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Michigan Department of Commerce
Public Service Commission

**Michigan Residential Heating Oil
and Propane Price Survey
1995-1996 Heating Season**



Final Report
May 1996

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Michigan Residential No. 2 Fuel Oil and Propane Price Survey

1995-1996 Heating Season

Introduction

This report summarizes the results of a survey of residential No. 2 distillate fuel (home heating oil) and liquefied petroleum gas (propane) prices over the 1995-1996 heating season in Michigan. The Michigan's Public Service Commission (MPSC) conducted the survey under a cooperative agreement with the U.S. Department of Energy's (DOE) Energy Information Administration (EIA). This survey was funded in part by a grant from the DOE.

From October 1995 through March 1996, the MPSC surveyed participating distributors by telephone for current residential retail home heating oil and propane prices. The MPSC transmitted the data via a computer modem to the EIA using the Petroleum Electronic Data Reporting Option (PEDRO). Survey results were published in aggregate on the MPSC World Wide Web site at "<http://ermisweb.state.mi.us/shopp>". The page was updated with both residential and wholesale prices immediately following the transmission of the data to the EIA. The EIA constructed the survey using a sample of Michigan home heating oil and propane retailers. The sample accounts for different sales volumes, geographic location, and sources of primary supply.

The DOE provided grants to twenty-four states to participate in this survey. Michigan has participated in the program since it began in 1979. The other participating Midwest states are Indiana, Iowa, Kentucky, Minnesota, Ohio, and Wisconsin. The EIA published the results of the survey weekly in its "*Winter Fuels Report*" (DOE/EIA-0538) through February 2, 1996, at which time the report was discontinued due to budget reductions. After this point, the data was accessible through the Internet at "<http://www.eia.doe.gov>" under the Petroleum Section of the EIA's home page. The results were also available electronically during the heating season through the EIA Electronic Publication System (EPUB). Please contact the National Energy Information Center in Washington, D.C., (202) 586-8800, for information on obtaining additional data through the Distillate and Propane Watches or on accessing for the EPUB system.

Retail No. 2 Heating Oil Prices

The average retail price of home heating oil in Michigan on October 2, 1995, was \$0.847 a gallon, excluding sales tax.¹ This was the lowest average price seen in the past five years, and substantially below the average price in October, 1990, when home heating oil was selling for \$1.25 a gallon due to Iraq's invasion of Kuwait. The average retail cash price for residential fuel oil over the 1995-96 heating season was 88.8 cents, excluding discounts and sales tax. The 1994-95 average was 85.2, a difference of 3.5 cents. The difference between the high and low retail price reported during each survey ranged between 20 and 30 cents per gallon (See Appendix One).

Figure One - 1995-96 Residential Fuel Oil Prices

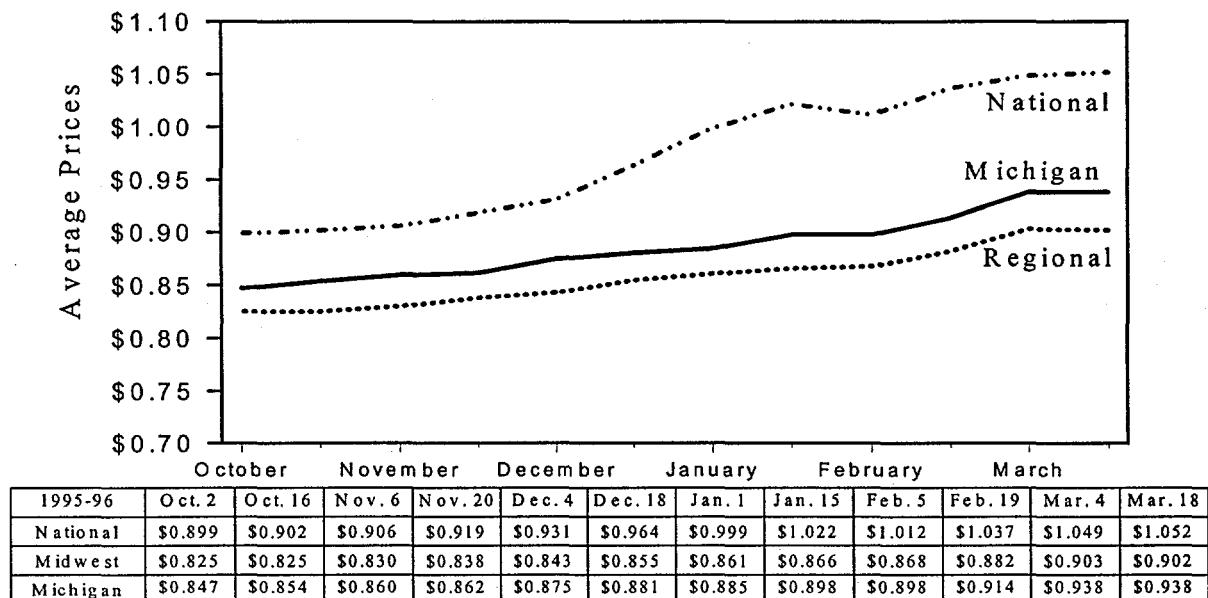
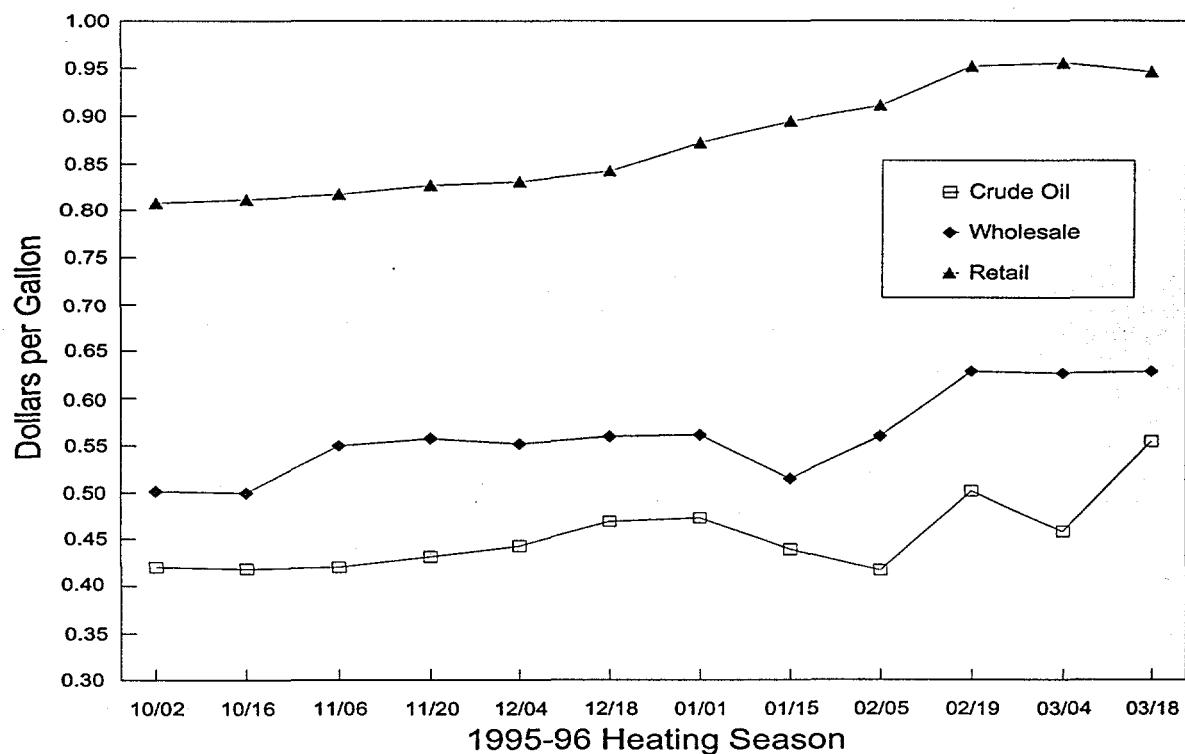


Figure One shows prices in October and early November following a typical seasonal increase as demand rose with colder weather. According to the EIA's *Weekly Petroleum Status Report*, temperatures in the Detroit area were 4 percent colder than normal and 20 percent colder than a year ago for the period of July 1, 1995 through April 6, 1996 (See Appendix Eight). With the onset of the extreme cold in February, residential prices increased 4.5% in a four week period beginning with the February 5, 1996 survey. Over the eight weeks ending March 18, 1996, the average residential price increased nearly ten cents per gallon.

¹On November 8, 1995, Michigan voters approved a referendum increasing the State's sales tax from four to six percent on most consumer goods. Residential heating fuels, including No. 2 heating oil and propane were exempt from the tax increase and remain at the four percent rate.

This rise can also be explained by higher Michigan wholesale prices and higher crude oil prices as shown in Figure Two. In October 1995, wholesale No. 2 Heating Oil prices in Michigan began to rise, and by the end of February 1996, despite a drop during January, the price was up from the beginning of the season. Crude oil prices, as measured by the Spot West Texas Intermediary (WTI), also rose. Residential heating oil is refined from crude oil and the relationship between their prices and the industry benchmark, WTI crude oil, is clear. Overall, crude oil increased 13.2 cents per gallon during the season while wholesale and retail prices climbed 12.7 and 13.9 cents per gallon, respectively.

