Region 6, from June 1977

Exhibit III.4

Comparison of Wholesale Margins to Benchmarks*
U.S. Average



SOURCE: Economic Regulatory Administration, Office of Fuels Regulation

* March data are preliminary.

Exhibit III.5

Refiners' Gross Margins for Wholesale Sales*
(cents per gallon)

DOE Region	1977 Jun	1977 Nov	1977 Dec	1978 Jan	1978 Feb	1978 Mar	Change: June to March Actual	Change: June to March Percent
1	7.0	6.9	7.0	7.7	6.8	7.2	0.2	2.9
2	6.6	6.9	6.7	8.0	7.2	7.0	0.4	6.1
3	7.1	7.6	7.3	8.4	7.6	7.5	0.4	5.6
4	6.9	5.9	6.6	7.0	7.2	6.3	(0.6)	(8.7)
5	6.7	7.0	7.0	6.8	6.6	6.4	(0.3)	(4.5)
6	4.4	3.2	3.6	3.8	2.8	2.9	(1.5)	(34.1)
7	5.7	6.1	6.0	6.8	5.7	5.1	(0.6)	(10.5)
8	8.0	8.6	7.0	7.5	7.7	10.6	2.6	32.5
9	7.0	7.2	n/a	n/a	6.9	7.6	0.6	8.6
10	6.5	7.1	7.0	7.2	6.7	8.6	2.1	32.3
U.S.	**6.5**	**6.6**	**6.5**	**7.3**	**6.6**	**6.4**	**(0.1)**	**(1.5)**

SOURCE: Energy Information Administration.

*March data are preliminary.

to March 1978, was due to a drop in refiners' prices in the Gulf Coast area and a general increase in crude costs.

The refiner gross margin calculation was included in the monitoring system to identify whether residential price increases were attributable to gross margin expansion at the point of production or at subsequent points in the distribution chain. The refiner gross margin calculation served to identify a source of price increases. However, it was inadequate for evaluating refiner price increases, since gross margin increases could not be specifically allocated cost and profit components. Additionally, because of seasonal factors affecting the prices of products, margins on heating oil tend to increase during the fall and winter months.

The regional disparity in refiner gross margin data may not necessarily reflect actual refiner gross margins in those regions because the calculations are based on national crude and nonproduct costs. DOE does not require refiners to report their costs of crude purchases by the regions in which their refineries are located, because much of the crude oil is processed in regions located apart from the major heating oil consumption areas. Therefore, in a

region where the average heating oil selling prices have increased at a rate greater than the national allocation of crude cost increases to No. 2 heating oil, an unusually high regional margin may appear. Because the regional margin is not calculated by using regional costs, the national gross margin is probably a more appropriate measure of refiners gross margins.

CHAPTER IV

THE WHOLESALE AND RETAIL BENCHMARK AND THE REFINER INDEX SYSTEMS

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THE WHOLESALE AND RETAIL BENCHMARK AND THE REFINER INDEX SYSTEMS

In Chapters II and III, OFR presented its factual findings with respect to average prices and gross margins, as well as its calculations of the wholesale and retail benchmark margins and the refiner index prices. It is therefore important to define and explain the use and the limitations of the refiner index and the benchmark methodology.

The index and benchmarks serve as useful analytical tools by identifying general price and margin trends. However, the nature of the heating oil market makes it difficult to develop any statistical tool which accurately reflects short-run market behavior. Therefore, the index and benchmarks were useful for an overall trend analysis and were intended to serve only as general guides in evaluating price and margin behavior over the heating season.

Although the index and benchmarks were calculated and compared with average prices and gross margins (see Chapters II and III), both measurement tools were constrained by methodology and data limitations--some of which are inherent in the calculation of averages.

Specifically, the limitations are:

- For wholesale and retail benchmarks:
  - The methodologies for developing benchmarks for wholesalers and retailers do not allow disaggregation of benchmark margins into specific cost components.
  - The data reporting system was primarily designed to measure average prices, and did not collect nonproduct cost information because of intense industry opposition to such collection.
  - Indicators of general inflation do not necessarily accurately measure increases in operating costs of wholesalers and retailers.
  - The historic variation in seasonality factors reduces the predictability of retail margins and limits the value of the retail benchmarks for single-month comparisons.
- For the refiner index:
  - Several methodological constraints (e.g., base month distortion, purchased product cost allocations, inventory cost accumulation timing) combine to limit its month-to-month reference value.
  - The lack of refinery yield data and the lack of complete nonproduct cost data limit the use of the index to conduct monthly comparisons.

Wholesale and Retail Benchmark

OFR originally proposed two approaches in developing average gross margin benchmarks, both of which were based on June 1977

average gross margins, adjusted for seasonal variations and inflation. In the first approach, the individual nonproduct cost elements were disaggregated and individually adjusted according to available cost indices or other appropriate factors. This approach would have permitted disaggregation and individual adjustment according to available cost indices and other appropriate cost-related factors. It would also have yielded a detailed analysis of price increases and would have reflected increases in different types of nonproduct costs.

However, DOE was not able to obtain sufficient data to isolate and develop appropriate weightings for the individual nonproduct cost elements. The lack of necessary data and the resulting inability to determine the effect of nonproduct cost elements their effect on the proposed benchmark methodology were discussed with the Fuel Oil Marketing Advisory Subcommittee, which was not able to provide OFR with agreed upon recommendations.

OFR thus adopted a second approach in which the overall gross margin was adjusted by a general cost index and a seasonal factor at the retail level (see Appendix C). Under this approach, two key factors were used to calculate the retail and wholesale benchmarks for each month.

The first factor used was the inflation index. For retail gross margins the June 1977 base period margin was inflated by the Consumer Price Index (CPI) for all items excluding food. Since heating oil retailers are generally small, labor intensive businesses, changes in the CPI are generally representative of cost variances at the retail level. On the other hand, the Wholesale Price Index (WPI) for Industrial Commodities was used to inflate wholesale margins. The WPI measures average changes in non-food commodities produced in the primary U.S. market and, thus, relates to the conditions under which wholesalers incur costs. Although general rates of inflation do not correspond directly to the heating oil industry, they were considered to be the most appropriate rates of measure.

The second factor was a seasonal adjustment. Retail gross margins as well as prices of heating oil have historically exhibited seasonal fluctuations. During high-demand winter months, gross margins have increased to recover storage and capital costs incurred during the off-season. To calculate these seasonal fluctuations, OFR used available census regional and national data and the Census Seasonal Adjustment Program. Since census regions do not correspond to DOE

regions, seasonal adjustments for the various DOE regions were approximated.

There are two primary limitations in using the seasonality factor. First, seasonal patterns are highly dependent on the market situation, which is influenced by both weather conditions and industry practices. Seasonal patterns for a given year may not be consistent with average trends of previous years.

Second, the seasonality factor tends to dominate the movement of the benchmark. On a monthly basis, the effect of seasonality is much greater than the effect of inflation on heating oil gross margin trends.

Wholesale and Retail Benchmark Data Limitations

The benchmarks were not designed to evaluate specific, individual wholesale or retail margin changes. Rather, they permit a broader evaluation of aggregate changes. The benchmarks do not permit disaggregation of the average price or gross margin changes that occur to evaluate individual firm prices and margin behavior.

The data collected did not provide operating costs for resellers and retailers which are needed to evaluate increases in gross margins. No current data were

available to permit estimating net margin.[1/] As a result, in order to calculate the wholesale and retail gross margins, the methodology used current month's purchased product costs.

Because the adopted methodology for calculating the average gross margin reflected only current purchased product costs, gross margins may be somewhat understated during periods of increasing product costs, and somewhat overstated during periods of decreasing product costs (see Exhibit IV-1). The differences in inventory accounting approaches, as well as the mix in inventory use versus purchased product in a particular month, can limit the value of a single month's comparison of actual gross margin against benchmark.

The need for more precise data was even more apparent at the wholesale level. Because wholesale heating oil marketing operations vary considerably in size, from

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1/ In order to evaluate nonproduct cost increases of a particular firm a complete audit of that firm would be required. The resulting burden of auditing all firms would be heavy. OFR is of the opinion that this burden should only be imposed after large changes in the gross margins have been detected and statistically evaluated.

Exhibit IV.1

Sample Wholesale Operation
Heating Oil Gross Margins
(cents per gallon)

	Purchased Product Cost (current month)	Inventory Cost* (total weighted average)
November 1977		
Selling price	35.59	35.59
Minus cost	(35.03)	(34.33)
Gross margin	**0.56**	**1.26**
December 1977		
Selling price	36.01	36.01
Minus cost	(36.67)	(35.69)
Gross margin	**(0.66)**	**0.32**
January 1978		
Selling price	36.03	36.03
Minus cost	36.48	36.49
Gross margin	**(0.45)**	**(0.46)**
February 1978		
Selling price	36.09	36.09
Minus cost	(35.80)	(36.15)
Gross margin	**0.29**	**(0.06)**
March 1978**		
Selling price	35.97	35.97
Minus cost	(36.08)	(35.88)
Gross margin	**(0.11)**	**0.09**

SOURCE: Economic Regulatory Administration, Office of Fuels Regulation.

*Beginning inventory plus purchased product for the month.
**Preliminary data.

very large volume deepwater terminal operators to retailers who periodically wholesale much smaller volumes of product, gross margins and operating costs can vary considerably. Therefore, when gross margins for large and small wholesalers are combined, an average results which may be representative of neither. For instance average monthly gross margin fluctuations may be distorted by deepwater terminal operators' monthly fluctuations in sales volumes.

The Refiner Index

The purpose of the refiner index was to provide an estimate of the ceiling prices charged to wholesalers/resellers by refiners that would have been allowed had price controls been in effect. This was accomplished by calculating average increases in crude oil costs, purchased product costs, and nonproduct costs and adding them to the weighted average June 1977 price of No. 2 heating oil to wholesalers. The sum of these components was the index price for a given month.

Refiner Index Methodology Limitations

The refiner index methodology was constrained by three primary factors. First, the use of June as the base month for both price and cost increases, as originally proposed

by OFR (43 FR 2917, January 20, 1978) was inappropriate to meet the intent of the refiner index calculation. In short, using the same base month for prices and costs required that refiners absorb a month's increased costs in June 1977. However, refiners had already absorbed one months costs beginning in 1973 when controls were implemented. OFR found it inappropriate to require refiners to absorb a month's increased costs twice. Therefore, a new index methodology was developed, using a cost base month of May 1977. A detailed explanation of the problem with using June 1977 as the base for increased costs and prices is provided in Appendix B along with the results of two index calculations using May and June base months (Appendix B).

Second, the entire amount of purchased product costs was allocated to non-ultimate consumer sales, even though some purchased product is sold directly to end-users. This deficiency caused the index to be slightly lower throughout the heating season, because the entire amount of purchased product cost decreases was allocated to non-ultimate consumer sales.

Third, inventory cost accumulation began too late in the summer. The heating oil sales season usually ends in March of each year, and in April distillate production normally exceeds demand until November. (See DOE Monthly Energy Review, May 1978, p. 20.) At the same time as refiners build inventories of products, the costs associated with that inventory build-up are being accumulated. However, since the index only began accumulating cost increases in July 1977, refiners lost the opportunity to accumulate three months' "banked" costs (increased costs minus cost recoveries from price increases) for recovery in the next heating season.

Refiner Index Data Limitations

Because of the unavailability of information on production volumes by the refiners of No. 2 heating oil, increased crude oil and nonproduct costs were allocated using volume sold instead of volumes produced, as required by the revised pricing regulations. Since distillate sales are lower than production in summer, these costs are under-allocated during the summer. As a result of distillate sales exceed production in the winter, these costs are overapplied in the winter. (See DOE Monthly Energy Review, May 1978, p. 20.) This distorts the guideline price from month to

month, but over the entire heating season, the impact is reduced by averaging (see Exhibit IV-2). Another problem with the use of sales volumes is that they include sales of gas plant production by integrated firms that have crude oil refineries and gas plants. This results in a lower ratio of heating oil sales to total sales, thus under-allocating both crude oil and nonproduct costs.

A second limitation is the lack of data on refiners' operating costs specifically for sales of heating oil. The EIA collects operating costs for controlled products directly from refiners, but not for decontrolled products. Therefore, the EIA estimates operating costs for heating oil on the basis of the data collected. OFR acknowledged this limitation when the index formula was published. However, the EIA estimates were considered to be close approximations of the actual nonproduct costs for heating oil incurred by refiners, and it was a method with a regulatory basis that was generally consistent with the current pricing regulations.

Exhibit IV.2

Example of Effect of Different Cost Allocations*

Increased crude oil and nonproduct costs are allocated to different types of regulated products in the following way:

Production basis:

$$\frac{\text{Production volume of the regulated product}}{\text{Production volume of all products}} \times \text{cost increases}$$

or

Sales basis:

$$\frac{\text{Sales volume of the regulated product}}{\text{Sales volume of all products}} \times \text{cost increases}$$

Allocators (in barrels):	**June**	**July**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	**Jan**
Production basis	.25	.25	.25	.25	.25	.25	.25	.25
Sales basis	.0625	.0625	.0625	.1176	.2105	.3478	.40	.4642
Cost increases	$100	$102	$104	$106	$108	$110	$112	$114
Solution:				Allocation times cost increases =				
Production basis	25	25.50	26	26.50	27	27.50	28	28.50
Sales basis	6.25	6.38	6.50	12.47	22.73	38.26	44.80	52.92
Total for period:								
Production basis	**$214.00**							
Sales basis	**$190.30**							

SOURCE: Economic Regulatory Administration, Office of Fuels Regulation.

* Figures are hypothetical, for illustrative purposes only.

APPENDICES

APPENDIX A

MIDDLE DISTILLATE SUPPLY AND DEMAND

During the 1977-1978 heating season, supplies of No. 2 heating oil were adequate to meet demand, and no widespread shortages were experienced.[1/] Middle distillate demand is met by refinery production, imports, and stock drawdowns. For the period of November 1, 1977, to March 31, 1978, there was an average of 49 days of supplies in inventory.

November 1977 inventories of middle distillates represent the highest accumulation of stocks over the past five years. Stocks of middle distillates are accumulated during the non-heating season when refineries normally reduce their heating oil yields. However, they maintain a high level of crude oil runs to meet high motor gasoline demand and consequently produce middle distillate in excess of immediate demand.

1/ Based on DOE data through December 1977 and the latest available data for January through March 1978.

2/ The average days of supply is calculated by dividing the average daily demand into average month-end stocks. This calculation does not include the variables in production and imports that can contribute to meeting demand. Any incremental contribution that these sources of supply make to meeting demand would obviously extend the number of days of supply in inventory.

Stocks generally peak in October and November and decline as they are drawn down during the heating season. During the past heating season stocks remained higher each month than they had for the corresponding period of the previous year, averaging over 25 percent higher than 1976-1977 heating season.

Average daily production of middle distillates during the winter heating season by domestic refiners traditionally begins to decline as demand begins to decline in February and March. Refinery production for this past heating season remained higher than the historical norm for the months of October, November, and December as refiners continued to build up inventories and then remained relatively stable for the last three months of the heating season, reflecting both a higher level of demand and higher volume of supplies in inventory. Average daily production for this year's heating season was 3,131 MB/D which was slightly lower than last heating season's daily production average.

Domestic refinery capacity utilization during the period of maximum middle distillate demand remained generally lower than it has for the past two years averaging an 86 percent utilization of available refinery capacity. Generally, a capacity utilization factor of 90 percent is considered the

maximum sustained production capacity of the domestic refining industry, although individual refineries can operate at higher production rates for short periods of time.

Imports of middle distillates generally averaged 5 percent of total domestic demand during the heating season. For the past heating season imports were 87 percent below the previous year and this reflects the generally high level of stocks and production that was maintained through the 1977-1978 heating season.

Demand for middle distillates averaged 4,217 MB/D during the 1977-1978 heating season which was slightly less than the 4,325 MB/D average demand experienced in the 1976-1977 heating season. The demand for middle distillates typically accelerates during the first three months of the heating season, generally peaking in January and then declining. As a result of the national coal strike, demand for middle distillates, one of the replacement fuels for coal, remained higher than normal during the latter part of this past heating season. The past two winters have been generally colder than normal. Middle distillate demand increased nearly 10 percent in 1976 over 1975 and by about 7 percent in 1977 over 1976. However, demand for the past heating season was about 2.5 percent less than for the prior heating season in spite of the increased demand caused by the coal strike.

APPENDIX B

RATIONALE FOR ALTERNATIVE REFINER INDEX

The decision to develop a second refiner index, with May 1977 as the base month for calculating cost and price increases, was a result of OFR's review of the first refiner index calculation that used June 1977 as the base month. Specifically, OFR found that the purpose of the refiner index -- to determine what the refiners' price of heating oil would have been if controls had remained in effect -- was being frustrated by the use of June 1977 because refiners, in effect, had to absorb one month's worth of cost increases. Under the index, refiners were not allowed to pass through increased June costs in the month of July, the month in which a small price increase had occurred.

Refiners had already absorbed at least one month's cost increases at the beginning of controls. Under the pricing regulations, May 1973 was the base month for both cost and price increase calculations. When the original Cost of Living Council's Phase IV regulations began in August 1973, any costs not reflected in May 15, 1973 prices could not be recovered after August 1973 when price increases could be justified only by cost increases incurred during the preceding month.

Therefore, the use of the original index would require refiners to absorb an additional month's cost increases beyond what they had absorbed at the beginning of price controls. This was not the intention of the refiner index.

It was thus decided to use two parallel indexes -- a May base scenario and a June base scenario -- to indicate the contrast between the results of the index as published (June base scenario), and what was considered an index more closely correlated to the pricing regulations (May base scenario). The following hypothetical example illustrates the two indices.

May base for cost, June base for price
(In cents per gallon)

	May	June	July	August
Actual Price	15	15	16	16
Index Price			17	17
Actual Cost	10	12	12	13

June base for cost, June base for price
(In cents per gallon)

	May	June	July	August
Actual Price	15	15	16	16
Index Price			15	15
Actual Cost	10	12	12	13

With May as a cost base and June as a price base, July index prices were allowed to reflect June's increased costs. With June as a cost base as well as a price base, July index prices had to remain the same.

B-4

Exhibit B.1

Refiners' Indexes and Actual U.S. Average Prices to Non-ultimate Consumers
(cents per gallon)

Month	Indexes		Actual Price	Difference* From May Scenario
	May Scenario	June Scenario		
1977				
June	–	–	35.6	–
July	36.1	35.6	35.8	0.3
August	36.1	35.3	35.6	0.5
September	36.3	35.1	35.5	0.8
October	36.5	35.1	36.0	0.5
November	36.5	34.8	36.3	0.2
December	36.5	35.0	36.6	(0.1)
1978				
January	36.8	34.7	36.8	0.0
February	36.2	33.7	36.4	(0.2)
March	36.2	33.1	36.1	0.1

SOURCE: Energy Information Administration.

*Negative number indicates index was exceeded.
March data are preliminary.

APPENDIX C

RETAIL AND WHOLESALE BENCHMARK METHODOLOGY

$$B_{rt} = M_r (PI_t)(SF_{rt})$$

where

B_{rt} is the benchmark margin* for month t in Region r

M_r is the gross margin for June 1977 in Region r

PI_t is the price index ratio: month t vs June 1977:

For Retail: CPI (Less Food)
For Wholesale: WPI (Industrial Commodities)

SF_{rt} is the seasonal factor for month t in Region r;

For Retail: See Exhibit C-1
For Wholesale: SF = 1.0

r is the DOE Region

t is the month under consideration

---

* As defined by 43 FR 2917, January 20, 1978.

Exhibit C.1

Retail Seasonality Factors*

DOE Region	1977 November	1977 December	1978 January	1978 February	1978 March
1	1.07	1.09	1.15	1.12	1.11
2	1.07	1.09	1.15	1.12	1.11
3	1.07	1.09	1.15	1.12	1.11
4	1.12	1.12	1.13	1.19	1.16
5	1.07	1.13	1.12	1.08	1.12
7	1.07	1.13	1.12	1.08	1.12
10	1.00	1.00	1.00	1.00	1.00
U.S.	1.05	1.07	1.12	1.10	1.11

SOURCE: Economic Regulatory Administration, Office of Fuels Regulation

* Based on gross margin data for January 1974 to March 1977.

☆ U. S. GOVERNMENT PRINTING OFFICE : 1978 261-325/598

APPENDIX J

ANALYSIS OF FORMULAS USED BY THE MDS

This Appendix has not been completed, and will appear in the final report.

APPENDIX K

OMB CLEARANCE REQUEST FOR THE MDS

Supporting Statement for the form
FEA-P112-M-2: No. 2 Heating Oil
Supply/Price Monitoring Report

(1) Justification

(i) In order to formulate and implement national energy policy and to ensure that unreasonable profits are not accrued by petroleum firms, it is essential that Congress, the FEA, and other federal agencies have access to detailed, accurate, comprehensive, and up-to-date information on No. 2 heating oil prices and costs in the United States. The FEA No. 2 Heating Oil Supply/Price Monitoring Report is the vehicle designed by FEA to collect this information on heating oil. The specific legislative requirements are as follows:

1. The Federal Energy Administration Act of 1974, (the FEA Act) Public Law 93-275, May 7, 1974, as amended by P.L. 94-332, June 30, 1976, and P.L. 94-385, August 14, 1976, Section 5, Functions and Purposes of the Federal Energy Administration states that:

   (a) "...the Administrator shall be responsible for such actions as are taken to assure that adequate provision is made to meet the energy needs of the nation. To that end, he shall make such plans and direct and conduct such programs related to the production, conservation, use, control, distribution, rationing, and allocation of all forms of energy as are appropriate in connection with only those authorities or functions--" as authorized by the FEA Act, the President or the Congress.

   (b) To the extent authorized by the FEA Act, the Administrator shall--

      (1) Sec. 5(b)(4) "develop plans and programs for dealing with energy production shortages;"

(2) Sec. 5(b)(5) "promote stability in energy prices to the consumer, promote free and open competition in all aspects of the energy field, prevent unreasonable profits within the various segments of the energy industry, and promote free enterprise;"

(3) Sec. 5(b)(9) "collect, evaluate, assemble, and analyze energy information on reserves, production, demand, and related economic data;"

2. To facilitate such data collection;

(a) Sec. 13(a) of the FEA Act directs the Administrator to: "...collect, assemble, evaluate and analyze energy information by categorical groupings, established by the Administrator, of sufficient comprehensiveness and particularity to permit fully informed monitoring and policy guidance with respect to the exercise of his functions under this Act.

(b) Sec. 13(c) of the FEA Act empowers the Administrator to require energy suppliers to supply "reports or answers in writing to such specific questions, surveys, or questionnaires as may be necessary."

3. Sec. 52(a) of the Federal Energy Administration Act (P.L. 93-275 as amended by P.L. 94-385) requires that the Director of the Office of Energy Information and Analysis "establish a National Energy Information System ... which shall contain ...such information as is required to provide a description of and facilitate analysis of energy supply and consumption within and affecting the United States on the basis of such geographic areas and economic sectors as may be appropriate to meet adequately the energy information needs of..." the FEA, the Congress, and other federal agencies. The statute in Sec. 52(b) provides that such data collection should include at a minimum the information that is "necessary to carry out the Administration's statistical and forecasting activities..."

4. Sec. 11(a) of the Energy Supply and Environmental Coordination Act of 1974 (ESECA, P.L. 93-319 as amended by P.L. 94-163) requires that the Federal Energy Administration "shall request, acquire and collect such energy information as he determines to be necessary to assist in the formulation of energy policy..." in order to ensure that the FEA, the Congress, the states and the public have access to reliable energy information. The term "energy information" is defined in Sec. 11(e)(1) of ESECA to include "matters relating to energy and fuels, such as... costs, prices,...and other matters directly related thereto." The authority contained in Sec. 11(g)(1) of ESECA is "in addition to, independent of, not limited by, and not in limitation of, any other authority of the Federal Energy Administrator."

5. On July 1, 1976, middle distillates were exempted from the Mandatory Petroleum Price and Allocation Regulations (decontrol). However, Section 12(f) of the Emergency Petroleum and Allocation Act of 1973 (EPAA, P.L. 93-159, as amended by P.L. 94-99 and P.L. 94-163), provides that following the exemption of any product from regulation, FEA shall have the authority at any time to reimpose price and allocation controls if necessary to attain the objectives of the EPAA. For this reason, FEA adopted amendments which stay the effectiveness of the allocation and price regulations as they would otherwise apply to middle distillates without deleting those regulations from the Code of Federal Regulations. They are in effect converted to standby status, so that they may be quickly put into effect in the event of shortages or other occurrences, such as excessive price increases, which might require reimposition of controls.

   The No. 2 Heating Oil Supply/Price Monitoring Report is designed to provide the data necessary for the FEA to execute its role in monitoring certain volumetric, cost, margin, and price movements for No. 2 heating oil within the petroleum industry and perform analyses and projections related to supplies, demands, margins, and prices.

The FEA-P112-M-2 is designed to supersede form FEA-P112-M-1, No. 2 Heating Oil Supply/Price Monitoring Report because greater statistical accuracy for measuring profit margins is required than is currently available to the FEA to "prevent unreasonable profits within the various segments of the energy industry" (FEA Act, Section 5(b)(5).

The FEA is in the process of revising the middle distillate post-exemption monitoring system on the basis of experience gained during the 1976-77 heating season, and on comments received from the petroleum industry, state governments, the GAO and consumer groups. Among the criticisms made of the No. 2 heating oil trigger mechanism were two that have necessitated the P112 revision:

Criticism: Use of the four Census regions forced geographic aggregations that were to broad.

FEA Proposal: A residential heating oil trigger will be calculated at the FEA regional level for all regions. FEA regions were chosen for three reasons: (1) they are the most disaggregated of standard governmental regional classifications; (2) they provide reasonable approximations to heating oil marketing areas; and (3) they faciliate the administration of the survey by the FEA regional offices. The sampling universe will be expanded to provide statistically valid state average prices, for those states with significant sales of residential heating oil. This will necessitate augmentation of the sample for those states and calculation of base residential prices. State averages will be used to respond to consumer inquiries about heating oil prices but will not be used to compare against index values.

Criticism: The system of weekly updates to the trigger and survey prices based on monthly sales volumes was too confusing and also introduced additional statistical reporting errors.

FEA Proposal: The system of weekly index prices calculations will be eliminated. Monthly calculations will be continued. Index values and survey prices will be published two months after the month to which they pertain. This approach should work to reduce the statistical reporting error.

(ii) The data collected on the No. 2 Heating Oil Supply/Price Monitoring Report will be used by FEA for several purposes:

1. to execute its role in monitoring certain volumetric, cost, margin and price movements for heating oil within the petroleum industry and perform analyses and projections related to heating oil supplies, demands, margins, and prices;

2. to determine policy formulation;

3. to report to the Congress, the President, the public as required by the Act; and

4. to support FEA's forecasting activities.

(iii) Data on No. 2 heating is currently collected by the FEA on form FEA-P112-M-1, No. 2 Heating Oil Supply/ Price Monitoring report. The FEA-P112-M-2 is intended to supersede the FEA-P112-M-1 form, Schedules A0 to A1. Schedule A2, Telephonic Survey, has been eliminated. A separate revision clearance request will be submitted for the standby Schedules B and C to the FEA-P112-M-1 (R0411).

The Bureau of Labor Statistics collects No. 2 heating oil data for the Consumer and Wholesale Price Indexes. However, the BLS data does not provide individual company detailed data and the BLS data is not as comprehensive as is required by the FEA to monitor decontrol.

The FEA-P302-M-1, "Petroleum Industry Monthly Report for Product Prices" collects aggregate national data on volumes and prices of all covered products from refiners and gas plant operators and from resellers and retailers with annual sales of $50 million or more of all covered products. If any firm is required to file both the FEA-P302-M-1 form and the No. 2 Heating Oil Supply/Price Monitoring Report, they are to provide No. 2 heating oil data to the FEA only on the more comprehensive heating oil form.

(2) Description of Survey Plan

(i) The FEA-P112-M-2 universe will consist of an updated listing of No. 2 heating oil refiners and marketers who responded to the historical market share surveys (forms FEA-P305-S-0: Refiner/Importer Historical Report of Petroleum Product Distribution and FEA-P308-S-0: Historical Survey of Propane Distillate Fuel Oil and Residual Fuel Oil to Ultimate Consumers). This is basically the same universe used for the form FEA-P112-M-1.

(ii) A stratified sample of companies will be drawn from the universe described above. The strata will be the same as that used for the form FEA-P112-M-1; however, the number of companies selected from strata 2 and 3 has changed.