Figure Two - Heating Oil Price Comparision

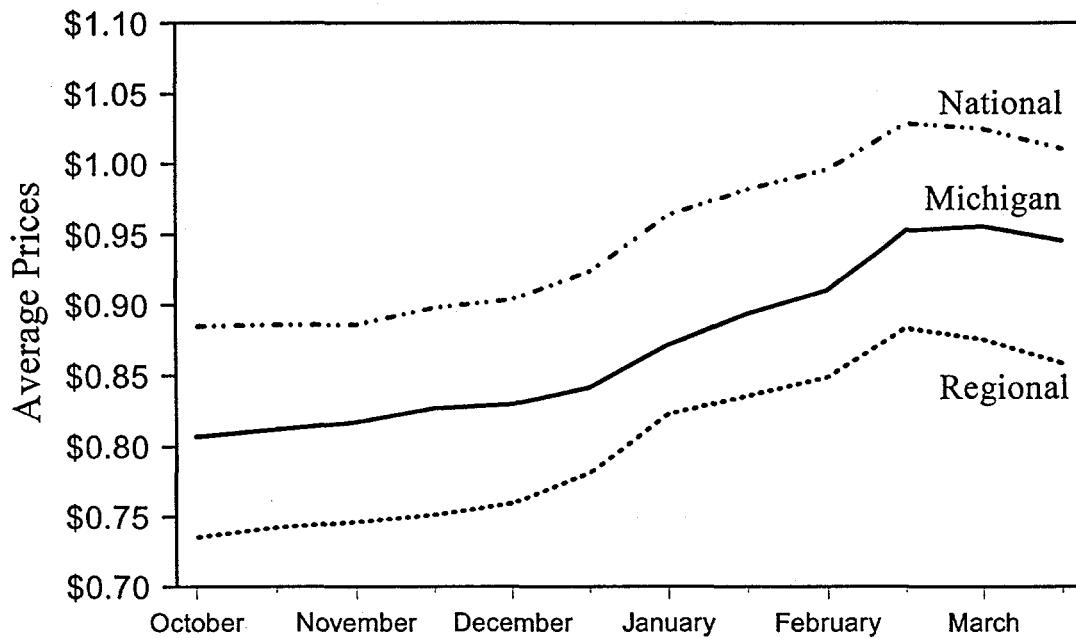


Retail Propane Prices

On October 2, 1995, the average retail price of propane in Michigan was \$0.807 a gallon (excluding sales tax), about three cents higher than the previous year. As shown in Figure Two, propane prices rose each survey period through March 4, 1996, to reach \$0.956 a gallon, the highest price of the heating season and ten cents higher than the peak from the previous year. At the end of the survey, the average retail propane price was \$0.946 a gallon. This ending price represents an increase of 17.2% during the season as compared to a 16.8% average increase for the Midwest region which is made up of the states of Indiana, Iowa, Kentucky, Michigan, Minnesota, Missouri, North Dakota, Ohio, South Dakota, and Wisconsin.

Due to the extreme cold (as shown in Appendix Eight) and winter snow storms, especially on the East Coast, there was some interference with deliveries in the surrounding areas. As a result of this, there was a heavy draw on propane inventories in Michigan during the first quarter of 1996, causing

Figure Three - 1995-96 Residential Propane Prices

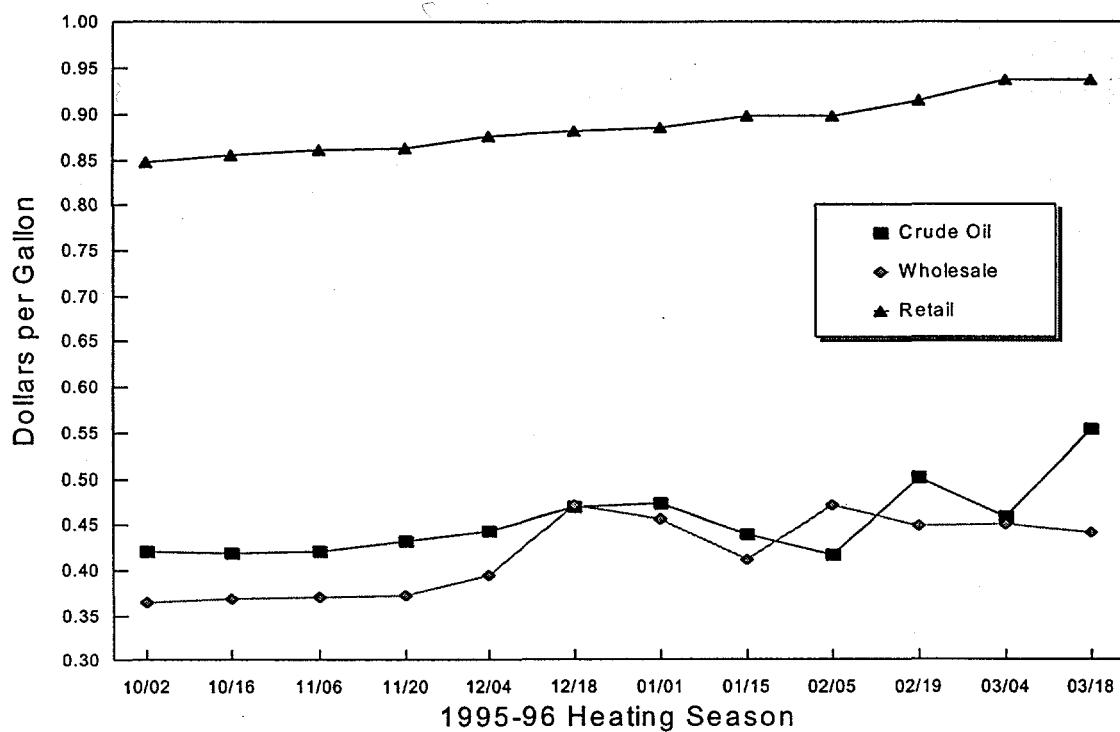


1995-96	Oct. 2	Oct. 16	Nov. 6	Nov. 20	Dec. 4	Dec. 18	Jan. 1	Jan. 15	Feb. 5	Feb. 19	Mar. 4	Mar. 18
National	\$0.885	\$0.886	\$0.886	\$0.898	\$0.904	\$0.924	\$0.964	\$0.982	\$0.996	\$1.029	\$1.025	\$1.011
Midwest	\$0.735	\$0.742	\$0.746	\$0.751	\$0.759	\$0.781	\$0.823	\$0.836	\$0.849	\$0.884	\$0.876	\$0.859
Michigan	\$0.807	\$0.812	\$0.817	\$0.827	\$0.830	\$0.842	\$0.872	\$0.894	\$0.911	\$0.953	\$0.956	\$0.946

retail propane prices to rise continuously during the survey. Although the severe weather during the middle of the heating season caused numerous supply and distribution problems in many states, propane markets in Michigan continued to function without any major disruptions. Nevertheless, some companies reported limited delays and a few companies were placed on allocation for a brief period in February. The difference between the high and low price reported during each survey ranged between 22 and 27 cents per gallon (See Appendix Five).

Residential propane can also be refined from crude oil and the relationship between their prices and the industry benchmark, West Texas Intermediate (WTI) crude oil, is again clear. Overall, crude oil increased 13.2 cents per gallon during the season while wholesale and retail propane prices climbed 7.6 and 9.0 cents per gallon, respectively. Figure Four shows prices and retail margin as well as the general trend upward all three prices tended to follow.

Figure Four - Propane Price Comparision



Residential Space Heating

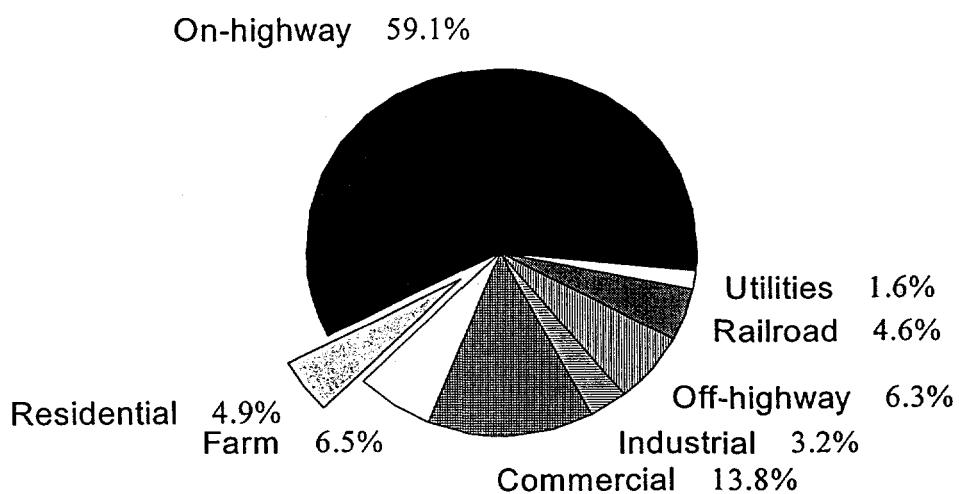
As shown in Table One, residential fuel oil and propane customers comprised 5.43 and 6.06 percent, respectively, of the 1990 home heating market according to 1990 census data. Use of heating oil decreased by 5.92 percent from 1980 to 1990 while propane use increased by 2.13 percent. Natural gas continues to be the predominant heating fuel in Michigan. Residential use of this gas climbed

to nearly 77% of the heating market (See Appendix Four for a report on the cost of these fuels to end-use consumers). Figure Five shows the energy use by residential customers as a percent of the total Michigan Distillate market in 1994. This is the portion of the market covered by this report.