Stratum 1 will consist of all companies reporting national total annual sales of 10,000,000 gallons or more of No. 2 heating oil. There are approximately 200 of these companies and they will all be included in the sample. These firms account for approximately 80 percent of total sales of No. 2 heating oil.

The remaining companies in the universe will be sequenced by state.

Stratum 2 will consist of those companies having sales of 2,000,000 to 10,000,000 gallons of No. 2 heating oil. There are approximately 1,200 companies in this stratum and they will be sampled by state.

Stratum 3 will consist of those companies having annual sales of under 2,000,000 gallons of No. 2 heating oil of which there are approximately 6,000 firms.

The total sample from Strata 1 through 3 will consist of approximately 2,000 firms.

A detailed cover letter and the FEA-P112-M-2 form and instructions will be mailed to every selected firm upon approval by GAO. The form will be required to be filed no later than 20 days after the close of the calendar month in which the form is approved and each calendar month thereafter.

(iii) N

(3) Tabulation and Publication Plans

The data collected, reviewed and tabulated by the FEA will be used to provide prices and distribution costs for FEA's Short Term Petroleum Product Price Forecasting Model. The data will also be disseminated in several FEA publications ("Monthly Energy Review", "Monthly Petroleum Product Price Report", "Quarterly Report to Congress", "Monthly Report to the President"), FEA press releases, and upon request made to FEA. The data will be displayed within Region and by national average. It will aggregate average purchase price and average selling price and margins for residential, institutional and utility, and industrial classes of customers. Public disclosure of information in Section 14 of the Act requires the Administrator to make public, on a continuing basis, any statistical and economic analysis data, and information necessary to keep the public fully and currently informed.

(4) Time Schedule for Data Collection and Publication

The firms and instructions will be mailed to the selected respondents as soon as the form is approved by GAO and is printed. The selected respondents must submit the form by the twentieth day of the month following the report month. (See Section 2, Description of Survey Plan.) The elapsed time between the completion of data collection by and the issuance of the first published results should be approximately two months.

(5) Consultations Outside the Agency

As the form itself has not been revised with the exception of a deletion of the telephonic survey the 'Consultations Outside the Agency' submitted with the request for clearance of the FEA-P112-M-1 are applicable to the FEA-P112-M-2.

(6) Estimation of Compliance Burden

The compliance burden for the form FEA-P112-M-2 is calculated based on the previous form FEA-P112-M-1 which was 4.9 manhours for Schedules A0 and A1 and 1 hour for the telephonic survey Schedule A2. Therefore the total estimated annual respondent burden for the FEA-P112-M-2 is 5 hours X 2,000 respondents X 12 months = 120,000 manhours.

As for the form FEA-P112-M-1 the compliance burden is not expected to vary because of differences in respondent size. Any differences appear to be a function of bookkeeping procedures and the understanding of the regulations.

(7) Estimate of Cost to the Federal Government

The estimated annual cost to the Federal Government for the FEA-P337-M-0 is as follows:

(a)	Printing of forms	$ 4,800.00	
(b)	Mailing of forms	3,200.00	
	Sub-total (one time cost)		$ 8,000.

(d)	Data collection, prevalidation, editing	$101,376.00	
(e)	Keypunching	76,898.00	
(f)	System Operating Cost	264,000.00	
	Sub-total (operation costs)		$442,274.00
Total Annual Cost of Operation			$450,274.00

(8) Provisions for Confidentiality of Information

As stated in Section 11(d) of the Energy Supply and Environmental Coordination Act of 1974 (P.L. 93-319) data will be treated as confidential "upon a showing satisfactory to the Federal Energy Administration by any person that energy information obtained under this section from such person would, if made public, divulge methods or processes entitled to protection as trade secrets or other proprietary information of such person, such information, or portion thereof shall be confidential in accordance with the provisions of section 1905 of Title 18, United States Code".

The following statement will be printed in the FEA-P112-M-2 instructions:

> "You may consider some of the information requested on this form to be confidential commercial information which FEA should withhold from public disclosure, because its release will cause substantial competitive injury. If you believe that any information is covered by the exemption to the Freedom of Information Act (5 U.S.C. 552) disclosure requirements for trade secrets and confidential commercial information contained in 5 U.S.C. 552(b)(4), and if you do not wish FEA to disclose such information to the public, you should immediately inform FEA by letter prior to making the submission of this form. The letter must 1) cite briefly and specifically, by item number, which information you believe is confidential commercial information 2) state that release of the information would be likely to cause substantial competitive injury resulting

from release of each item and explain the basis of this statement and 3) explain whether each item of information which you believe is confidential is customarily treated as confidential by your company and in your industry. FEA needs a detailed explanation of the competitive injury resulting from public disclosure - rather than a general assertion of injury - before it can evaluate or accept claims of confidentiality. FEA retains the right to make its own determination with regard to any claim of confidentiality.

If we do not receive a request, with substantive justification, that the information submitted not be released to the public, the FEA may assume that you do not object to disclosure to the public of any information submitted by your company on the form."

APPENDIX L

LIST OF STATES FOR WHICH AVERAGE PRICES ARE REPORTED ON THE ENERGY DATA REPORT

APPENDIX L

LIST OF STATES FOR WHICH AVERAGE PRICES ARE REPORTED ON THE ENERGY DATA REPORT

Alaska	New Hampshire
Connecticut	new Jersey
Delaware	New York
Washington, D.C.	Ohio
Idaho	Oregon
Illinois	Pennsylvania
Indiana	Rhode Island
Maine	Vermont
Maryland	Virginia
Massachusetts	Washington
Michigan	West Virginia
Minnesota	Wisconsin

APPENDIX M

FUEL OIL MARKETING COMMITTEE WHITE PAPER

WHITE PAPER

ON THE

COMPETITIVE VIABILITY

OF THE

INDEPENDENT FUEL OIL MARKETER

PREPARED BY

THE FUEL OIL MARKETING ADVISORY COMMITTEE

DEPARTMENT OF ENERGY

DECEMBER 5, 1977

THE FUEL OIL MARKETING ADVISORY COMMITTEE

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*Asterisk denotes members of the Subcommittee responsible for the preparation of this White Paper.

The entire contents of this paper were developed, written and prepared for presentation to DOE by members of the special Subcommittee of the Fuel Oil Marketing Advisory Committee. The viewpoints and opinions contained herein are solely those of the authors and should not in any way be construed as reflecting the position or opinion of DOE and/or ERA.

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Executive Summary

At the request of the Senate Subcommittee on Intergovernmental Relations of the Senate Committee on Governmental Affairs, the Department of Energy ("DOE") appointed an ad hoc Subcommittee composed of members of the Fuel Oil Marketing Advisory Committee to identify the relevant issues affecting the independent marketer of middle distillates and to explain how those issues affect the competitive viability of that segment of the industry. The Subcommittee was charged with developing a White Paper on its findings and views for presentation to the full Committee at its regularly scheduled meeting on December 5, 1977. The Subcommittee has, pursuant to its mandate from DOE, included within the Paper recommendations for legislative and regulatory action.

The Subcommittee was assisted in its preparation of the White Paper by representatives of DOE and complied fully with the requirements of the Federal Advisory Committee Act.*/ The members of the Fuel Oil Marketing Advisory Committee unanimously accepted the findings, conclusions and recommendations at the December meeting.

Part I: Conclusions

Competitive Viability of Independent Fuel Oil Marketers

1. Profitability of wholesale and retail marketers has declined substantially since 1974; every analysis indicates that

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*/ Federal Advisory Committee Act, P.L. 92-463 as amended by P.L. 94-409, 5 U.S.C. App. I.

it will continue to do so. This decline in profits has been a result of increases in costs that far exceed increases in margins at both levels of distribution.

2. There is strong competition in the home heating oil market on both the independent wholesale and retail levels. While competition maintains a downward pressure on home heating oil prices and thereby benefits the consumer, it does limit severely the costs which a marketer may recover.

3. Retail marketers are experiencing severe cash flow problems because of the ever-increasing time period between the issuance of home heating oil bills and receipt of payment from homeowners. These delays adversely affect the dealers' ability to meet their financial commitments to their refiner-suppliers for product.

4. As a result of increased costs, suppliers are modifying historical terms of sale, shortening payment periods and eliminating discounts. During the period of controls and the period of continuing threats of reimposition of controls, few are willing to take on new distributor customers. The net effect is a restriction of the financial flexibility of oil dealers.

5. The financing of inventory and equipment has become significantly more difficult, due to inflated product prices and an absence of an adequate return on equity.

6. Since competition and government intervention do not permit wholesale and retail marketers to recover substantial non-

product costs, on a short-term basis, marketers are reluctant to carry large inventories and incur storage costs. Despite the nation's need for fuel oil reserves, current conditions make accumulation of such reserves far more difficult.

7. The government regulated pricing of natural gas and electricity at unrealistically low levels of price compared to alternate fuels has continued to provide these heating fuels a competitive advantage over fuel oil.

8. All regions of the country are experiencing increased rates of attrition among heating oil marketers. Economic pressures render small retailers the most vulnerable to bankruptcy, merger, or voluntary dissolution because they do not generate enough dollars of margin to cover expenses and make a reasonable return, even if their unit costs, investments and profits are at an efficient level. However, companies of all sizes are becoming less viable.

Part II: Conclusions

Impact of Federal Regulations on Independent Marketers

This Part concludes that:

1. Congress has mandated that DOE promulgate energy programs which protect the independent marketer, foster competition, and ensure an efficient distillate distribution system. To date Agency action has not accomplished the objectives of that mandate and the viability of independent marketer and his capability to distribute vital distillate supplies to all sectors of the United

States economy has been adversely affected by governmental regulations and control.

2. Enforcement practices of DOE have been unreasonable and injuriously inconsistent because the regulations themselves have been complex, vague and extremely difficult for a small businessman to understand.

3. The blanket preference given to small refiners in the entitlements program results in an anticompetitive advantage for those marketers supplied by subsidized refiners who are able to undercut sale prices of independent marketers supplied by non-subsidized refiners.

4. Continued Federal controls on some refined products, while others are unregulated, distorts the marketplace by prohibiting the historical seasonal cost allocation among products made by refiners.

5. Implementation of a monitoring/indexing system would seriously weaken the independent wholesale and retail marketer by forcing the marketer to absorb non-product costs actually incurred. The threat of implementation alone weakens the independent marketer's financial viability because banks are restricting credit terms and refraining from making additional loans because of the possibility that marketers may be tied to a per gallon mark-up in an inflationary economy.

6. Reporting and recordkeeping requirements imposed by DOE on the small marketer contribute to the increased costs of operating a fuel oil marketing business.

Fuel Oil Marketing Advisory Committee

Recommendations

To insure that independent wholesalers and retail marketers of middle distillates remain a viable and competitive force in the petroleum industry and are able to efficiently distribute distillate to consumers as mandated in the Emergency Petroleum Allocation Act, the Federal Government should:

1. Abandon proposals for any additional monitoring and indexing of middle distillate prices at all levels of distribution for this Winter. Prior to its Spring hearings on middle distillate prices, DOE should prepare a study or arrange for a study to be prepared by an acceptable, independent party which presents an in-depth analysis of profitability, return on sales and assets of independent wholesale and retail marketers of middle distillates and compare those results with wholesalers and retailers in other industries. The study should be conducted on a confidential basis and results should be used by the Agency as determinative of future need for monitoring and indexing.
2. Establish a program of loan guarantees and financial support for retail marketers who are experiencing cash flow difficulties because of aging accounts receivable.

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3. Provide tax credits for marketers who build additional storage facilities and for home-owners who install storage tanks with a capacity of 550 gallons or more.
4. Eliminate the small refiner bias and eliminate additional entitlement subsidies granted small refiners.
5. Develop a closer coordination with the Environmental Protection Agency on the issue of Strategic Petroleum Reserves for refined products. Conduct a study to weigh the benefits of expanded marketer and consumer storage in light of the existing and proposed environmental regulations which are impeding the expansion of secondary and tertiary storage facilities.
6. Prior to submission to the Office of Management and Budget for clearance, DOE should publish all forms in their entirety (including instructions) in the Federal Register and allow adequate opportunity for public comment. Upon review of the comments submitted, the Department should more diligently make specific findings that the form is not unduly burdensome to small businessmen

and that the information solicited is unavailable from another source in the government. Any form which is to be distributed to ten or more respondents for purposes of general information gathering or used in the course of individual investigations should be approved according to this procedure.

7. Decontrol motor gasoline and aviation fuels so that price distortions which inordinately raise the price of distillate fuels do not occur in the market.

8. Support the deregulation of natural gas and electric utility rate reform so that home heating oil is not placed at a competitive disadvantage with regard to these alternate fuels.

9. Implement a more even-handed approach to audits of independent marketers, particularly on sales made during the early period of the regulatory program. Refrain from initiating additional audits of that period, close pending audits of that period and resolve issues involving retroactive application of regulations in favor of the marketer. Resolution of those cases should be expedited.

10. Apply rules, rulings and interpretations of regulations prospectively only. The

Congressional intent to prohibit retroactive enforcement of the regulations should be immediately implemented with regard to all pending and future audits. Compliance personnel nationwide should immediately be advised as to this policy.

11. Permit auditors to compromise amounts of overcharges determined, as is done by other enforcement agencies. Such authority is recommended by the Task Force on Compliance and Enforcement (July 15, 1977) and would permit DOE to assess the impact that restitution to the market would have on the marketers' viability, pursuant to the agency's Congressional mandate.

12. Permit the crediting of overcharges against undercharges in subsequent or previous pricing periods so that marketers are not compelled to make restitution twice.

13. Immediately establish a three year statute of limitations, similar to that established by the Internal Revenue Service regulations, on pricing and allocation regulatory violations from their inception in 1973.

Preface

At the request of the Senate Subcommittee on Intergovernmental Relations of the Senate Committee on Governmental Affairs, the Department of Energy ("DOE") appointed an ad hoc Subcommittee composed of members of the Fuel Oil Marketing Advisory Committee to identify the relevant issues affecting the independent marketer of middle distillates and to explain how those issues affect the competitive viability of that segment of the industry. The Subcommittee was charged with developing a White Paper on its findings and views for presentation to the full Committee at its regularly scheduled meeting on December 5, 1977. The Subcommittee has, pursuant to its mandate from DOE, included within the Paper recommendations for legislative and regulatory action.

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---

*/ Federal Advisory Committee Act, P.L. 92-463 as amended by P.L. 94-409, 5 U.S.C. App. I.

Part I

Competitive Viability of Independent Fuel Oil Marketers

I. Introduction

The purpose of this White Paper is to describe the current financial and regulatory situation facing the vast majority of independent fuel oil marketers throughout the country, and the future viability of these marketers. Part I discusses current profitability and competition, reduction of the number of independents in the home heating oil market, credit terms given marketers by their refiner and other suppliers, accounts receivable and difficulties of financing inventories. Part II addresses the impact of government regulation on the marketers' operations.

In brief, both parts demonstrate that the profitability of fuel oil marketers has declined since 1974 as a result of recent and unusual market forces and government controls, and that unless this trend is halted, a large number of independents will be unable to remain in business, with a resulting reduction in the number of competitors. In the long run, the homeowner will benefit from a healthy and competitive fuel oil industry and this requires adequate profit incentives to encourage needed investment and continued efficiency in the industry.

II. Description of Marketers

As of January 1, 1977, 12,167,067 homes in the United States use middle distillate as their primary energy source for heating.*/ These customers are served by approximately

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*/ "Exclusive Special Report: State Breakdown 1976-Distillate Oil Burner Installations, and Oil-Fired Boilers, Furnaces and Separate Burners," Fuel Oil and Oil Heat, (November, 1977).

7,200 to 8,000 independent marketers.*/ These marketers operate at both the wholesale and retail levels of distribution. At retail, the marketer's primary business is the delivery of home heating oil in trucks to individual residences. At wholesale, the primary business is the selling of oil "at the rack" to retail marketers. Within this paper both are referred to as "marketers". If information deals solely with those who sell at either wholesale or retail, the level of distribution is specified.**/

A. Retail Marketers

For purposes of this Paper the Fuel Oil Marketing Advisory Committee has adopted the following classification for retail marketers according to the number of residential accounts serviced and the number of gallons sold annually.

Small company:	Less than 1,000 accounts and sales under 1.5 million gallons.
Medium company:	1,000-3,000 accounts and sales of 1.5-4.5 million gallons.
Large company:	More than 3,000 accounts and sales of more than 4.5 million gallons.

A typical retail marketer has the following characteristics:

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*/ National Oil Jobbers Council.

**/ In the petroleum industry marketers are referred to as jobbers, dealers, resellers or distributors.

Table 1 */

	New England	Mid-Atlantic	North Central	South East	Pacific Northwest
Trucks owned & operated	2½-3	2½-3	2½	2½-3	4
Gallons (millions) sold	2-2½	1-1½	1½	1	1½
Employees	4-6	4-6	5-6	6	5

B. Wholesale Marketers

The wholesale sector of the industry varies considerably; as a result there is no "average" wholesale marketer. Wholesale marketers operate a variety of distribution systems, including deepwater terminals, pipeline terminals, barges and terminals on inland waterways, trucks, small inland storage facilities served by pipeline and truck. Sales of middle distillates by such companies range from several million gallons annually to more than 500 million. Most wholesale marketers of middle distillates also engage in retail sales.

III. Explanation of Supportive Data

Extensive data on the independent segment of the middle distillate market and on the trends in profitability are not generally available due to the fact that a majority of fuel oil businesses are

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*/ Information derived from directors of the following retail fuel oil marketers' trade associations: New England Fuel Oil Institute, Fuel Oil Merchants of New Jersey, Northwest Petroleum Association, North Carolina Oil Jobbers Association, Oil Heat Institute of Oregon and National Oil Jobbers Council.

small, privately held firms. However, several reports have been written on these topics, and it is the opinion of the Fuel Oil Marketing Advisory Committee that these reports are generally accurate and correctly represent the trends in the industry. Therefore, the Committee has incorporated them within its discussion and relies upon them to support its conclusions and recommendations.

IV. Wholesale and Retail Fuel Oil Market Highly Competitive

During the past 5 years independent marketers have increased their penetration of the home heating oil market. The "FEA Findings and Views concerning the Exemption of Middle Distillates From the Mandatory Petroleum Allocation and Price Regulations" (June 15, 1976) stated that independent branded and non-branded marketers in the aggregate increased their market share of middle distillate sales from 54 percent in 1972 to approximately 58 percent in 1975.

It is reasonable to assume that this trend continued during the past year as a result of the decision by a number of refiners, particularly two major ones, to divest themselves of direct home heating oil operations. The decline in these direct refiner marketers since 1972 is in large part attributable to basic competitive trends and the fundamental orientation of the home heating oil industry toward local service and responsiveness to local supply/demand conditions.

The following chart*/ indicates the trend toward increased independent market shares in all regions through 1975.

Table 2

Regional Market Shares of Refiner and Independent Marketers of Distillate Fuel Oil

Census Region	Year	Refiner Sales	Independent Marketer Sales**/	Total
Northeast	1972	27.7	72.3	100.0
	1973	27.6	72.4	100.0
	1974	28.3	71.7	100.0
	1975	25.2	74.8	100.0
North Central	1972	53.7	46.3	100.0
	1973	51.7	48.3	100.0
	1974	52.5	47.5	100.0
	1975	45.1	54.9	100.0
South	1972	51.8	48.2	100.0
	1973	49.0	51.0	100.0
	1974	50.9	49.1	100.0
	1975	43.9	56.1	100.0
West	1972	61.9	38.1	100.0
	1973	59.4	40.6	100.0
	1974	61.6	38.4	100.0
	1975	58.3	41.7	100.0

In a more recent study conducted by Professor Jesse W. Markham of the Harvard Graduate School of Business Administration on the market share of independents in the New England area, it was found that 14% of the market was sold by integrated refiner-

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*/ "FEA Findings and Views concerning the Exemption of Middle Distillates from the Mandatory Petroleum Allocation and Price Regulations" (June 15, 1976).

**/ Chart reflects only retail sales.

marketers, 86% by independent retailers, the largest of which controlled no more than 1.5% of the total market.*/ Professor Markham used this data to analyze competition within the New England home heating market. He found ". . . the New England retail fuel market is effectively controlled by competition. . .". He noted that not only does the structure of the market lead to competition, but it is competitive as to price as well; the most frequent reason customers gave for switching suppliers in recent years was price:

> An analysis of customers lost by one of the largest non-refiner retailers in New England for the period 1973-1977 shows that by far the most frequent reason given for switching to another retailer was price. Out of a basic customer list of about 40,000 the company loses from 900 to over 1,600 each year for reasons of price. When it is considered that the typical residential customer usually prefers to maintain a continuing relationship with its fuel oil supplier, an annual shift of up to 4% of a customer base to other retailers for reasons of price is indicative of substantial price competition at the retail level.**/

The study examined data collected in light of accepted criteria employed by antitrust agencies, pertinent Congressional committees and market analysts generally for examining competition. It concluded that the structure and conduct of the New England retail heating oil industry demonstrates the presence of

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*/ Statement of Jesse W. Markham, Charles E. Wilson Professor of Business Administration, Harvard Graduate School of Business Administration, on "Post-Exemption Monitoring of Middle Distillate Prices," Washington, D. C., (October 26, 1977).

**/ Ibid., pages 3 and 5.

strong competitive forces. In such a competitive market a dealer cannot always recover all the cost increases he has incurred.

Examination of the wholesale market for home heating also reveals the presence of strong market forces. Independent wholesale marketers sell approximately 25% of the home heating oil distributed on the East Coast and 40% of the home heating oil sold in New England.*/ These independents provide a viable alternative supply for the independent retailer and their presence exerts strong competitive pressure on the price of home heating oil at the "rack" or wholesale level.

It should be noted that competition is not the only factor prohibiting the independent marketer from recovering all of the costs he incurs. This Paper identifies five factors which are preventing such cost recovery.

First, the marketer's selling price is affected by the direct residential sales of certain suppliers who may be subsidizing such sales by other aspects of their business.

Second, governmental controls or the open threat of reimposition of such controls has restricted the marketer's recovery of costs. The impact of Federal regulations will be discussed in Part II.

Third, as is discussed in the next section, many homeowners are unable to pay their heating bills currently and aging accounts

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*/ Data supplied by the Independent Fuel Terminal Operators Association.

receivable deprive the marketer of the cash flow necessary to operate his business efficiently. Since homeowners are unable to pay bills currently it may be assumed they would have even greater difficulty meeting their obligations if retail prices were increased to reflect more accurately the costs incurred by marketers.

Fourth, as prices have risen consumers have lowered their thermostats and conserved energy. This reduction in sales volumes restricts a marketer's passthrough of costs significantly. While in many industries a marketer would increase his margin to reflect such a loss, the fuel oil marketer customarily maintains his lower margin in hopes of recovering the lost volume by attracting new customers. However, it is becoming increasingly obvious that the small independent marketer will have to increase his margin in order to remain viable or merge with another company to gain increased volume in order to recover his expenses.

Fifth, government regulations establish artificially low price ceilings for natural gas and permit the subsidization of residential electrical rates. As a result, fuel oil marketers are forced to restrict their margins further in order to compete with these alternate fuel sources.

All of these factors are contributing to the rapid decline of the independent marketer and are discussed in more detail below.

V. Marketers' Profitability has Declined

Professor Philip L. Cooley of the University of South Carolina, in his "Profit Analysis of Fuel Oil Marketers," exam-

ined financial data of independent fuel oil marketers collected for the years 1974, 1975 and 1976, and found that the profitability of an independent home heating oil business had declined significantly.*/ Specifically, he noted that the average fuel oil marketer had approximately $2 million in sales revenues annually, and that from 1974 to 1976 the portion of each dollar spent by a marketer to obtain heating oil had increased from approximately 81 cents to 83 cents. He explained that this increase in cost of goods resulted in a lessening of gross margin dollars available to the marketer to cover operational expenses; thus despite the efforts of the average marketer to reduce those expenses, net income has continued to decline. Further, marketers have been unable to pass through the higher costs of goods sold to their customers because of intense competition in the market and other factors.

He also reviewed the question of profitability in terms of return on equity and concluded that there has been a substantial decline:

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*/ Cooley, Philip L., Professor of Finance, Profit Analysis of Fuel Oil Marketers, (Columbia, South Carolina, October 1977).

Note: The Committee recognizes that Professor Cooley's study relied heavily on information from the East Coast and may not be totally accurate for the nation as a whole. However, the Committee believes that while some figures might change if a larger sample group were used, the trends in profitability would remain the same.

Table 3 */

Return on Equity

1974	1975	1976
13.3%	11.3%	10.0%

It is well recognized that the larger the return on equity the more likely a company will be able to attract additional external capital, to retain earnings and pay dividends. Without adequate return on equity, the funds will not be available for refurbishing plant and equipment and supporting necessary increases in working capital.

Professor Cooley has also examined trends in profitability by other methods--profit margins and return on assets. All showed a deteriorating profit picture. The chart below vividly demonstrates this trend.

Table 4 **/

Trends in Financial Characteristics of Petroleum Marketers

Method of Evaluation	Heating Oil Marketers 1974	1975	1976
1. Profit Margin	1.6%	1.3	1.2
2. Return on Assets	5.8%	4.9	5.0
3. Return on Equity	13.3%	11.3	10.0
4. Total Asset Turnover	3.6x	3.7	4.0
5. Inventory Turnover	14.7x	15.8	19.4

*/ Cooley, Philip L., Financial Characteristics of Petroleum Marketers (Columbia, South Carolina: PMEF 1977, 1976 and 1975, at Page 14.

**/ Cooley, Philip L., Financial Characteristics of Petroleum Marketers, supra, at page 14.

He further compared his findings to profitability trends in other industries and found fuel oil marketers far less profitable than their counterparts. He concluded:

> If such [profitability] trends continue, the price of freedom in running a small business will become too high; fuel oil marketers will then sell out or liquidate and engage in other wage-earning activity.

A similar analysis of independent retail marketing operations throughout the United States was conducted by Fuel Oil and Oil Heat magazine.*/ It found that while dealers sold approximately 10% more fuel oil during the last heating season than the year before, profit margins did not keep pace with costs and profits declined:

> Margins increased 8%--but the total cost of business went up even more (13%). The net result was that profits were down by 8%.**/

Following are some of the tables and data supporting that analysis:***/

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*/ Mantho, Margaret, "Profits Sag During 76-77 Season", Fuel Oil and Oil Heat, (September 1977).

**/ Id., page 35.

***/ Of the companies surveyed, 77% operated bulk plants while the remaining 23% did not.

Table 5

Profit Analysis
(in cents)

	New Eng.	Metro N.Y.	Other Mid-Atl.	So. Atl.	Mid-west	West	All Sec.
Bulkplant Cost	.77	1.17	.91	1.04	.71	1.03	.91
Delivery Cost	2.58	3.21	2.69	3.76	2.83	3.07	2.93
Selling Cost	1.18	1.29	.87	.71	.90	.73	.93
General Overhead	3.90	2.96	3.02	1.63	2.26	2.89	2.87
Total Cost	8.43	8.63	7.49	7.14	6.70	7.72	7.64
Margin	9.99	10.65	9.31	8.37	8.08	9.18	9.31
Profit	1.56	2.02	1.82	1.23	1.38	1.46	1.67

Profit Analysis
(continued in cents)

	- - -By Cities- - -			- By Company Sizes -		
	Large	Medium	Small	Large	Medium	Small
Bulkplant Cost	.82	.72	1.11	.85	1.05	.76
Delivery Cost	3.25	2.59	2.68	3.02	2.63	2.41
Selling Cost	.99	.87	.90	1.10	.84	1.01
General Overhead	3.23	3.06	2.18	3.51	2.45	2.35
Total Cost	8.29	7.24	6.87	8.48	6.97	6.53
Margin	9.71	9.05	8.57	9.93	8.72	8.81
Profit	1.42	1.81	1.70	1.45	1.75	2.28

Historical Comparisons

	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
Bulkplant Cost	.34	.37	.41	.42	.55	.52	.58	.69	.68	.75	.91
Delivery Cost	1.56	1.50	1.68	1.66	1.88	1.84	2.35	2.63	2.61	2.54	2.93
Selling Cost	.76	.65	.59	.74	.58	.61	.76	.88	.72	.96	.93
General Overhead	1.30	1.61	1.50	1.76	1.76	1.80	1.92	2.06	2.01	2.53	2.87
Total Cost	3.96	4.13	4.18	4.58	4.77	4.77	5.61	6.36	5.82	6.78	7.64
Margin	5.44	5.64	5.90	6.16	6.50	6.93	7.49	8.34	8.24	8.59	9.31
Profit	1.48	1.51	1.72	1.58	1.73	2.16	1.88	1.98	2.42	1.81	1.67