Table One
Residential Heating Space Market

	1990		Change		1980	
	No. Units	Percent	No. Units	Percent	No. Units	Percent
Natural Gas	2630.5	76.93%	200.5	0.88%	2430	76.05%
Propane	207.3	6.06%	81.7	2.13%	125.6	3.93%
Electricity	185.6	5.43%	36.3	0.76%	149.3	4.67%
Fuel Oil	236.3	6.91%	-173.7	-5.92%	410	12.83%
Coal	1.8	0.05%	-4.4	-0.14%	6.2	0.19%
Wood	131.9	3.86%	65.2	1.77%	66.7	2.09%
Solar	0.7	0.02%	0.7	0.02%	n/a	n/a

Figure Five - 1994 Michigan Distillate Fuel Market



Methodology

The EIA provided the MPSC with the list of survey participants. The sampling frame for heating oil distributors was an established list of approximately 11,000 fuel oil dealers and distributors from the Form EIA-863, "Petroleum Product Sales Survey" (1989). EIA officials used a one-way stratified sample design for Michigan based on No. 2 residential distillate sales volumes. The Dalenius-Hodges procedure determined the stratum boundaries. Due to the limited propane supplier information, EIA statisticians developed two strata for propane dealers. Large, multi-State dealers comprised the first and a random sample comprised the second. They used many sources to collect the names and addresses for the random sampling. Please see Appendix Nine for more information on the sample design.

EIA officials randomly selected twenty-two fuel oil distributors and twenty-seven propane dealers to participate in the 1995-96 survey. None of the retailers participated in both the fuel oil and the propane surveys.

Survey Dates -- The MPSC conducted the survey on the first and third Mondays of each month. The specific survey dates were: October 2 and 16, 1995, November 6 and 20, 1995, December 4 and 18, 1995, January 1 and 15, 1996, February 5 and 19, 1996, and March 4 and 18, 1996.

General Reporting -- The MPSC asked participants for the retail cash price charged to residential customers and verified any changes from the previous reported price. The No. 2 Fuel Oil Residential Price and the Propane Residential Price are the cash prices paid for home delivery to a standard 500-gallon tank. Reported prices excluded discount and tax. Participants reported prices to the nearest tenth of a cent (i.e., 0.895). The survey excluded sales to apartment buildings or other multi-family dwellings. Initially, specifying the correct prices was confusing because of the exclusion of discounts and purchase amounts. Establishing a single contact person with each firm eliminated this problem.

The survey asked each propane supplier to report the approximate annual sales of propane to residential customers for the 1994-95 fiscal year. The purpose was to weight the biweekly price reports of these suppliers by their estimated 1995-96 volume. Four participants refused to supply these numbers, and subsequently, EIA statisticians provided those estimates.

Electronic Filing -- The EIA provided the MPSC with electronic filing software known as PEDRO. After collecting the data, an MPSC assistant uploaded it directly to EIA via modem. PEDRO lists participants alphabetically, identifies participants by a seven-digit number (i.e., *MI000001*), reports prices to in dollars (i.e., *\$0.895*), and rounds sales volumes to the nearest thousand (i.e., 6,524,600 gallons equals *6,525*). The data-entry and transmission required one hour.

Distribution of Aggregated Data -- After collecting the data, EIA officials edited and aggregated it with data from other states and listed it on the Electronic Publication (EPUB) system. The EIA published the survey results in the EIA Winter Fuels Report (DOE/EIA-0538) biweekly to the States, Congress, and other government agencies. This report has now been discontinued. Please see their home page on the Internet at "<http://www.eia.doe.gov>" or contact National Energy Information Center at (202) 586-8800 for more information.

Confidentiality of Reported Data -- Response to this survey is mandatory under the Federal Energy Administration Act of 1974 (Public Law 93-275). The EIA is responsible for assuring confidentiality of the data. The data is confidential to the extent that it satisfies the criteria for exemption under the Freedom of Information Act (FOIA), 5 U.S.C. S552, the DOE regulations, 10 C.F.R. S1004.11, implementing the FOIA, and the Trade Secrets Act, 18 U.S.C. S1905. Reports incorporating the data present it in aggregated formats, so individual company information is undeterminable. One caveat: a March 20, 1991 decision by the Office of Legal Counsel of the Justice Department requires the EIA to provide company-specific data to any requesting Federal Government department or agency official for official use (Section 12f of the Federal Energy Administration Act of 1974, 15 U.S. C. 771(f)). This ruling revokes any guarantees of interagency confidentiality previously expressed.

Appendices

Appendix One - Michigan Aggregate Retail Residential and Wholesale No. 2 Fuel Oil Prices for the 1995-96 Heating Season and Historical Retail Price Data, Michigan Public Service Commission, March 22, 1996.

Appendix Two - Residential Heating Oil Prices by Region and State, DOE/EIA-0538(95-96/25) Final Report, March 22, 1996, p. 35.

Appendix Three - Wholesale Heating Oil Prices by Region and State, DOE/EIA-0538(95-96/25) Final Report, March 22, 1996, p. 41.

Appendix Four - Cost of Fuels to End Users in Constant (1982-84) Dollars, DOE/EIA-0035(95/11) Monthly Energy Review, March 1996, p. 13.

Appendix Five - Michigan Aggregate Retail Residential Propane Prices for the 1995-96 Heating Season, Michigan Public Service Commission, March 22, 1996.

Appendix Six - Residential Propane by Region and State, DOE/EIA-0538(95-96/25) Final Report, March 22, 1996, p. 38.

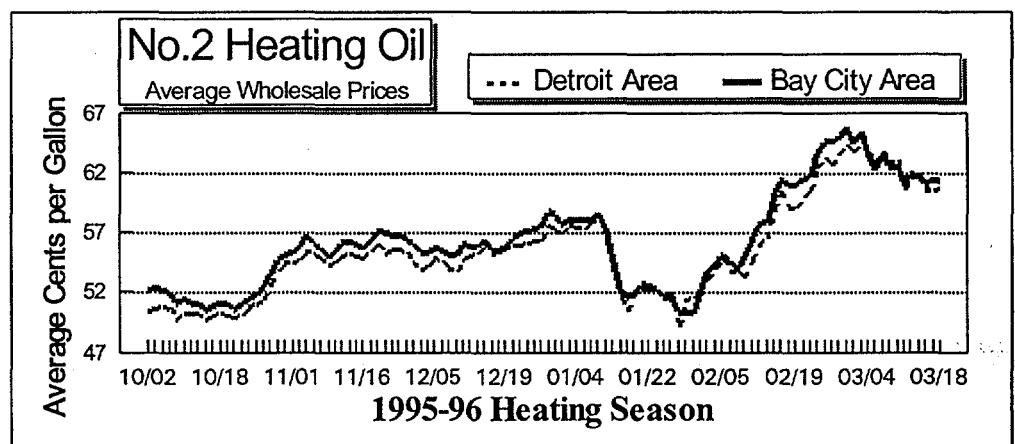
Appendix Seven - Wholesale Propane Prices by Region and State, DOE/EIA-0538(95-96/25) Final Report, March 22, 1996, p. 44.

Appendix Eight - Lansing 30 Day Cumulative Degree Days Table and Graph, Consumers Power Company, Customer Information/Credit Department - 80147, November 1, 1995 through April 8, 1996.

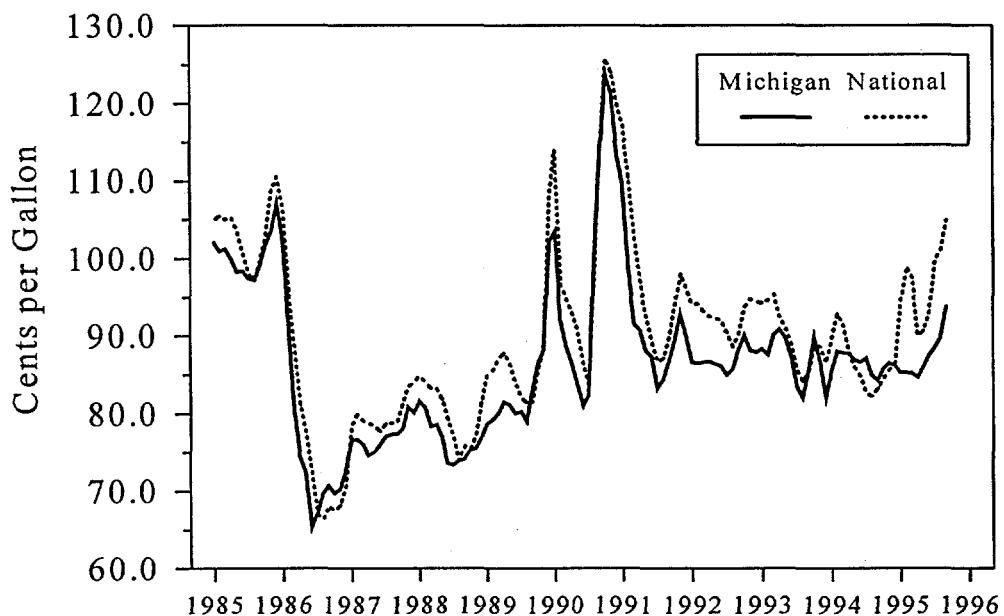
Appendix Nine - Winter Fuels Report Note 5 on Sampling Methodology and Procedures, DOE/EIA-0538(95-96/16) Weekly Report, February 2, 1996, p. 66.