Companies without Bulkplants

	New Eng	Metro N.Y.	Other Mid-Atl	Mid-West	West 1976	All Sec. 1975
Delivery Cost	3.31	3.75	3.59	2.76	3.34	3.02
Selling Cost	.88	1.72	.83	.70	1.01	1.24
General Overhead	4.08	3.23	2.82	2.32	3.08	3.31
Total Cost	8.27	8.70	7.24	5.78	7.43	7.57
Margin	10.60	11.09	8.83	7.26	9.34	9.72
Profit	2.33	2.39	1.59	1.48	1.91	2.15

Profit Analysis
(continued in cents)

Companies without Bulkplants (continued)

	- - -By Cities- - -			- By Company Sizes -		
	Large	Medium	Small	Large	Medium	Small
Delivery Cost	3.33	3.05	3.68	3.25	3.71	3.01
Selling Cost	1.31	.73	.68	1.06	1.03	.99
General Overhead	3.15	3.37	1.62	3.57	2.96	2.36
Total Cost	7.79	7.15	5.98	7.88	7.70	6.36
Margin	10.61	9.53	7.59	9.31	9.61	8.91
Profit	2.82	2.38	1.61	1.43	1.91	2.55

IN THIS ANALYSIS__

A large city is over 250,000 population
Medium city: 25,000 to 250,000
Small city: under 25,000
A large company has more than 3,000 customers
Medium company: 1,000 to 3,000 customers
Small company: under 1,000 customers

However, it should be noted that while marketers sold approximately 10% more fuel oil during the 1976-1977 heating season than the year before, there has been a reduction in total gallons sold from 1972-73 to 1976-77. Fuel Oil and Oil Heat estimates that, due primarily to conservation, the average

homeowner reduced his consumption from 1,463 gallons in 1972-73 to 1,371 gallons in 1976-77--a drop of more than 6%, despite the record cold of last Winter. The article states:

> Our average American homeowner paid $638.88 for oil last season. He naturally squawked because he had been a lot more comfortable back in 1973 when he paid $316 for his heating.
>
> Much of his spleen was vented on the fuel oil dealer who presented the bill. But the rest of the numbers tell how unjustified this anger was. In 1973, the dealer made $109.58 on the average account. He made more last season, $126.64; but what happened? His cost per customer rose from $82.07 to $104.74 and the net dropped from $27.51 to $22.90.

Fuel Oil and Oil Heat also examined dealer unit gross profit margins [*/] as a percentage of the price of oil, and concluded that these have been drastically reduced since 1973. Pre-embargo margins were approximately 35% of the retail price of fuel oil and by 1977, they have dropped to 20%.

Price Waterhouse & Co. recently completed a survey of retail margins throughout the New England area. [**/] The results of that survey follow:

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*/ Defined as the difference between the cost of product and the selling price.

**/ Study commissioned by the New England Fuel Institute (August 3, 1977).

Table 6

Gross Margins as a Percentage of Retail Selling Price

October 1, 1974 - March 31, 1975	24.2%
October 1, 1975 - March 31, 1976	22.8%
October 1, 1976 - March 31, 1977	21.6%

The wholesale cost of fuel oil has more than doubled since 1973 and costs have risen approximately 27%. Gross margins have increased by only about 24%; therefore the retail profit margin per customer before taxes has steadily declined during this period, as demonstrated in the following tabe:*/

Table 7

Retained Earnings Before Taxes

Per Customer	1973	1976	1977
Average Consumption	1463 gallons	1249 gallons	1371 gallons
Price	x21.6 cents	x40.7 cents	x46.6 cents
Annual Billing	$316.00	$508.34	$638.88
Margin	7.49 cents	8.59 cents	9.31 cents
Margin Income	$109.58	$107.29	$127.64
Cost	$ 82.07	$ 84.69	$104.74
Profit before Taxes	$ 27.51	$ 22.61	$ 22.90

Even more significantly, as the above tables demonstrate, the dealers' net profit margins**/ have been drastically reduced since 1973. Prior to 1973 net margins were approximately 8.7% of the

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*/ Mantho, Margaret, "Profits Sag During 76-77 Season", supra.

**/ Defined as the selling price minus cost of product and all non-product costs (i.e. costs of operation), before payment of taxes.

retail price of fuel oil and by 1977, they dropped to 3.6%. Thus on a 50 cent product the retail dealer currently makes a net profit (after taxes) of between 1/2 and 1 cent--surely one of the lowest returns of all American business.

In response to Federal Energy Administration's ("FEA") Federal Register Notice regarding "Post-Exemption Monitoring of Middle Distillate Prices", 42 F.R. 27936 (July 26, 1977), the Independent Fuel Terminal Operators Association conducted a confidential survey of its members' margins for wholesale sales of home heating oil. The survey covered the last four years and produced the following results:*/

Gross margins (difference between cargo and rack price)

- Remained virtually the same, as an absolute number, over the entire four years.
- Were identical, as an absolute number, during the last year of controls (ending June 30, 1976) and the first year of decontrol (ending June 30, 1977).
- Declined in each year, as a percentage of the selling (or rack) price. Over the four-year period the net margin, as a percentage of the selling price, decreased by 18.4%.

Net Margins (after deduction of all operating expenses)

- Fluctuated unevenly within a narrow range, as an absolute number, over the entire four years.
- Declined by 14.3% from the year ending June 30, 1973 to the year ending June 30, 1977.

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*/ Statement of the Independent Fuel Oil Terminal Operators Association before the Federal Energy Administration hearings on "Post-Exemption Monitoring of Middle Distillate Prices," (August 3, 1977).

- Declined by 33% from the last year of controls (ending June 30, 1976) to the first year of decontrol (ending June 30, 1977).
- Increased only once, from the year ending June 30, 1975 to the year ending June 30, 1976. During both years, FEA controls were in effect.

On the East Coast most wholesale marketers of middle distillates are also marketers of residual fuel oil; historically income from these latter sales has made a significant contribution to the marketer's financial position. However, in recent years, non-utility consumption of residual fuel oil has declined sharply on the East Coast.*/ Income from residual fuel oil sales has declined significantly, and its contribution to the financial viability of wholesale marketers has been substantially diminished.

Professor Cooley, Fuel Oil and Oil Heat magazine, Price Waterhouse & Company and the Independent Fuel Terminal Operators Association studies demonstrate independently that profitability is sharply and steadily declining for the independent marketer on both the wholesale and retail level. This is especially the case with unit profitability, since selling prices have not kept pace with product and nonproduct cost increases.

VI. Aging Accounts Receivable Restrict Marketers' Cash Flow

In addition to incurring substantial increased product and non-product costs, the independent retail marketer has been experiencing substantial difficulty in obtaining payment

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*/ United States Bureau of Mines, Department of the Interior.

of bills from his customers. As the cost of living goes up, the average homeowner is finding it increasingly burdensome to pay for home heating oil. Assuming that an average oil-heated household burns between 1350 and 1640 gallons of oil annually, at 50 cents per gallon, that is a cost of $675 to $820 per year. Fuel oil costs have more than doubled since OPEC began increasing crude oil prices in 1973 but the income available to the homeowner has not correspondingly increased.*/ Therefore, the homeowner takes far more time in paying his bill. Prior to 1973 he may have paid within 30 days; he now pays in 30-60 or 60-90 days.

Professor Cooley estimates that the average collection period has increased 13.2 percent nationwide from 1974 through 1976.**/ Yankee Oilman, a heating oil publication, also issues reports on the average collections periods of retail marketers. Recently it has shown a more dramatic picture in New England: 35% of all bills are paid between 30 and 90 days and more that 25% are paid in more than 90 days.***/

While payment may be extremely difficult for the homeowner, its consequences for the retail marketer are devastating. To the extent that bills are outstanding for more than

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*/ An examination of retail fuel oil prices in New York, New Jersey and Pennsylvania from May 15, 1973 until November 1977 shows that the average selling price was 21.77 cents per gallon in 1973 and had risen to 49.99 by 1977.

**/ Cooley, Philip L., Financial Characteristics of Petroleum Marketers, supra.

***/ Yankee Oilman is a monthly publication of the New England Fuel Institute.

30 days, a marketer is forced to borrow money to meet his own financial commitments to his wholesale suppliers. If he cannot pay within 30 days, that supplier may refuse to provide further product unless it is purchased on a C.O.D. basis. And if the dealer cannot come up with the cash, he may lose his supply volumes entirely.

Below is a report on the aging of accounts receivable for the six New England States as of October 1, 1977 and aggregate data for the entire East Coast:*/

Table 8

	Days			
	0-30	31-60	61-90	91+
Connecticut	46.9%	14.2%	7.1%	31.8%
Maine	46.2	16.1	10.3	27.4
Massachusettes	53.9	10.5	4.4	31.2
New Hampshire	42.0	8.1	2.0	47.9
Rhode Island	28.1	19.0	12.5	40.4
Vermont	43.3	18.9	3.5	34.3
New England Average	48.9	14.4	5.0	31.7
East Coast Average	63.0	8.0	4.0	25.0

It is extremely difficult for retail marketers to remain viable when a substantial percentage of accounts receivable are older than 30 days--far more difficult than for

*/ Figures compiled by Yankee Oilman from its own survey of marketers, a survey by Petrodata Services and The First New Haven National Bank. Yankee Oilman surveys approximately 133,000 accounts monthly, Petrodata surveys 700,000 accounts and The First New Haven National Bank surveys 115,000 accounts.

competing utilities. If a utility account ages beyond a certain point, the utility, after providing adequate notice, terminates service. The homeowner has no alternative supplier of energy; to avoid such a cut-off, he must pay his bill. However, the retail heating oil dealer is not a monopoly. If he threatens to terminate service for non-payment, the homeowner can turn to other retail fuel oil marketers. In the metropolitan Boston area alone there are some 518 dealers in the yellow pages who can supply the same product. Many of these dealers do not have sophisticated credit interpreting information and are unable to determine if a homeowner is indebted to another dealer. Frequently, a homeowner is able to obtain the necessary supply of fuel oil to his home while creating a long line of uncollectable debts.

Unpaid bills are also a greater problem for home heating oil marketers than competing utilities because the price of home heating oil has increased more sharply than that of natural gas, which is held at artificially low levels by Federal and state regulations. This is also true with regard to electrical utilities in certain regions of the country.

In brief, a substantial number of homeowners are simply unable to pay for a commodity the price of which has suddenly doubled in price. Even in an inflationary economy, such an increase is jolting. While almost all other commodities have increased approximately 35% over the past 4 years, oil has risen 112%. The fuel oil marketer, more than any other merchant, has felt the consequences of this increase.

Recently, marketers began expanding two systems to alleviate the accounts receivable problem--a "late charge" for accounts not paid within 30 days and a "12-month budget payment" program. The late charge is a substantial change in credit terms and homeowners have not reacted favorably to its institution. While such a charge may alleviate some of the cash flow problems, a more positive step is the aggressive action by many retailers to establish budget payment programs. Through these programs, homeowners pay their heating bills over a twelve month period. It forces the homeowner to allocate Summer dollars to Winter problems but eliminates the staggering heating bills during the winter. By easing the method of payment to the homeowner, the retailer is able to collect more of the revenues due. It should be recognized, however, that widespread adoption of these programs will not resolve all of the retailers' problems.

VII. Increased Labor Costs

Fuel oil delivery is a labor intensive business; drivers are obviously essential to the operations of the retail marketer. A significant cost increase experienced by marketers has been in wages paid to these drivers. In the last ten years the hourly wage has more than doubled. As the table below indicates, during the 1976-77 heating season, the driver's wage was 0.78 cents per gallon of fuel oil delivered. */

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*/ Mantho, Margaret, "Profits Sag During 76-77 Season", supra.

Table 9

DRIVER COST PER GALLON

	Gallons De-livered Per Hour*	Drivers' Hourly Wage	Driver Wage Per Gallon
New England	815	$5.47	0.67 cents
Metro N.Y.	829	7.49	0.90
Other Mid-Atl.	752	5.46	0.73
South Atl	642	4.28	0.67
Midwest	681	5.58	0.81
West	724	7.09	0.98
ALL SECTIONS			
1977	750	$5.87	0.78 cents
1967	685	2.86	0.42

*These are production figures achieved during peak winter months. The wage per gallon is based only on the hourly wage.

Another measure of the adverse impact on fuel oil dealers is found in the relationship of hourly wages to dealer's margins. As shown in the following table, the hourly wage has been growing at a faster rate than the margins and is thus steadily eating into those margins and contributing to the reduction in net profits.

Table 10 */

MARGINS RELATED TO DRIVER WAGE
(in cents)

	Average Margin	Average Hourly Rate	Index
New England	9.99	$5.47	1.83
Metro N.Y.	10.65	7.49	1.42
Other Mid-Atl.	9.31	5.46	1.71
South Atl.	8.37	4.28	1.96
Midwest	8.08	5.58	1.45
West	9.18	7.09	1.30
CITY SIZES			
Large	9.71	$6.30	1.54
Medium	9.05	5.21	1.74
Small	8.57	5.01	1.71
ALL SECTIONS			
1977	9.31	$5.87	1.59
1967	5.44	2.86	1.90

This escalation of labor costs is expected to continue in the years ahead, and will substantially reduce the marketer's profit margins and thereby weaken his financial viability.

VIII. Change in Refiner-Supplier Practices

Within the past few years, refiners have been experiencing inflationary cost pressures. For example, since the early 1970's, the cost of raw materials has almost tripled and interest rates have increased. These factors have caused the working capital requirements for maintaining inventories and receivables to escalate; in response to these increases, refiners have modified their historical supply and pricing practices.

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*/ Id. page 38.

While marketers recognize that many of the programs and practices relating to heating oil sales must change as economic changes occur in the market, they have experienced particular difficulties with several changes instituted since July 1976, when home heating oil was exempted from price and allocation controls. The effect of most of these post-decontrol modifications has been to increase product prices and to exacerbate many of the difficulties of the marketer that are set forth in this Paper.

Typical of the moves made by major refiner suppliers was the elimination of the 1% discount traditionally associated with deferred payment terms of the "Summer Fill" program. Historically refiner/ suppliers of independent petroleum marketers operated programs known as "Summer Fill". Under the terms, the marketer could purchase fuel oil during the May 1 - September 30 period but was not required to pay for the product until October 1, at which time he received a 1% discount off the price at which the oil was sold during the summer if he paid by October 10.*/ However, if the marketer chose to pay for deliveries on a current basis during the Summer, he also received a 1% discount off the purchase price. The Summer fill program permitted the marketer to avoid payment during the non-heating season portion of the year, and it encouraged the construction of additional storage and the build-up of stocks to meet

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*/ The Summer Fill Program also contained a "price protection" element which provided for a retroactive adjustment on any oil purchased from the beginning of the program, the price of which was subsequently lowered.