Appendix One

MPSC Heating Oil Survey Results (aggregate)						
1995	Oct 2	Oct 16	Nov 6	Nov 20	Dec 4	Dec 18
Average	\$0.847	\$0.854	\$0.860	\$0.862	\$0.875	\$0.881
Low Price	\$0.739	\$0.739	\$0.759	\$0.759	\$0.779	\$0.779
High Price	\$0.999	\$0.999	\$0.999	\$0.999	\$0.999	\$0.999
1996	Jan 1	Jan 15	Feb 5	Feb 19	Mar 4	Mar 18
Average	\$0.885	\$0.898	\$0.898	\$0.914	\$0.938	\$0.938
Low Price	\$0.790	\$0.790	\$0.790	\$0.799	\$0.810	\$0.810
High Price	\$0.999	\$0.999	\$0.999	\$1.049	\$1.049	\$1.049



No. 2 Residential Heating Oil Prices - Jan. 1985 to March 1996



Appendix Two**Table 7. Residential Heating Oil Prices by Region and State**
(Cents per Gallon)

Region/State	1994/95 Heating Season											
	October	November	December	January	February	March						
Average	90.3	91.2	91.7	92.7	92.9	92.6						
East Coast (PADD I)	91.3	92.1	92.8	93.9	94.3	93.9						
New England (PADD IX)	84.9	85.9	86.6	87.8	88.0	87.4						
Central Atlantic (PADD IY)	96.1	96.8	97.8	98.9	99.3	99.0						
Lower Atlantic (PADD IZ)	88.7	89.5	89.7	90.0	90.1	89.8						
Midwest (PADD II)	82.8	84.0	83.3	82.9	82.7	82.6						
Region/State	1995/96 Heating Season											
	10/02	10/16	11/06	11/20	12/04	12/18	01/01	01/15	02/05	02/19	03/04	03/18 ^b
Average	89.9	90.2	90.8	91.9	93.1	96.4	99.9	102.2	101.2	103.7	104.9	105.2
East Coast (PADD I)	90.9	91.2	91.9	92.9	94.3	97.8	101.8	104.3	103.1	105.8	106.8	107.2
New England (PADD IX)	85.0	85.2	85.6	87.4	88.9	93.6	97.7	99.7	98.3	101.4	102.4	103.8
Connecticut	86.7	86.7	87.1	89.1	90.9	94.8	98.7	101.7	100.9	103.2	105.6	105.4
Maine	75.8	74.8	75.1	78.8	82.7	87.4	92.2	93.7	91.4	94.4	95.4	94.5
Massachusetts	86.9	88.1	88.4	89.7	90.3	95.2	99.7	101.1	99.3	103.1	103.3	106.9
New Hampshire	80.0	79.9	80.1	82.2	84.9	91.0	94.9	98.5	97.7	99.3	99.8	99.9
Rhode Island	88.2	87.7	88.5	89.6	90.6	95.0	97.0	98.6	97.2	102.1	103.3	103.1
Vermont	86.6	86.4	87.7	87.6	89.0	93.3	97.1	97.6	97.2	99.8	101.7	101.7
Central Atlantic (PADD IY)	95.5	95.9	96.8	97.5	99.0	102.0	105.8	108.9	107.7	110.3	111.4	111.1
Delaware	83.8	84.1	84.4	85.3	87.6	92.5	99.7	103.3	100.0	101.4	104.1	104.2
District of Columbia	101.6	102.2	102.4	102.5	104.8	107.8	111.6	113.6	113.7	117.6	117.8	117.4
Maryland	96.3	96.5	96.6	97.4	97.8	100.3	103.7	106.8	105.6	107.8	108.5	110.5
New Jersey	92.1	91.9	92.7	93.4	95.1	98.4	102.3	106.1	105.7	108.4	109.8	109.4
New York	105.1	105.7	106.8	107.2	108.6	111.3	115.5	118.0	116.5	119.1	120.3	120.0
Pennsylvania	78.5	78.9	79.8	80.8	82.3	86.4	89.5	93.0	92.0	94.8	95.6	94.8
Lower Atlantic (PADD IZ)	88.4	88.1	88.5	88.5	88.9	90.1	93.5	95.0	95.1	96.0	96.4	96.6
North Carolina	88.6	88.5	89.0	89.0	89.1	91.1	93.1	93.3	93.6	94.6	94.7	94.7
Virginia	88.2	87.7	88.1	88.0	88.8	89.2	93.9	96.5	96.4	97.3	98.0	98.3
Midwest (PADD II)	82.5	82.5	83.0	83.8	84.3	85.5	86.1	86.6	86.8	88.2	90.3	90.2
Indiana	81.9	81.8	83.0	84.0	84.7	86.1	87.0	88.0	87.7	89.8	91.4	91.9
Iowa	77.5	77.2	76.9	76.8	77.1	78.1	78.9	79.2	78.8	81.8	81.8	81.3
Kentucky	77.2	77.4	78.3	80.2	81.1	83.2	84.1	85.1	85.1	87.2	89.5	88.6
Michigan	85.4	86.0	86.1	86.4	87.6	87.9	88.1	89.3	89.3	91.2	93.4	93.2
Minnesota	84.7	84.5	84.4	84.9	85.2	85.5	86.7	87.2	87.7	87.6	89.2	89.2
Ohio	79.3	79.1	80.8	82.3	82.5	85.0	85.1	86.3	86.2	88.2	91.9	91.1
Wisconsin	82.9	83.1	83.2	83.6	84.3	85.4	86.0	85.3	85.9	87.0	88.0	88.5

P=Preliminary data.

R=Revised data.

Source: Based on data collected by State Energy Offices.

Appendix Three

Table 9. Wholesale Heating Oil Prices by Region and State
(Cents per Gallon)

Region/State	1994/95 Heating Season											
	October	November	December	January	February	March	October	November	December	January	February	March
Average	52.1	52.6	50.5	51.0	50.4	49.7						
East Coast (PADD I)	51.2	52.2	50.7	51.8	50.8	49.0						
New England (PADD IX)	51.8	52.8	51.7	53.2	51.8	49.9						
Central Atlantic (PADD IY)	51.1	52.0	50.7	51.6	50.8	49.0						
Lower Atlantic (PADD IZ)	50.6	51.6	49.4	50.6	50.0	48.2						
Midwest (PADD II)	53.3	53.1	50.2	49.9	49.8	50.5						
Region/State	1995/96 Heating Season											
	10/02	10/16	11/06	11/20	12/04	12/18	01/01	01/15	02/05	02/19	03/04	03/18 ^P
Average	51.4	51.2	54.5	55.3	57.8	59.8	59.8	55.0	58.0	66.3	63.6	65.2
East Coast (PADD I)	50.8	50.9	53.8	55.0	58.8	62.0	62.0	57.3	59.5	68.9	64.5	67.2
New England (PADD IX)	51.4	51.6	54.6	55.7	60.1	63.9	63.7	58.3	60.2	71.1	69.8	70.6
Connecticut	51.2	51.2	54.4	55.6	59.6	63.3	63.3	57.8	60.1	70.6	65.3	70.4
Maine	52.8	52.8	56.1	56.7	61.1	65.0	65.2	59.9	59.9	71.3	67.2	69.4
Massachusetts	51.1	51.6	54.4	55.6	59.9	63.8	63.4	58.0	60.2	71.5	65.8	71.1
New Hampshire	51.9	52.0	54.8	55.7	60.7	64.3	64.7	59.0	61.3	71.2	66.6	72.4
Rhode Island	50.6	50.9	54.0	55.2	59.6	63.4	62.8	57.5	60.2	70.3	64.2	68.9
Central Atlantic (PADD IY)	50.7	50.8	53.7	55.0	58.8	62.2	62.2	57.7	59.8	69.8	65.1	67.5
Delaware	49.6	49.9	52.8	54.1	58.2	61.9	61.3	56.3	59.5	69.9	64.2	67.8
District of Columbia	51.1	51.0	53.8	54.9	61.7	65.0	67.0	62.2	60.7	71.7	67.5	68.5
Maryland	49.4	49.6	52.5	53.8	57.5	60.3	60.7	56.4	58.4	67.3	63.7	64.6
New Jersey	50.2	50.2	53.0	54.2	58.3	61.5	61.7	57.2	58.3	69.5	65.0	68.7
New York	51.7	51.9	54.9	56.2	59.9	63.6	63.4	59.3	61.5	71.1	66.7	68.7
Pennsylvania	50.9	50.8	53.8	55.0	58.5	61.9	61.8	57.0	60.0	69.3	65.2	65.9
Lower Atlantic (PADD IZ)	50.2	50.3	52.9	54.0	57.4	59.0	59.2	54.9	57.7	63.0	59.9	61.9
North Carolina	50.9	50.8	53.4	54.5	57.7	59.1	59.4	54.7	57.4	62.3	59.6	61.6
Virginia	49.6	49.8	52.5	53.6	57.1	59.0	59.0	55.1	58.0	63.7	60.1	62.1
Midwest (PADD II)	52.2	51.6	55.3	55.6	56.0	58.8	57.0	51.9	58.1	62.8	62.4	62.5
Illinois	50.0	49.5	54.7	55.1	54.6	55.5	55.7	50.5	53.5	62.6	62.3	62.4
Indiana	50.4	50.3	54.2	54.9	57.0	56.6	56.8	51.9	56.0	62.4	61.8	61.6
Iowa	55.7	54.8	56.5	56.0	56.7	57.0	56.6	52.3	56.9	61.7	61.9	62.8
Kansas	55.3	53.9	55.5	55.0	55.9	56.5	56.2	51.1	56.2	60.3	61.4	61.9
Kentucky	51.3	50.9	54.4	55.0	56.4	57.7	58.6	53.3	55.6	62.5	61.6	61.0
Michigan	50.2	49.9	55.0	55.7	55.2	56.0	56.1	51.4	56.0	62.9	62.7	62.9
Minnesota	56.8	55.6	57.0	56.2	56.9	57.8	57.1	52.5	56.9	62.0	62.4	63.1
Missouri	50.4	50.1	53.9	54.5	55.4	56.7	57.1	51.8	55.6	61.6	60.5	61.3
North Dakota	57.9	56.5	58.4	58.0	58.6	59.2	58.9	55.4	59.9	64.1	63.9	64.3
Ohio	52.2	50.9	55.9	56.7	55.9	57.4	58.0	52.0	56.5	65.3	63.8	63.3
South Dakota	55.8	54.8	57.3	57.4	57.7	57.8	58.1	54.1	57.6	65.5	63.6	63.5
Wisconsin	52.4	51.9	55.8	56.2	55.8	56.9	56.9	51.8	57.8	63.4	63.4	63.5

Appendix Four

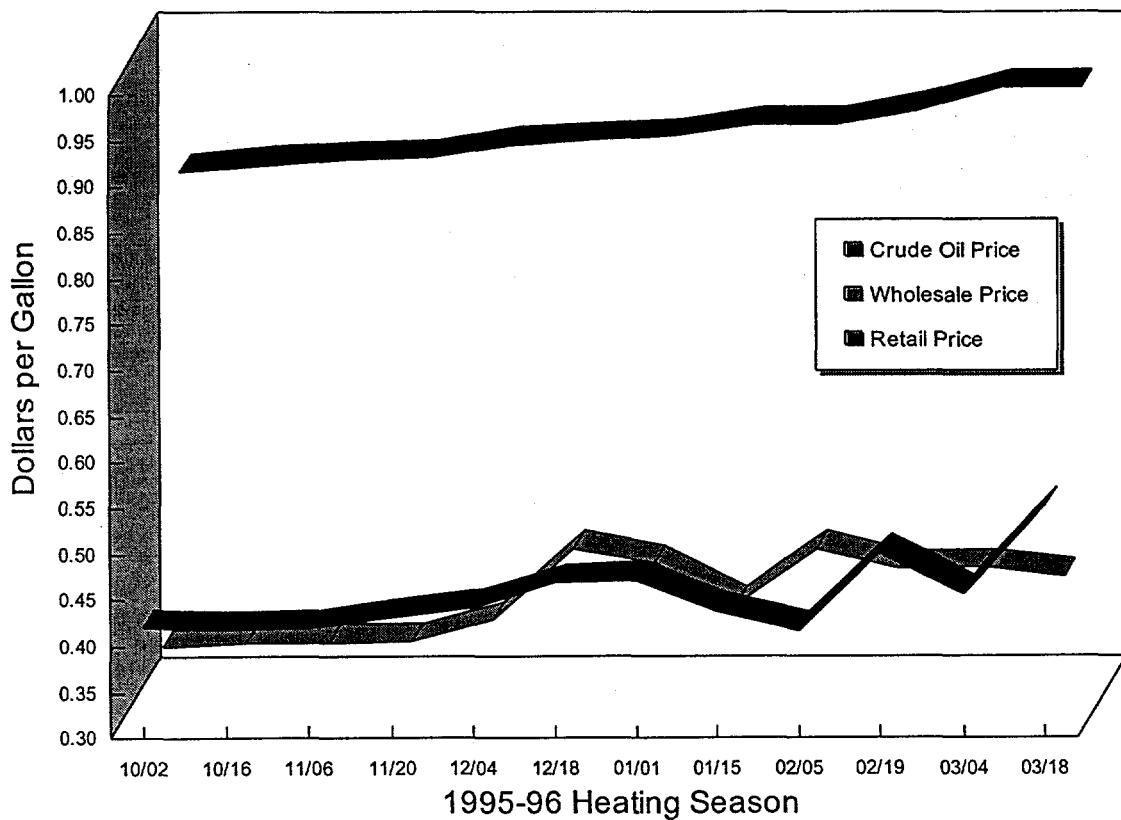
Table 1.7 Cost of Fuels to End Users in Constant (1982-84) Dollars

	Consumer Price Index (Urban) ^a	Motor Gasoline (All Types)		Residential Heating Oil		Residential Natural Gas		Residential Electricity	
	Index 1982-1984=100	Cents per Gallon	Dollars per Million Btu	Cents per Gallon	Dollars per Million Btu	Cents per Thousand Cubic Feet	Dollars per Million Btu	Cents per Kilowatthour	Dollars per Million Btu
1973 Average	44.4	NA	NA	NA	NA	290.5	2.85	5.6	16.50
1974 Average	49.3	NA	NA	NA	NA	290.1	2.83	6.3	18.43
1975 Average	53.8	NA	NA	NA	NA	317.8	3.12	6.5	19.07
1976 Average	56.9	NA	NA	NA	NA	348.0	3.41	6.5	19.06
1977 Average	60.6	NA	NA	NA	NA	387.8	3.81	6.8	19.83
1978 Average	65.2	100.0	8.00	75.2	5.42	392.6	3.86	6.6	19.33
1979 Average	72.6	121.5	9.71	97.0	6.99	410.5	4.03	6.3	18.57
1980 Average	82.4	148.2	11.85	118.2	8.52	446.6	4.36	6.6	19.21
1981 Average	90.9	148.8	11.90	131.4	9.47	471.9	4.60	6.8	19.99
1982 Average	96.5	132.7	10.61	120.2	8.67	535.8	5.22	7.2	20.96
1983 Average	99.6	123.0	9.83	108.2	7.80	608.4	5.90	7.2	21.19
1984 Average	103.9	115.3	9.22	105.0	7.57	589.0	5.72	7.2	21.16
1985 Average	107.6	111.2	8.89	97.9	7.06	568.8	5.52	7.2	21.25
1986 Average	109.6	84.9	6.79	76.3	5.50	531.9	5.17	6.8	19.79
1987 Average	113.6	84.2	6.74	70.7	5.10	487.7	4.73	6.5	19.09
1988 Average	118.3	81.4	6.51	68.7	4.96	462.4	4.49	6.3	18.58
1989 Average	124.0	85.5	6.83	72.6	5.23	454.8	4.41	6.1	17.96
1990 Average	130.7	93.1	7.44	81.3	5.86	443.8	4.31	6.01	17.60
1991 Average	136.2	87.8	7.02	74.8	5.39	427.3	4.14	5.91	17.32
1992 Average	140.3	84.8	6.78	66.6	4.80	419.8	4.07	5.87	17.19
1993 January	142.6	82.9	6.63	66.1	4.77	401.8	3.91	5.43	15.93
February	143.1	81.9	6.55	66.1	4.77	400.4	3.90	5.46	16.00
March	143.6	81.0	6.48	66.4	4.79	394.8	3.84	5.44	15.94
April	144.0	81.6	6.52	64.3	4.64	418.1	4.07	5.65	16.57
May	144.2	82.7	6.61	63.2	4.56	470.2	4.57	5.94	17.42
June	144.4	82.7	6.61	61.6	4.44	510.4	4.96	6.06	17.76
July	144.4	81.3	6.50	59.3	4.27	544.3	5.29	6.05	17.74
August	144.8	80.3	6.42	58.1	4.19	561.5	5.46	6.04	17.69
September	145.1	79.3	6.34	58.9	4.25	534.1	5.20	6.06	17.77
October	145.7	81.9	6.55	60.9	4.39	466.0	4.53	6.02	17.64
November	145.8	80.8	6.46	60.7	4.38	423.2	4.12	5.64	16.52
December	145.8	77.9	6.23	59.4	4.28	415.3	4.05	5.43	15.92
Average	144.5	81.2	6.49	63.0	4.55	426.3	4.15	5.77	16.92
1994 January	146.2	75.9	6.06	61.3	4.42	405.6	3.94	5.31	15.56
February	146.7	75.9	6.07	63.3	4.57	411.7	4.00	5.36	15.70
March	147.2	75.3	6.02	62.1	4.48	428.0	4.16	5.50	16.13
April	147.4	76.5	6.12	59.8	4.31	447.8	4.35	5.64	16.54
May	147.5	77.5	6.20	58.4	4.21	463.7	4.51	5.80	16.99
June	148.0	78.9	6.30	57.6	4.15	517.6	5.03	5.94	17.41
July	148.4	80.8	6.46	55.7	4.02	545.8	5.30	5.94	17.42
August	149.0	83.4	6.67	55.1	3.97	551.7	5.36	5.95	17.45
September	149.4	82.8	6.62	55.7	4.02	524.8	5.10	5.92	17.36
October	149.5	81.1	6.48	56.7	4.09	458.9	4.46	5.74	16.82
November	149.7	81.6	6.53	57.2	4.13	418.8	4.07	5.55	16.27
December	149.7	80.4	6.43	58.0	4.18	404.8	3.93	5.40	15.82
Average	148.2	79.2	6.33	59.6	4.30	432.5	4.21	5.67	16.63
1995 January	150.3	79.2	6.33	58.2	4.19	387.9	3.77	5.22	15.31
February	150.9	78.3	6.26	58.3	4.20	380.4	3.70	5.29	15.50
March	151.4	77.5	6.19	57.7	4.16	384.4	3.74	5.39	15.80
April	151.9	78.8	6.30	56.7	4.09	397.6	3.87	5.55	16.27
May	152.2	82.5	6.60	56.8	4.09	429.0	4.17	5.62	16.46
June	152.5	84.0	6.72	55.5	4.00	490.5	4.77	5.73	16.80
July	152.5	82.1	6.56	53.8	3.88	R 511.5	R 4.97	5.78	16.93
August	152.9	79.9	6.39	52.7	3.80	R 531.1	R 5.16	5.75	16.85
September	153.2	78.7	6.29	53.7	3.87	R 503.9	R 4.90	5.60	16.41
October	153.7	77.1	6.16	54.8	3.95	R 430.1	R 4.18	5.63	16.51
November	153.6	75.6	6.04	56.4	4.07	R 363.9	R 3.54	5.38	15.78
December	153.5	75.6	6.04	59.6	4.30	362.9	3.53	5.23	15.33
Average	152.4	79.1	6.32	57.2	4.13	397.6	3.86	5.52	16.17