Winter demands. In addition, the program in many instances benefitted the consumer because the lower costs associated with deferred billing and discounts were passed on the homeowner.

During 1977 the majority of the major refiners eliminated the 1% discount historically associated with deferred billing. Removal of this discount obviously results in an increase in the cost of fuel oil to the marketer. The marketer is less likely to be able to pass on those costs associated with changes in discount and credit terms.

In some instances, retailer and wholesaler profit margins are being squeezed by other modifications to historical payment terms. Several refiners have reduced payment periods during the Winter months from the usual 30 days to 15 or 10 days. Moreover, a 1% discount was historically allowed for prompt payment throughout the year; in several cases this has been reduced to 1/2% and one refiner has eliminated it completely.

The effect of tighter payment terms on the independent wholesaler and retailer is obvious. He will be required to provide additional personal collateral or seek additional debt financing. Both of these options are becoming less viable as profits decline and inventory financing requirements continue to escalate.

Moreover, during the control period and certainly during this period of continuing threat of reimposition of such controls, few major refiner/suppliers were able or have been willing to enter supply agreements with new distributors or to provide additional volumes under existing contracts. Most small marketers

have continued to do business with their historical refiner/suppliers and find it difficult to negotiate with a new refiner if terms offered by the present one are unsatisfactory.*/

In addition to changing traditional payment terms and eliminating or reducing discounts, many major refiner/suppliers have also initiated a policy under which marketers stand to lose the percentage of product from their Winter allocations that is underlifted from the "Summer minimum". Although supply contracts have customarily contained such options, the major companies have generally not enforced them. However, marketers are now being compelled to lift more volume in the Summer and bear additional costs to avoid the risk of reduced and inadequate supply during the Winter heating season. The Committee recognizes nevertheless that all marketers cannot draw their 12 months' supply during the cold months alone; the industry does not have sufficient storage or transportation capacity.

A related change in refiner/supplier practices presently being implemented by one major refiner is the "Winter volume option" program.**/ Under this program, a retailer, at an additional cost, may restore his Winter volume to its original level if he underlifted during the Summer. While the "Winter

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*/ Testimony of the National Oil Jobbers Council before the Subcommittee on Energy and Environment, Safety and Research of the House of Representatives Small Business Committee, (September 28, 1977).

**/ Ibid.

volume option" program is not a prevalent practice, marketers are concerned that since it has been initiated by a leader in the industry, other refiners may institute similar programs.

Another change in refiner/supplier practices which has recently occurred in the North Central region of the country involves rack pricing. A few major refiners recently lowered their rack prices for home heating oil by setting the price F.O.B. the pipeline terminal instead of F.O.B. the marketer's bulk plant. While on its face this modification should not affect the viability of individual fuel oil marketers, in practice the decrease in terminal prices was less than the common carrier freight charge between the terminal and bulk plant and resulted in an increase product cost of approximately 1/2 cent per gallon. Since not all suppliers in the North Central region followed this change in pricing practices, those retailers supplied by the refiners employing the new rack prices are at a distinct disadvantage because they are unable to raise their market prices to reflect the added costs incurred; they are forced to absorb the additional half cent per gallon and thereby weaken their financial viability.

IX. Financing of Inventory

Prior to the Arab Oil Embargo, fuel oil marketers, like most businesses, established a price based on the cost of product plus a consistent percentage "mark-up" or margin. As a result of Federal price controls, marketers have been limited to a gross margin calculated on a cents-per-gallon basis. As previously dis-

cussed, this margin has been increasing on an absolute (but not percentage) basis, but not to an extent adequate to cover the total increases in operating costs. In addition, significant increases in the cost of product have imposed additional cost burdens on a marketer which are usually not apparent on the face of a balance sheet.

For example, as the price of fuel oil continues to rise, marketers must invest more funds to maintain inventory levels. Many are currently experiencing credit problems because the market value or net worth of a typical independent firm's assets has not appreciated at a rate comparable to that of product prices. Refiner/suppliers have been reluctant to increase credit lines to account for inflated product prices because of their concerns with receivables and loss of capital, and it is becoming more difficult for a small or medium-sized independent to obtain the necessary financing for inventory volumes.

Historically, refiner/suppliers would extend credit based on the net worth of the business as reflected in financial statements alone. Today many are also requiring irrevocable letters of credit from banks or demanding written assignments of assets or accounts receivable. Marketers are having to collateralize nearly all the fixed assets of the business to acquire inventory. Thus the credit available for customary financing of necessary items such as trucks or other equipment is reduced. Some smaller marketers must pledge their personal assets, such as their homes, to remain in business.

In addition, banks are unwilling to lend marketers money to finance inventories or build storage. They are concerned that if controls are reimposed the marketer would be unable to repay the loan if he were to be frozen into a fixed margin pricing structure. The threat of the reimposition of controls has recently made banks and other lending institutions extremely reluctant to grant new loans.

X. Storage

A significantly expanded storage capability is essential in the event of another embargo on oil imports. The DOE is, of course, developing the Strategic Petroleum Reserve. However, the significant contribution that secondary and tertiary product storage could make has been essentially either overlooked or, in some respects, actually impeded.

The obstacles confronting small marketers interested in developing or expanding bulk storage facilities relate principally to an uncertainty as to future Federal regulatory policy and the problems surrounding storage financing. Environmental regulations have increased the reluctance of insurance companies to write policies for storage operations. Inflation has increased dramatically the cost of building facilities over the past few years; interest rates are escalating as well. It is noteworthy that few small businessmen are granted loans at the prime rate; the cost of money for them is thus even more onerous. Capital formation has been severely restricted as a result of all the pressures on margins discussed in this Paper.

Lending institutions are understandably hesitant to finance storage projects. They are becoming aware that the financial position of marketers is less secure than ever before; that sources of supply are not as dependable as in past years, and that the costs of running a business of this type are increasing. Banks are also reacting negatively to the threat which looms over the marketplace in the form of reimposition of price and allocation controls.

As inventory financing becomes more difficult, both wholesale and retail marketers tend to avoid carrying large inventories. The United States, however, needs to build inventories of heating oil in order to avoid shortages. Since refining economics do not support construction of facilities to meet full "in-season" product demand, marketers must store substantial volumes of distillate in the "off-season". The cost of storage is about one cent per gallon for every three months of storage. If a marketer cannot recover these costs, he will simply not store the product. It should be noted that reduction of inventory is one of the few ways in which he can reduce costs. However, while reduced stockpiling eliminates some cost pressures, it also prevents the normal accumulation of fuel oil and creates a substantial risk of supply shortages and unnecessary disruptions.

XI. Increased Vehicle Costs

Essential to an efficient home heating oil business is its truck inventory. Product cannot be distributed unless a marketer has the proper equipment. As prices increase marketers find themselves unable to replace worn-out, inefficient vehicles; those trucks must be used until they are completely inoperable. Use of

old trucks makes it more difficult for the marketer to meet his supply obligations, results in higher delivery costs and ultimately weakens the distribution system.

The Truck Division of Avis Rent A Car System, Inc. has recently published a comparison of 1973 and estimated 1978 truck prices.

Table 11

Truck Price Increases*/

Truck Type	1973 Price	Estimated 1978 Price	Percent Increase
Light Van	$ 4,460	$ 7,380	60%
Heavy Van	12,950	21,700	60
Single-Axle Diesel Tractor	22,500	37,050	61
Tandem-Axle Conventional Tractor	27,700	46,775	59
Tandem-Axle Sleeper Tractor	30,000	51,400	58

This escalation in cost of replacing "rolling inventory" or trucks is expected to continue and will result in still further reductions in the marketer profit margins.

XII. Competition With Other Fuel Sources

The independent marketer is confronted by additional pressures resulting from competition with other sources of fuel, natural gas and electricity, for reasons unrelated to those cited above. Present government regulations establish an artificial price ceiling for natural gas; as a result in almost all markets

*/ Letter of Mr. George H. Youhas, Vice President and General Manager, Truck Division of Avis Rent A Car System, Inc. (November 1977)

natural gas is cheaper than fuel oil. Despite the fact that natural gas distributing companies have been experiencing increasing curtailments in recent years, many are continuing to accept new residential customers, including homes and apartments, that previously were heated with fuel oil and coal. The added supplies needed for the new residential hook-ups are being obtained from curtailments of existing industrial, chemical, and agricultural customers, including those unable to use alternative fuels, in accordance with the curtailment policy established in F.P.C. Order 467-B.

Since the 1975-76 winter, retail prices for No. 2 heating oil have increased by about 5 to 8 cents per gallon and wholesale prices have increased similarly. A major contributing factor in the increase is the growing quantity of foreign oil which must be imported to fill the widening energy gaps caused by the gas shortage. Oil is the most easily imported fuel and can be burned in much of the industrial gas burning equipment. As the production of natural gas continues to decline, more industrial/commercial users of the gas will be curtailed, and their demand for fuel oil will escalate.*/

As a result of prior inconsistent Federal energy policy, residential fuel oil consumers must now pay more for heating oil because their neighbors have been provided with gas at artificially low prices. Ironically, as the gas shortage becomes more severe

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*/ Statement of John H. Robson, on "Why the Failure to Ban New Residential Gas Hook-Ups Will Cause Future Economic and Social Problems", given on behalf of the National Oil Jobbers Council before the Natural Gas Transmission and Distributing Advisory Committee (July 8, 1977).

and results in added petroleum imports and higher fuel oil prices, fuel oil users will have a progressively greater incentive to convert to that fuel which is in shortest supply, natural gas.*/ Thus, deregulation of natural gas would put an end to the undervaluation of natural gas--a practice which is simply increasing the shortage.

The impact of agressive marketing by the natural gas utilities on independent fuel oil dealers has been particularly severe in the mid-western states. For example, Peoples Gas and its subsidiary, North Shore Gas, converted 62,432 residential fuel oil accounts to gas in 1974 and 35,541 in 1975.**/ From 1974 to 1977, the number of fuel oil distributors serving the greater Chicago area has declined from about 186 to 140. The reduction is due largely to mergers and buy-outs, but the effect of gas competition is clearly evident in the conversion numbers.

In the area of retail electric rates, individual state regulatory commissions have often approved utility rate structures which are promotional in nature; as consumption increases the price per kilowatt hour declines to the point where the last

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*/ In addition, voluntary conservation of natural gas on the part of the consumer has resulted in a reduction of load capacities for some facilities. To prevent any loss of revenue to the utility, public utility commissions have in some instances recently approved new residential hook-ups, thereby ensuring the utility that it will continue to function at present levels.

**/ Statement of John H. Robson, *supra*.

block, the portion consumed in electric space heating, is priced below the actual cost of generating and distributing the electric power. Fuel oil dealers in the middle Atlantic region have, for example, experienced competition from utilities which have implemented special seasonal prices for customers with heat pumps or electric space heating. Under these rates, which are in effect from October through March, electric heat customers are charged 1.96 cents per kilowatt hour, while non-heat electric customers pay 5.4 cents per kilowatt hour.*/ All-electric homes are commonly given significant discounts in the prices paid per kilowatt hour of electricity. Such preferential pricing has resulted in unnecessary expansion of utility facilities, discrimination between and within customer classes, and wasteful consumption practices. Most important, however, is the competitive disadvantage it imposes on independent heating oil marketers.

In addition to a subsidized pricing structure, electric utilities in some areas of the country have a competitive advantage over home heating marketers because of installation charges. Often an electric system can be installed far more cheaply than a fuel oil system; as a result, the homeowner chooses the electric system despite its less efficient use of energy and the higher energy bills that result.

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*/ Philadelphia Electric Company, all-electric residential rates.

Accordingly, it is difficult and in many cases impossible for oil heat to compete with natural gas or electricity. Unlike the large utilities, the oil heat dealers are not guaranteed a fair rate of return since their prices are established by market forces rather than government regulation. The seemingly pervasive short-sightedness of these regulations serves to compound the financial pressures being experienced by marketers.

XIII. Attrition

In the period since 1972 the number of independent marketers of heating oil has been declining. As profitability declines, more and more independents will be forced to sell, merge, or dissolve their companies. Many are already undergoing bankruptcy proceedings. Generally the companies with annual sales of under one million gallons are the most vulnerable to the economic pressures mentioned above.

Nationwide there are far fewer independent heating oil marketers than there were in 1972. The regional attrition rates for the period 1972 to 1977 are approximately as follows:*/

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*/ Information derived from directors of the following retail fuel oil marketers' trade associations: New England Fuel Institute, Fuel Oil Merchants of New Jersey, Northwest Petroleum Association, North Carolina Oil Jobbers Association, Oil Heat Institute of Oregon and National Oil Jobbers Council.

Table 12

Attrition 1972-1977

New England	25%
Mid-Atlantic	19%
North Central	18%
South East	15%
Pacific North West	14%

Wholesale marketers have also experienced a substantial attrition rate. This is dramatically illustrated by the fact that only 6 independent deepwater terminal operators are currently operating in New England; in 1959, there were 21. Three terminal operators on the East Coast sold out to refiners in the past year alone. The independent wholesale marketing segment of the petroleum industry has been substantially reduced.

XIV. Conclusions

This Part concludes that:

1) Profitability of wholesale and retail marketers has declined substantially since 1974; every analysis indicates that it will continue to do so. This decline in profits has been a result of increases in costs that far exceed increases in margins at both levels of distribution.

2) There is strong competition in the home heating oil market on both the independent wholesale and retail levels. While competition maintains a downward pressure on home heating oil prices and thereby

benefits the consumer, it does limit severely the costs which a marketer may recover.

3) Retail marketers are experiencing severe cash flow problems because of the ever-increasing time period between the issuance of home heating oil bills and receipt of payment from homeowners. These delays adversely affect the dealers' ability to meet their financial commitments to their refiner-suppliers for product.

4) As a result of increased costs, suppliers are modifying historical terms of sale, shortening payment periods and eliminating discounts. During the period of controls and the period of continuing threats of reimposition of controls, few are willing to take on new distributor customers. The net effect is a restriction of the financial flexibility of oil dealers.

5) The financing of inventory and equipment has become significantly more difficult, due to inflated product prices and absence of an adequate return on equity.