Appendix Five

MPSC Propane Survey Results (aggregate)						
1995	Oct 2	Oct 16	Nov 6	Nov 20	Dec 4	Dec 18
Average	\$0.807	\$0.812	\$0.817	\$0.827	\$0.830	\$0.842
Low Price	\$0.670	\$0.670	\$0.670	\$0.670	\$0.720	\$0.720
High Price	\$0.890	\$0.890	\$0.899	\$0.939	\$0.939	\$0.950
Seasonal Average						
1996	Jan 1	Jan 15	Feb 5	Feb 19	Mar 4	Mar 18
Average	\$0.873	\$0.894	\$0.911	\$0.953	\$0.956	\$0.946
Low Price	\$0.720	\$0.720	\$0.790	\$0.800	\$0.849	\$0.800
High Price	\$0.980	\$0.985	\$1.040	\$1.070	\$1.070	\$1.049
\$0.872						
\$0.733						
\$0.975						

Propane Price Comparision



Appendix Six

Table 8. Residential Propane Prices by Region and State
(Cents per Gallon)

Region/State	1994/95 Heating Season											
	October	November	December	January	February	March						
Average	84.8	85.6	86.7	86.0	89.2	89.8						
East Coast (PADD I)	113.4	115.1	115.2	116.3	116.9	116.4						
New England (PADD IX)	113.7	113.6	114.7	115.5	115.9	116.6						
Central Atlantic (PADD IV)	118.4	121.4	120.1	121.6	122.2	120.5						
Lower Atlantic (PADD IZ)	104.2	105.3	105.9	106.5	107.4	107.1						
Midwest (PADD II)	71.4	72.4	73.8	75.3	76.2	76.6						
Region/State	1995/96 Heating Season											
	10/02	10/16	11/06	11/20	12/04	12/18	01/01	01/15	02/05	02/19	03/04	03/18 ^P
Average	88.5	88.8	88.6	89.8	90.4	92.4	98.4	98.2	99.6	102.9	102.5	101.1
East Coast (PADD I)	112.8	113.0	112.6	113.6	114.0	115.2	119.1	121.8	123.3	128.3	126.4	125.3
New England (PADD IX)	115.2	116.1	115.9	116.0	116.4	117.3	121.6	124.9	126.4	128.9	129.5	128.8
Connecticut	116.9	117.6	114.7	114.9	114.4	115.1	118.5	122.1	123.7	126.2	125.8	124.5
Maine	124.1	126.3	126.3	126.4	128.0	128.6	129.9	134.0	134.1	135.1	136.7	136.4
Massachusetts	115.1	115.1	115.5	115.4	115.9	116.6	119.9	122.1	124.9	129.1	128.7	126.1
New Hampshire	114.3	113.8	114.4	114.5	114.5	115.4	121.7	125.3	126.9	128.4	130.0	130.3
Rhode Island	134.6	136.3	134.9	135.2	136.0	136.7	138.4	143.7	146.2	152.9	154.6	159.4
Vermont	108.4	109.6	109.9	111.1	111.4	112.8	118.4	121.6	123.0	125.7	126.1	125.5
Central Atlantic (PADD IV)	114.9	114.6	114.0	115.6	115.8	117.0	120.2	122.8	123.9	127.0	127.1	126.1
Delaware	117.2	117.5	117.5	118.3	119.4	124.7	128.9	134.9	133.2	134.1	133.2	129.9
Maryland	120.9	121.0	118.7	119.1	120.2	121.7	125.6	132.8	134.1	136.4	135.7	134.1
New Jersey	122.3	122.0	117.8	118.6	119.5	121.2	123.9	129.4	128.7	132.8	134.0	134.1
New York	116.7	116.4	115.8	118.4	118.4	119.5	121.9	123.5	124.9	129.2	129.2	128.0
Pennsylvania	109.5	109.5	109.4	109.7	109.6	110.5	114.7	116.6	117.9	119.6	119.7	119.3
Lower Atlantic (PADD IZ)	104.2	104.5	104.9	105.6	105.6	107.0	112.5	114.7	117.2	120.5	120.1	118.6
North Carolina	101.8	102.2	102.7	103.6	103.5	105.7	110.6	112.8	116.2	120.3	119.8	118.3
Virginia	109.3	109.3	109.6	109.8	109.9	109.9	116.6	118.7	119.2	120.9	120.9	119.2
Midwest (PADD II)	73.5	74.2	74.6	75.1	75.9	78.1	82.3	83.6	84.9	88.4	87.6	85.9
Indiana	81.9	82.2	83.5	84.8	86.4	88.0	92.2	93.7	95.0	100.1	98.4	95.4
Iowa	58.0	58.3	58.6	59.4	60.0	63.8	66.5	66.8	67.5	69.1	70.1	68.7
Kentucky	92.6	93.9	93.5	93.9	94.1	96.3	101.0	102.8	104.8	111.8	109.9	107.6
Michigan	79.6	80.4	80.3	81.2	81.7	82.3	85.0	87.3	88.8	93.4	93.7	92.8
Minnesota	74.1	75.5	75.3	75.7	76.6	80.3	84.8	85.7	88.5	90.2	89.3	88.7
Missouri	66.6	69.2	70.0	70.0	70.7	72.3	78.0	79.8	81.0	84.1	82.9	80.8
North Dakota	59.3	59.9	61.6	63.2	66.3	69.8	74.4	75.8	77.0	77.8	76.6	74.3
Ohio	86.9	86.6	86.5	87.1	88.0	89.2	91.7	95.8	97.1	102.6	100.9	98.5
South Dakota	61.1	61.8	61.9	62.3	62.7	64.5	66.9	67.2	67.4	68.7	68.9	68.4
Wisconsin	74.8	75.8	76.7	77.0	77.8	80.8	86.3	85.6	86.4	89.4	87.0	86.4

P=Preliminary data.

R=Revised data.

Appendix Seven

Table 10. Wholesale Propane Prices by Region and State
(Cents per Gallon)