6) Since competition and government intervention do not permit wholesale and retail marketers to recover substantial non-product costs, on a short-term basis, marketers are reluctant to carry large inventories and incur storage costs. Despite the

nation's need for fuel oil reserves, current conditions make accumulation of such reserves far more difficult.

7) The regulated pricing of natural gas and electricity at unrealistically low levels of price compared to alternate fuels has continued to provide these heating fuels a competitive advantage over fuel oil.

8) All regions of the country are experiencing increased rates of attrition among heating oil marketers. Economic pressures render small retailers the most vulnerable to bankruptcy, merger, or voluntary dissolution because they do not generate enough dollars of margin to cover expenses and make a reasonable return even if their unit costs, investments and profits are at an efficient level. However, companies of all sizes are becoming less viable.

Part II

Impact of Federal Regulations on Independent Marketers

I. Introduction

This section of the White Paper discusses the impact of governmental regulations on independent fuel oil marketers. Specifically, it will examine Congressional mandates and guidance, auditing of marketers, DOE price and allocation regulations, retroactive Rulings and Interpretations, monitoring and indexing of middle distillate pricing, and reporting requirements.

II. Distribution: Primary Objective of EPAA

When Congress enacted the Emergency Petroleum Allocation Act in 1973 ("EPAA")*/ it was primarily concerned with preventing shortages of crude oil and refined petroleum products which in turn could create severe economic dislocations and hardships, including loss of jobs, closing of factories and businesses, reduction in crop plantings and harvesting and the curtailment of vital public services. Congress recognized that shortages and dislocation of crude oil and products could jeopardize the normal flow of commerce and result in a national energy crisis which could pose a threat to the public health, safety and welfare.**/

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*/ The Emergency Petroleum Allocation Act of 1973, 15 U.S.C. §§751 et seq.

**/ Id. at Section 2.

To prevent these shortages the President was authorized to implement a mandatory allocation program and the program was to be designed to protect the public welfare by preserving a strong distribution system.

Congress recognized that such a system could only be preserved if competition and a strong independent segment were maintained. Congress stated that the President's authority was to be exercised in a manner which is consistent with ten objectives. Section 4(b)(1)(D) stated that the program was to provide for:

> preservation of an economically sound and competitive petroleum industry; including the priority needs to restore and foster competition in the producing, refining, distribution, marketing, and petro-chemical sectors of such industry, and to preserve the competitive viability of independent refiners, small refiners, non-branded independent marketers, and branded independent marketers; (emphasis added).*/

From the beginning Congress has been concerned with the survival of the independent marketer and has been concerned that government regulations could unduly interfere with natural forces of the marketplace and thereby hinder competition. Accordingly, Congress mandated that any program promulgated shall also provide for:

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*/ Section 4(b)(1)(D) of the Emergency Petroleum Allocation Act, supra.

(H) economic efficiency; and

(I) minimization of economic distortion, inflexibility, and unnecessary interference with market mechanisms.*/

Congressional concern for the independent marketer was reemphasized with the establishment of the Federal Energy Administration in 1974. The Federal Energy Administration Act stated:**/

> To the extent authorized by subsection (a) of this section, the Administrator shall --
>
> (6) assure that energy programs are designed and implemented in a fair and efficient manner so as to minimize hardships and inequity while assuring the priority needed of the Nation are met;

In 1977 Congress declared that a primary purpose of the Department of Energy Organization Act is to "foster insofar as possible the continued good health of the Nation's small business firms ... involved in energy ... merchandising.***/ All of the statutory mandates express Congressional support for a strong distribution system. Thus, any regulatory action which weakens the marketer's ability to obtain a reasonable return on his investment and thereby maintain a viable operation, is contrary to national energy policy and is without statutory authority.

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*/ Id. at Section 4(b)(1)(H) and (I).

**/ Federal Energy Administration Act, P.L. 93-275.

***/ Section 102(17) of the Department of Energy Organization Act. P.L. 95-91.

In 1976 the Federal Energy Administration ("FEA") and Congress agreed that the energy emergency had passed and that further regulation of the sale of middle distillates was unnecessary. Congress did not reject Energy Actions 2 and 3, and on June 30, 1976 permitted the exemption of middle distillates from both allocation and pricing controls, effective July 1, 1976. Congress concurred in FEA's findings that middle distillates were no longer in short supply, that their exemption from controls would not have an adverse impact on the supply of any other product, that competition and market forces are adequate to protect consumers and that exemption would be consistent with the objectives set forth in the EPAA.*/

In sum, Congress has repeatedly mandated that the Department of Energy ("DOE") reduce the regulatory burden on independent fuel oil marketers and protect that segment of the market. Unfortunately, past and present actions of the Agency and its predecessors appear to ignore these mandates. Regulatory interference in the business operations of marketer has adversely affected their viability, thereby weakening the distribution system, and will continue to do so if current DOE policy remains unchanged.

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*/ "Findings and Views Concerning the Exemption of Middle Distillates from the Mandatory Petroleum Allocation and Price Regulations." Federal Energy Administration (June 15, 1976)

III. Auditing

At present a substantial number of independent fuel oil marketers are or have been audited by FEA and DOE. While it is essential that the Agency charged with the responsibility of enforcing the EPAA, as amended, audit those companies subject to its regulations, enforcement proceedings have gone far beyond a reasonable application of the regulations to past actions.*/

When the price regulations were first promulgated in August 1973, they were written in a manner which was extremely confusing and unnecessarily complex, and the method mandated for establishing maximum selling prices was unrelated to general pricing methods employed in the industry. Moreover the regulations were substantially revised six times before the close of 1973. It was more than a year after initial promulgation before the Agency began issuing rulings clarifying their meaning. As a result of this inconsistent and complex regulatory program, the average fuel oil marketer and to a lesser extent the large, integrated companies did not and could not fully understand the law that governed their actions during the first year of the program. The average marketer was essentially concerned with maintaining his business and with obtaining product for his customers during a time of severe supply crisis. He made an honest attempt to conduct his business in compliance with FEA requirements as a reasonable man might interpret those requirements to be.

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*/ Currently there are 85 independent marketers undergoing audits in Region I. Compliance Division, Economic Regulatory Administration, Department of Energy.

However, in its auditing of marketer's compliance with the regulations during the beginning of the program, November 1, 1973 until April 30, 1974, DOE has been ignoring the context in which the regulations were promulgated and were followed. The Agency applies the regulations very strictly, as if they were perfectly clear at the time of promulgation and as if the marketer had full understanding of their meaning. DOE has refused to modify its review of compliance even when one good faith error carried through the audited period results in large violations, far in excess of the earnings of the company in question; and when it is clear that strict application of the rules would destroy the company being audited.

Audits have been conducted for time periods when, (1) the regulations were confusing, (2) there was little or no guidence from the Agency on the applicability of the regulations, and (3) there were few lawyers or accountants with any knowledge of the regulations available to marketers. Failure to recognize these factors has often resulted in audits which conclude that a marketer engaged in overcharging when in fact the marketer was unaware that any wrongful conduct was being committed. The overcharges may even have been fully repaid if the marketer undercharged in subsequent pricing periods, but DOE in its regulations ignores this fact and requires that the marketer make a double restitution.

The primary reason for these distorted audit results is that the DOE regulations are complex, unclear, and inconsistent with normal industry pricing and supply practices. Compliance proceedings

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*/ Currently there are 85 independent marketers undergoing audits in Region I. Compliance Division, Economic Regulatory Administration, Department of Energy.

IV. Pricing and Allocation Controls

This section of the Paper discusses the period 1973 until July 1, 1976 when middle distillate sales were subject to price and allocation controls and discusses audits of events that occurred in that period.

Audits often find common errors in the computations of the maximum permissible selling prices of independent fuel oil marketers. This indicates a common misunderstanding of the regulations that has created the following problems:

A. Inventory

Under the regulations a reseller/retailer determined his maximum permissible selling price by adding increased product costs to his May 15, 1973 selling price plus an additional non-profit cost allowance. Section 212.93 states:

> (a) A seller may not charge a price for an item subject to this subpart which exceeds the weighted average price at which the item was lawfully priced by the seller in transactions with the class of purchaser concerned on May 15, 1973, plus an amount which reflects, on a dollar-for-dollar basis, the increased product costs concerned. Each seller shall maintain records sufficient to justify prices charged which reflect increased product costs, including, if applicable, records which demonstrate that the seller qualifies to determine increased product costs according to separate inventories.

"Increased Product Costs" are defined in section 212.92 as:

> "Increased product costs" means the difference between the weighted average unit cost of that product in inventory and the weighted average unit cost of that product in inventory on May 15, 1973. (Decreases in weighted average unit cost of a product in inventory in successive accounting periods are reflected in reductions in the amount of increased costs incurred in those accounting periods, in accordance with §212.93(c).) If a particular product was not in inventory on May 15, 1973, the date for computing the cost is the most recent day preceding May 15, 1973, when the seller had the product in inventory.

First, the basic concept of weight averaging cost increases and decreases required by the regulations was foreign to most independent marketers. Prior to 1973 they had traditionally passed through increases or decreases in product costs immediately, by adding their customary margin to their current cost of product. During the early months of the regulatory period many marketers did not realize they were required to modify their pricing procedures. DOE takes the position that overcharges occurred when marketers simply continued to follow their historic pricing practices--even when such a practice did not yield additional profits.

Second, from 1973 until May 1, 1976 the regulations did not permit separate calculations of maximum permissible selling prices for bulk sales or sales from separate terminals, despite the fact that such practice was common to marketing operations. It should be noted that during the first year or two of the regulations many marketers were under substantial pressure from their bulk

customers to provide necessary product; in fact the Federal Government urged marketers to provide product wherever possible, at the lowest possible prices. Thus, many purchased bulk volumes at "spot" prices and sold this product to their customers at only their normal margin. This product was never brought into the marketer's inventory and was thus never weight averaged with other purchased products. Again audits have concluded that marketers violated the regulations and overcharged customers, in cases where they simply provided essential product and made no excess profits. In such cases, strict enforcement of the weighted-average concept of calculating the value of product in inventory magnified and distorted violations during this early regulatory period.

Third, marketer's have been penalized for recovering inventory profits and costs of storage. When home heating oil is placed in a marketer's inventory it appreciates in value and that value has historically been reflected in a marketer's selling price; in addition, as described above, the marketer incurs significant storage costs. However, the regulations only permitted the marketer to recover the actual cost of the product and prohibited reflection of any profit received from inventory appreciation or pass-through of any storage costs. Since marketers had always financed their inventories and recovered their storage costs in this manner, they were unaware during the initial phase of the regulations that they could not establish their prices according to this method. Violations have been found and marketers have been deprived of a viable method of financing inventories in storage.

Fourth, during the early regulatory period, many marketers believed they were in compliance because they maintained a consistent percentage mark-up on their product, as they had done historically. Again, the regulations departed from accepted pricing practices in the industry and required a per gallon mark-up. DOE determined that overcharges had occurred despite the fact that the marketer merely maintained his historical profit margin.

B. Class of Purchaser

The regulations instruct marketers to group their customers into classes of purchaser and to establish maximum permissible selling prices for each class separately. However, the treatment of discounts and methods to be used for forming these classes of purchaser was not explained until June 1974*/ and then further clarified in March 1975.**/ Again strict application of the concept embodied in the 1974 and 1975 rulings to regulated periods prior to promulgation of these rulings has resulted in substantial errors on the part of the marketer--again without taking into account good faith efforts at compliance.

C. Non-Product Costs

When originally published, the pricing regulations permitted marketers only to recover increased product costs but not

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*/ FEA Ruling 1974-17 and 1974-18, 39 F.R. 22133 (June 14, 1974).

**/ FEA Ruling 1975-2, 40 FR. 10655 (March 7, 1975).

to recover increased non-product costs. Because non-product costs were rising rapidly during the early months of the embargo, DOE granted a non-product cost allowance which represented an average non-product increase experienced by most marketers. Approximately two years after its implementation, DOE issued a clarifying regulation which stated that the non-product cost allowance could only be taken up to the amount actually incurred.*/ Marketers audited for past pricing periods were therefore compelled to produce records of costs incurred to justify the allowance taken. Inability to produce those records--even when, in actual fact, the costs may have been justified--often results in findings of violations of regulations and unjustly punishes the marketer for complying with regulations prior to their clarification.

While the non-product cost allowance was vital to the independent marketer, its implementation during the beginning of the regulatory program, without a corresponding allowance to refiners, negated the benefit derived substantially. Refiners were not permitted to reflect their non-product costs on retail sales, but they were permitted to increase wholesale prices. While wholesale prices increased, retail marketers were forced to restrict their margins in order to compete with refiner direct residential sale prices, which pursuant to the regulations could not reflect non-product costs incurred by the refiner.

An additional problem independent marketers experience with regard to DOE audits is that there is endless exposure for

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*/ FEA Ruling 1975-14, 40 F.R. 40833 (September 4, 1975).

past activities. DOE does not employ any type of statute of limitations--a time period after which the Agency will no longer investigate sales to determine if violations have occurred. In this regard DOE's policy is inconsistent with other regulatory agencies such as the Internal Revenue Service or the Federal Trade Commission which employ a three and five year statute of limitations, respectively. Continued exposure for unknown violations weakens an independent marketer's financial worth and restricts his ability to obtain financing from banks and other lending institutions.

V. Retroactive Rulings and Interpretations

In addition to the problems outlined above, marketers' difficulties have been compounded by the practice of issuing retroactive Rulings and Interpretations. During the initial months of the regulatory period, marketers were forced to follow ambiguous and complex regulations in calculating their maximum permissible selling prices. Without guidance from the Agency the marketer had no choice but to make reasonable interpretations of the regulations and proceed according to those interpretations. For example, marketers were required to use CLC Form 92 in calculating the maximum selling price for their product. Despite the fact that this was the only form available and the only guidance available from the Federal Government and despite the fact that marketers were required to use the Form, some auditors have maintained that a company was in violation even when it properly filled out the Form and calculated maximum selling process in full compliance with the Form; other auditors have

maintained that the Form could not be followed in establishing maximum selling prices for other products, despite the fact that such products were under the same regulation as No. 2 distillate and despite the fact that CLC 92 provided the only guidance at the time.

In 1975 and 1976 DOE began issuing clarifying rulings which expressed the Agency's view of how the regulations were to apply to the marketer's business. While this guidance proved helpful on a prospective basis, the Agency was not satisfied with such future applicability; rather, it took the position that the regulations would be considered always to have been applied in the manner stated. And it proceeded to determine violations for non-compliance with these retroactive rulings.

A typical example of this retroactive application of a clarifying regulation is Ruling 1975-16.*/ That ruling requires that maximum permissible selling prices be established by adding the following three items in the following order:

May 15, 1973	selling price	+	increased product costs	+	non-product cost allowance

DOE stated that non-product costs had to be the last element in the equation and if non-product costs could not be recovered, due to market conditions, in the month in which they were incurred, they could not be "banked" -- saved for recoupment at a later date; thus marketers who did not recover such costs during that month were forced to absorb them.

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*/ 40 F.R. 40834 (September 4, 1975)

Prior to this Ruling marketers were not aware that they had to recover non-product costs last; they were not aware that they could not "bank" non-product costs. This retroactive rule-making not only violated the requirements of the Federal Energy Administration Act of 1974;*/ it unfairly prohibited the recovery of costs actually incurred and created "violations" of the regulations where none had existed. Obviously no marketer could comply with such retroactive enforcement procedures; he was helpless to correct his actions.

VI. Benefits to Small Refiners Undermine Independent Marketers' Competitive Viability

As a result of the Old Oil Allocation Program (the entitlements program)**/ fuel oil marketers purchasing from small refiners are often able to underprice marketers purchasing from larger refiners. The entitlements program is designed to equalize generally crude oil costs for all domestic refiners in order to equalize the cost of refined petroleum products for consumers throughout the country. Small refiners, however, receive two types of subsidy under the program. First, under the "small refiner bias" a refiner may receive a subsidy of as much as 4.8 cents per gallon. The "bias" is on a sliding scale for refiners with capacity no greater than 175,000 barrels per day (b/d). The greatest benefit is received by those refiners with capacity below 10,000 b/d. Second, an exception program applied to small refiner entitlements buyers forgives some or all of their purchase obligations. On an average,

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*/ Section 7 of the Federal Energy Administration Act, supra.

**/ 10 C.F.R. §211.67.

these two subsidies provide a small refiner with a 3.5 cents per gallon advantage on crude costs. This advantage is translated into an advantage in middle distillate sales prices; sales of marketers supplied by subsidized refiners may thus limit the margins and profitability of fuel oil marketers supplied by non-subsidized refiners.

VII. Continued Controls on Motor Gasoline and Aviation Fuels Distort Market

Continuation of present allocation and price controls on motor gasoline and aviation fuels, while middle distillates are decontrolled, produces distortions which tend to increase middle distillates prices to higher levels than would exist if all refined petroleum products were decontrolled.*/

However, if controls remain on gasoline, these unnecessary high costs of home heating oil could be alleviated by permitting a greater percentage of the costs associated with the production of gasoline to be reflected in the seasonal price of that product, rather than requiring allocation of costs based upon the proportion of the product produced.

VIII. Monitoring and Indexing Adversely Affect Marketers' Viability

On October 6, 1977 DOE published in the Federal Register a Notice regarding "Monitoring of Middle Distillate Prices," 42

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*/ Some refiners advocate exemption of gasoline on the ground that they seek an overall level of profitability on refining operations. Testimony at the recent gasoline decontrol hearings indicate that controls were restricting gasoline prices to 1-2 cents gallon below levels which would provide reasonable returns on investments.

F.R. 54444, which proposed to monitor retail prices of middle distillate prices on a monthly basis and to publish an index against which actual retail prices would be measured. DOE recently announced that it has abandoned the October 6 proposal and is presently considering several types of monitoring systems, some of which are coupled with an indexing mechanism. If DOE adopts a monitoring and indexing system on independent marketer's sales of middle distillates, that action would exceed the scope of DOE's authority and would seriously weaken the financial position of the independent wholesale and retail marketer of home heating oil.

Any monitoring/indexing system which freezes margins at some historical level and thereby prohibits marketers from reflecting non-product costs actually incurred in their selling price, forces the marketer to absorb those costs and results in de facto controls despite their label as an "index". Controls on middle distillates cannot be reimposed unless the President makes an appropriate determination that such regulation is necessary to attain, and is consistent with the objectives specified in section 4(b)(1) of EPAA, as amended.*/ No such determination has been made. However, assuming such a monitoring/ indexing system were permitted, it is inconsistent with the Congressional mandate to protect the competitive viability of the independent marketer since it would restrict a marketer to a fixed margin in an inflationary economy.

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*/ Section 12(f) of Emergency Petroleum Allocation Act, supra.

Further, in light of the strong competition in the market, as demonstrated above, it would seem clear that any additional monitoring or indexing of middle distillate prices is totally unnecessary and simply adds to the marketer's burden.

In fact, as is stated in Part I, the mere threat of reimposition of controls or implementation of an indexing system which results in de facto controls has inhibited the marketer's ability to obtain financing from banks and other lending institutions for his inventory and equipment. Such tightening of credit terms certainly leads to a weakened financial position.

Further, a monitoring system coupled with an index is not workable. It is not possible to measure accurately all of the relevant factors necessary to establish an acceptable index. Moreover, an index does not protect the consumer since it only informs the consumer several months after the fact that prices were too high. If DOE attempts to impose an indexing system, it will weaken the independent marketing segment of the petroleum industry, with no corresponding benefit to consumers.

IX. Reporting Requirements Increase Marketers' Burden

Under the newly passed Department of Energy Organization Act there is established an Energy Information Administration (EIA) which is required to carry out a central, comprehensive, and unified energy data and information program.*/ The Administrator of the EIA is required to develop a format for a financial report to be filed by energy distribution firms annually. Independent marketers who

*/ Section 205 of the Department of Energy Organization Act of 1977, supra.

would be required to file the report are concerned that their paperwork burden will begin to increase once again despite the Congressional mandate to the Administrator of EIA to "otherwise give priority to minimization of the reporting of energy information by small businesses."*/

In addition, the Administrator is to consult with the Chairman of the Securities and Exchange Commission with respect to the development of accounting practices to be followed by the persons engaged in the production of crude oil and to ensure that the financial report discussed above is consistent with such accounting practices. This could indirectly result in compelling wholesale and retail marketers to convert to a uniform accounting method in order to comply with the reporting requirements. Marketers would be forced to spend substantial funds on converting their accounting systems; the change would surely require the hiring of additional in-house or outside personnel.

Congress is presently considering a crude oil equalizaton tax as the primary element of President Carter's National Energy Plan. If such a tax is enacted it is likely that a rebate or tax credit would also be included for home heating oil consumers. As proposed in the House version the rebate would grant a refund to the retail marketer who would then be required to pass the refund on to his customers. The House rebate mechanism would not only increase the marketer's paperwork burden but would force the marketer to incur substantial administrative costs to ensure accurate distribution of the revenues refunded.

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*/ Id. at section 205(h)(1)(B)(ii).

The paperwork and reporting burdens on the independent marketer should be decreased, not increased as would be the case if the House version were enacted. The Senate version would alleviate these problems by granting a direct tax credit, pursuant to certain income restrictions, to the homeowner.

X. Simplification of Regulations

All of the difficulties mentioned above have been recognized by the present Administration. On November 18, 1977 President Carter issued a proposed Executive Order in the Federal Register to solicit public comment.*/ The proposal stated:

> President Carter is committed to assuring that Federal regulations are as effective, reasonable, and understandable as possible. As one step in achieving this goal, the President has decided to issue an Executive Order to reform the process by which agencies develop their regulations.
>
> Too often, regulations are written in technical or in legalistic terms which are not understood by those who must comply with them. They are sometimes issued without sufficient understanding of their consequences by agency officials and without adequate review and comment from other Federal agencies, State and local governments, and the general public. The purpose of the Executive Order would be to increase public and governmental participation in the development of regulations, to permit effective oversight of regulations by agency managers and to improve agency analysis and awareness of the consequences of their regulations.

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*/ 41 F.R. 59740 (November 18, 1977).

EXECUTIVE ORDER IMPROVING GOVERNMENT REGULATIONS

As President of the United States, I direct all Federal Departments and Agencies to adopt procedures to improve existing and future regulations.

Section 1. Policy. Regulations should be as simple and clear as possible. They should achieve legislative goals effectively and efficiently. They should not impose unnecessary burdens on the economy, or individuals, on public or private organizations, or on State and local governments.

To achieve these objectives, regulations should be developed through a process which ensures that:

(a) the need for and purposes of the regulation are clearly established;

(b) heads of agencies and policy officials exercise effective oversight;

(c) opportunity exists for early participation and comment by other Federal agencies, State and local governments, businesses, consumers, and other members of the public;

(d) compliance costs, paperwork and other burdens on the public are minimized.

While the Executive Order sets forth procedures to follow in promulgating new regulations, the principles stated are particularly applicable to the regulatory scheme and its corresponding enforcement proceedings which affects independent fuel oil marketers.

XI. Conclusions

This Part concludes that:

1. Congress has mandated that DOE promulgate energy programs which protect the independent marketer, foster competition, and ensure an efficient distillate distribution system. To date Agency action

has not accomplished the objectives of that mandate and the viability of independent marketer and his capability to distribute vital distillate supplies to all sectors of the United States economy has been adversely affected by governmental regulations and control.

2. Enforcement practices of DOE have been unreasonable and injuriously inconsistent because the regulations themselves have been complex, vague and extremely difficult for a small businessman to understand.

3. The blanket preference given to small refiners in the entitlements program results in an anti-competitive advantage for those marketers supplied by subsidized refiners who are able to undercut sale prices of independent marketers supplied by non-subsidized refiners.

4. Continued Federal controls on some refined products while others are unregulated distorts the marketplace by prohibiting the historical, seasonal cost allocation among products made by refiners.

5. Implementation of a monitoring/indexing system would seriously weaken the independent wholesale and retail marketer by forcing the marketer to absorb non-product costs actually incurred. The threat of implementation alone weakens the independent marketer's financial

viability because banks are restricting credit terms and refraining from making additional loans in light of the possibility that marketers may be tied to a per gallon mark-up in an inflationary economy.

6. Reporting and recordkeeping requirements imposed by DOE on the small marketer contribute to the increased costs of operating a fuel oil marketing business.

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APPENDIX N

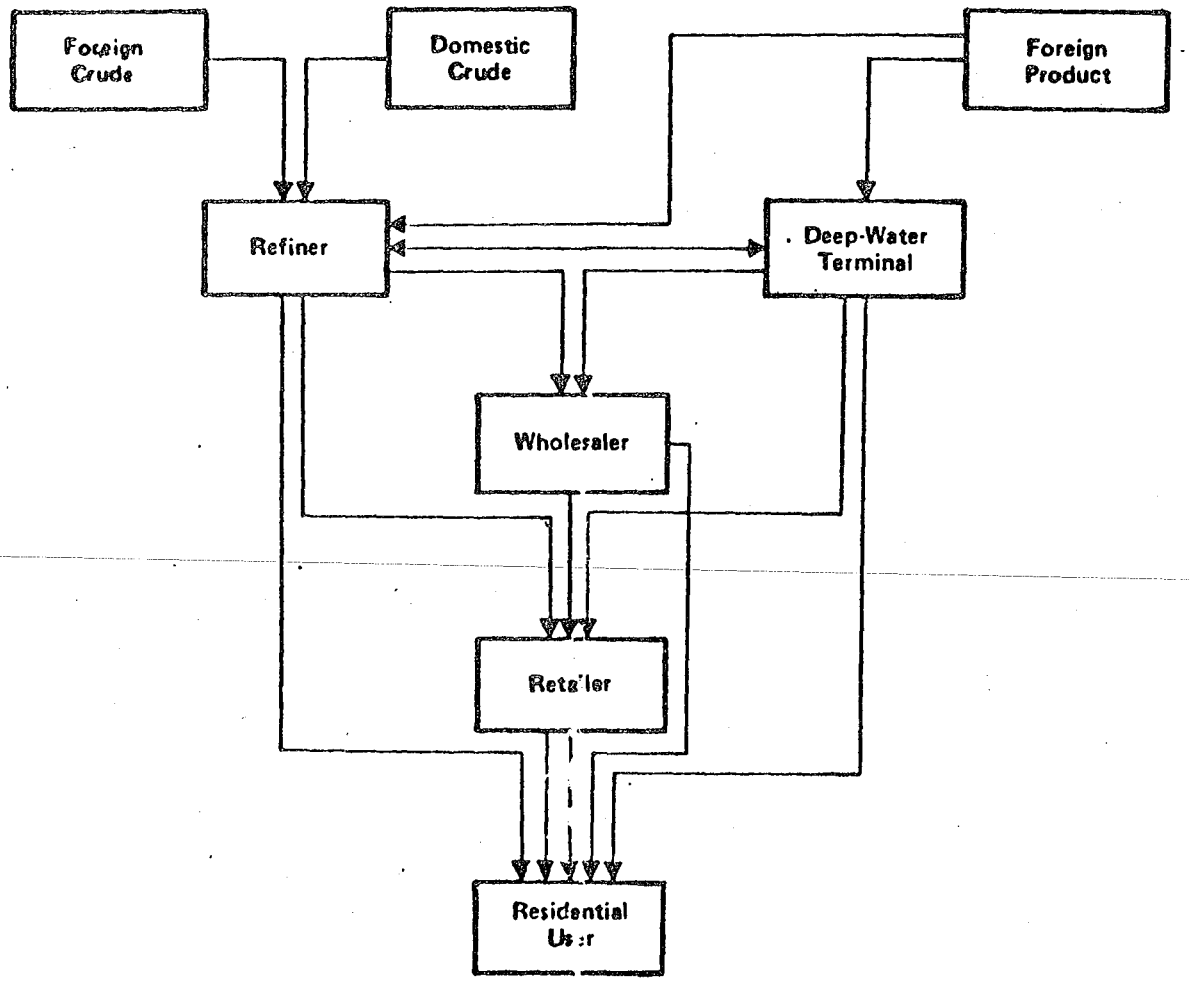
EXAMINATION OF THE "NATIONAL BUSINESS LIST" DIRECTORY

This examination has not been completed yet, and will appear in the final report.

APPENDIX O

OIL FLOW IN THE HEATING OIL INDUSTRY

Exhibit I.1
Structure of the Heating Oil Industry



SOURCE Economic Regulatory Administration, Office of Fuels Regulation.

This report was done with support from the Department of Energy. Any conclusions or opinions expressed in this report represent solely those of the author(s) and not necessarily those of The Regents of the University of California, the Lawrence Berkeley Laboratory or the Department of Energy.

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