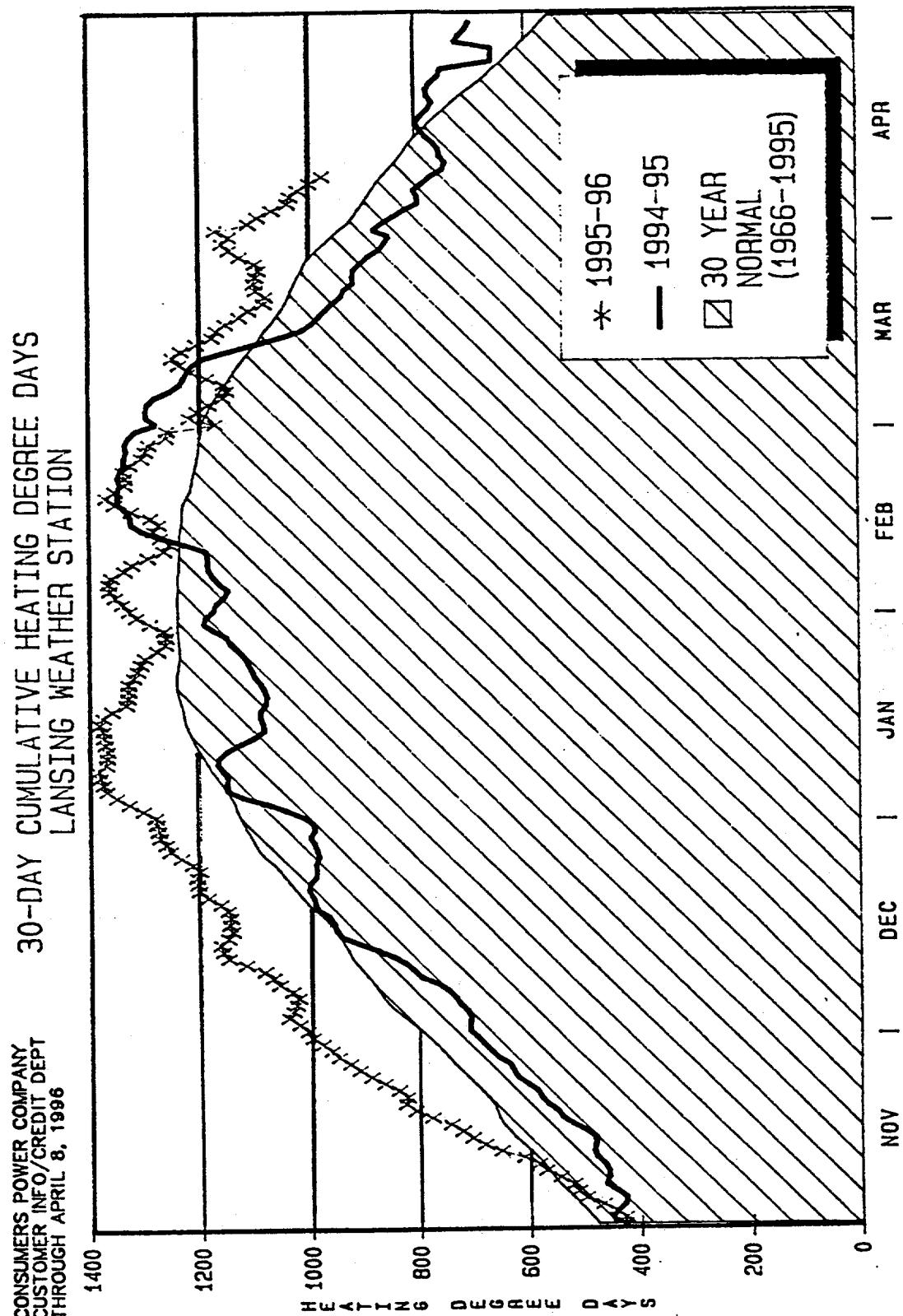
Region/State	1994/95 Heating Season					
	October	November	December	January	February	March
Average	35.8	37.1	37.3	36.5	35.1	38.1
East Coast (PADD I)	40.1	42.1	42.7	42.0	40.5	41.7
Central Atlantic (PADD IY)	40.9	43.1	43.6	43.0	40.7	42.6
Lower Atlantic (PADD IZ)	38.8	40.6	41.6	40.8	40.2	40.5
Midwest (PADD II)	34.5	35.8	35.9	35.0	33.7	37.1

Region/State	1995/96 Heating Season											
	10/02	10/16	11/06	11/20	12/04	12/18	01/01	01/15	02/05	02/19	03/04	03/18 ^P
Average	37.0	37.4	37.5	37.6	39.9	47.3	46.5	43.4	48.4	47.5	47.2	45.2
East Coast (PADD I)	38.8	39.2	39.2	39.4	41.6	48.1	49.7	51.9	52.9	57.1	54.5	49.4
Central Atlantic (PADD IY)	39.5	40.1	40.0	40.1	42.0	48.7	49.3	50.3	52.2	58.5	55.4	49.7
New York	39.9	40.3	40.2	40.3	42.3	48.8	49.4	50.3	50.8	57.0	55.8	50.1
Pennsylvania	39.2	39.9	39.8	39.9	41.8	48.7	49.3	50.3	53.1	56.2	55.2	49.4
Lower Atlantic (PADD IZ)	38.0	38.0	38.2	38.6	41.0	47.2	50.1	54.0	54.0	57.8	53.8	48.9
North Carolina	38.0	38.0	38.2	38.6	41.0	47.2	50.1	54.0	54.0	57.8	53.8	48.9
Midwest (PADD II)	36.5	36.9	37.0	37.1	39.4	47.1	45.6	41.1	47.1	44.9	45.1	44.1
Illinois	37.7	37.8	37.7	37.6	40.3	48.6	46.2	40.2	39.0	43.4	43.7	42.9
Indiana	37.4	37.7	38.0	38.0	39.9	46.6	47.0	47.4	57.4	52.4	50.7	47.2
Iowa	36.9	36.9	36.9	36.9	39.1	46.9	45.0	39.3	44.9	43.7	44.3	43.6
Kansas	34.1	34.1	34.5	34.9	37.1	44.0	41.4	36.1	40.9	39.7	40.6	40.6
Minnesota	37.1	37.1	37.3	37.2	39.6	47.3	45.8	40.3	48.5	43.6	45.3	44.6
Missouri	36.6	36.8	37.0	37.2	39.1	48.6	46.9	42.0	52.1	46.1	44.9	45.0
North Dakota	35.4	35.6	35.5	35.7	39.4	47.5	46.8	40.3	49.5	46.2	45.6	43.6
Ohio	37.7	38.2	38.3	38.3	40.3	46.6	47.4	48.3	54.9	53.4	51.6	47.6
South Dakota	37.9	37.9	37.9	37.9	40.3	48.3	46.2	40.4	50.6	43.8	45.4	45.1
Wisconsin	37.7	40.4	40.4	40.4	42.9	50.8	50.8	44.4	52.3	45.8	48.5	47.0

P=Preliminary data.

Source: These data are average prices collected by the Computer Petroleum Corporation, Inc.

Appendix Eight



The residential No. 2 heating oil and propane prices (excluding taxes) for a given State are based on the results of telephone surveys of a sample of marketers and refiners. Data are collected under the Energy Information Administration (EIA) State Heating Oil and Propane Program.

Sampling Methodology and Estimation Procedures

To estimate aggregate propane and No. 2 heating oil price data for a State, the sample weight and volume sales data were applied to the reported price, summed and divided by the sum of the weighted volume:

$$\frac{\sum_{j=1}^s \sum_{i=1}^{n_j} w_{ij} v_{ij} p_{ij}}{\sum_{j=1}^s \sum_{i=1}^{n_j} w_{ij} v_{ij}}, \quad \text{where } w =$$

sample weight, v = volume, p = price, i = respondent, n_j = sample size of stratum j , and s = number of strata, to obtain a volume weighted price.

The volume used for No. 2 heating oil is the company's residential sales volume for 1991 as reported on the EIA-863 "Petroleum Product Sales Identification Survey." The volume used for propane is the company's residential propane sales volume for the previous year obtained by Form EIA-877, "Winter Heating Fuels Telephone Survey," during the first pricing period.

These fixed volume weights indicate the relative importance of the individual companies according to the size of their sales. Therefore, changes in the average price across time reflect only the change in the price being offered by the company, and not changes in the amounts sold. Price indexes constructed using fixed volumes, such as these annual sales, are known as Laspeyres Indexes. The alternative method of weighting, current weights, would require each company to report the number of gallons sold at the reported price each pricing period. This method is more burdensome on the companies and reflects prices over a period of time as compared to a point in time. Therefore, the calculation of average prices tends to lag behind the reference period. Indexes constructed from current period weights are known as Paasche Indexes.

Both methods of weighting are correct; they do, however, vary when current weights are changing. It has been argued that during periods of change, the Laspeyres method has a tendency to overestimate price changes, while the Paasche method tends to underestimate price changes.

In this survey, it is expected that the relative change in volumes monthly is small. Residential sales are not bulk in nature and do not tend to reflect discounts on price for large volume purchases. Absolute changes in volume within a year's time would more likely reflect demand and be consistent across companies within a geographical area.

Residential No. 2 Heating Oil

For the No. 2 heating oil price data, a sample design similar to that used for the EIA Form EIA-782B, "Resellers'/Retailers' Monthly Petroleum Product Sales Report," sample design was used. The sampling frame was an extract of approximately 11,000 companies from the Form EIA-863, "Petroleum Product Sales Survey," conducted in 1992 and containing 1991 sales volume information. A one-way stratified sample design using No. 2 residential distillate frame sales volumes by State, for each of the 24 States to be sampled, was used. Stratum boundaries were determined by the Dalenius-Hodges procedure. Sample weights were calculated as the inverse of the probability (N/n). Certainty strata were established based on sales volumes and the number of States in which the company has sales. The expected price coefficient of variation is one to two percent.

Residential Propane

Since no volume sales information existed to predetermine the volume sales of propane dealers, two strata for propane dealers was used. A certainty stratum of the known, large, multi-State dealers was created. These companies were identified using establishment lists obtained in deriving the frame. All other dealers were in a second stratum and a random sample from this stratum was selected. Sample weights were calculated as the inverse of the probability (N/n). The name and address list sampling frame was constructed by first extracting from the Form EIA-863, "Petroleum Product Sales Identification Survey," companies who marked the box on the survey indicating they sell propane. This was augmented by companies on the Office of Oil and Gas Master File who have the words propane or liquefied petroleum gas (LPG) in their name. In addition, companies who file the Form EIA-782A, "Refiners'/Gas Plant Operators' Monthly Petroleum Product Sales Report," and report retail propane or the Form EIA-782C, "Monthly Report of Petroleum Products Sold into States for Consumption," and report propane, as well as companies that were active on the Form EIA-174, "Liquefied Petroleum Gas Survey," prior to its discontinuance, were included.

Revision Error

The numbers in Tables B3 and B4 display revision errors for heating oil and propane prices collected during the 1994/95 survey season. Numbers may be revised in the publication based on data received late or receipt of revised data. Numbers are published as preliminary and final. The difference between preliminary and final data is called the revision error.

Response Rate

Response rates are generally 95 to 100 percent.



STATE OF MICHIGAN
OFFICE OF THE AUDITOR GENERAL
201 N. WASHINGTON SQUARE
LANSING, MICHIGAN 48913
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THOMAS H. MCTAVISH, C.P.A.
AUDITOR GENERAL

June 3, 1994

RECEIVED
MICH. PUBLIC SERVICE COMM.

JUN 06 1994

Mr. John G. Strand, Chairperson
Public Service Commission
6545 Mercantile Way
and
Mr. Arthur E. Ellis, Director
Department of Commerce
Law Building
Lansing, Michigan

Gentlemen:

Enclosed is a copy of the performance audit of the Michigan Public Service Commission, Department of Commerce, for the period October 1, 1990 through August 31, 1993.

Sincerely,

Thomas H. McTavish

Thomas H. McTavish, C.P.A.
Auditor General

Enclosures

Strand (3)
Ellis (1)

c: John Reurink (1)
✓ Thomas R. Lonergan (2)
Patricia Wightman (3)
Roy Murry (1)



MICHIGAN

OFFICE OF THE AUDITOR GENERAL

AUDIT REPORT

PERFORMANCE AUDIT
OF THE

MICHIGAN PUBLIC SERVICE COMMISSION

DEPARTMENT OF COMMERCE

October 1, 1990 through August 31, 1993



THOMAS H. McTAVISH, C.P.A.
AUDITOR GENERAL

“...The auditor general shall conduct post audits of financial transactions and accounts of the state and of all branches, departments, offices, boards, commissions, agencies, authorities and institutions of the state established by this constitution or by law, and performance post audits thereof.”

– Article 4, Section 53 of the Michigan Constitution

EXECUTIVE DIGEST

MICHIGAN PUBLIC SERVICE COMMISSION

INTRODUCTION	This report covers the results of our performance audit of the Michigan Public Service Commission (MPSC), Department of Commerce, for the period October 1, 1990 through August 31, 1993.
AUDIT PURPOSE	This performance audit was conducted as part of the constitutional responsibility of the Office of the Auditor General. Performance audits are conducted on a priority basis related to the potential for improving effectiveness and efficiency.
BACKGROUND	MPSC is composed of three commissioners appointed by the Governor with the advice and consent of the Senate for staggered six-year terms. For fiscal year 1991-92, MPSC expended approximately \$15 million to regulate Michigan's electric, gas, telephone, steam heating, and water utilities; oil and gas pipelines; and motor carriers and to design and administer programs that increase energy efficiency and reduce energy costs in both the public and private sectors.
AUDIT OBJECTIVES AND CONCLUSIONS	Audit Objective: To assess the adequacy of the Motor Carrier Regulation Division's (MCRD's) efforts to ensure that motor carrier services were provided in a safe manner.

Conclusion: We concluded that MCRD's efforts were not sufficient to ensure that motor carrier services were provided in a safe manner. We identified the following material findings:

- MCRD did not establish a procedure to systematically review safety inspection information to determine if motor carriers with current authorizations were providing services in an unsafe manner (Finding 1). MCRD concurred with the corresponding recommendations and will comply.
- MCRD did not always document that it assessed the safety records of motor carriers when they applied for new or expanded authority (Finding 2). MCRD concurred with the corresponding recommendations and will comply.
- Current laws do not require MCRD to regulate private and interstate motor carriers (Finding 3). MPSC supports the corresponding recommendation. However, it would require State legislation to regulate private motor carriers and federal authorization for interstate motor carriers.

In addition, we identified concerns involving documenting vehicle inspections and monitoring informal complaints (Findings 4 and 5).

Audit Objective: To assess the effectiveness of the Energy Resource Division's monitoring of selected energy conservation programs.

Conclusion: We concluded that MPSC's Energy Resource Division effectively monitored the programs (the institutional and State energy conservation programs) which we reviewed. There were no reportable conditions related to this objective.

Audit Objective: To assess the adequacy of selected administrative procedures.

Conclusion: We concluded that MPSC generally had adequate administrative procedures. However, MPSC had not established

adequate internal controls over the recording and monitoring of employee time and attendance and did not provide the Department of Commerce with adequate data to properly assess public utility companies for their share of MPSC's annual appropriation for regulating public utilities (Findings 6 and 7).

In addition, MCRD had not established adequate internal controls to ensure the collection of and proper accounting for motor carrier assessments and decal revenue. Further, MCRD did not have a complete, written procedures manual for its operations. (Findings 8 through 10)

AUDIT SCOPE AND METHODOLOGY Our audit scope was to examine the program and other records of the Michigan Public Service Commission for the period October 1, 1990 through August 31, 1993. Our audit was conducted in accordance with *Government Auditing Standards* issued by the Comptroller General of the United States and, accordingly, included such tests of the records and such other auditing procedures as we considered necessary in the circumstances.

Our methodology included a preliminary survey which consisted of interviewing various personnel and reviewing reports and procedures to gain an understanding of, and form a basis for selecting, MPSC operations for audit. We conducted tests of records related to payroll, motor carrier and utility company assessments, and energy conservation programs. We also conducted tests of records related to motor carrier safety and expanded authority applications.

AGENCY RESPONSE Our report includes 10 findings and 19 corresponding recommendations. The agency preliminary responses prepared for our audit conference indicated concurrence with 18 recommendations and support for 1, which will require amendatory legislation.

The agency preliminary response which follows each recommendation in our report was taken from the agency's written comments and oral discussion subsequent to our audit fieldwork.

Section 18.1462 of the *Michigan Compiled Laws* and Department of Management and Budget Administrative Guide procedure 1280.02 require the department to develop a formal response to our audit findings and recommendations within 60 days after release of the audit report.



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THOMAS H. MCTAVISH, C.P.A.
AUDITOR GENERAL

June 9, 1994

Mr. John G. Strand, Chairperson
Public Service Commission
6545 Mercantile Way
and
Mr. Arthur E. Ellis, Director
Department of Commerce
Law Building
Lansing, Michigan

Gentlemen:

This is our report on the performance audit of the Michigan Public Service Commission, Department of Commerce, for the period October 1, 1990 through August 31, 1993.

This report contains our executive digest; description of agency; audit objectives, scope, and methodology; and comments, findings, recommendations, and agency preliminary responses.

Our comments, findings, and recommendations are organized by audit objective. The agency preliminary responses were taken from the agency's responses subsequent to our audit fieldwork. The *Michigan Compiled Laws* and administrative procedures require that the audited agency develop a formal response within 60 days after release of the audit report.

We appreciate the courtesy and cooperation extended to us during this audit.

Sincerely,

Thomas H. McTavish

Thomas H. McTavish, C.P.A.
Auditor General

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Description of Agency

The Michigan Public Service Commission (MPSC) is composed of three commissioners appointed by the Governor with the advice and consent of the Senate for staggered six-year terms. No more than two of the three members can be of the same political party.

MPSC regulates Michigan's electric, gas, telephone, steam heating, and water utilities and oil and gas pipelines. MPSC is empowered to regulate all rates, services, rules, conditions of service, and other matters relating to the operations of public utilities. Municipally owned utilities are not included in MPSC's jurisdiction.

MPSC also regulates intrastate for-hire motor carriers with regard to market entry, rates, routes, and cargo. Interstate motor carriers must register with MPSC; but, they are not subject to MPSC regulation.

In addition, MPSC designs and administers programs that increase energy efficiency and reduce energy costs in both the public and private sectors. Also, MPSC develops and coordinates the State's energy policy.

As of August 1993, MPSC had 201 employees. MPSC expenditures for the fiscal year ended September 30, 1992 were approximately \$15 million.

Audit Objectives, Scope, and Methodology

Audit Objectives

Our performance audit of the Michigan Public Service Commission, Department of Commerce, had the following objectives:

1. To assess the adequacy of the Motor Carrier Regulation Division's efforts to ensure that motor carrier services were provided in a safe manner.
2. To assess the effectiveness of the Energy Resource Division's monitoring of selected energy conservation programs.
3. To assess the adequacy of selected administrative procedures.

Audit Scope

Our audit scope was to examine the program and other records of the Michigan Public Service Commission for the period October 1, 1990 through August 31, 1993. Our audit was conducted in accordance with *Government Auditing Standards* issued by the Comptroller General of the United States and, accordingly, included such tests of the records and such other auditing procedures as we considered necessary in the circumstances.

Audit Methodology

Our methodology included a preliminary survey which consisted of interviewing various personnel and reviewing reports and procedures to gain an understanding of, and form a basis for selecting, Michigan Public Service Commission operations for audit. We conducted tests of records related to payroll, motor carrier and utility company assessments, and energy conservation programs. We also conducted tests of records related to motor carrier safety and expanded authority applications.

COMMENTS, FINDINGS, RECOMMENDATIONS, AND AGENCY PRELIMINARY RESPONSES

MOTOR CARRIER SAFETY

COMMENT

Background: Intrastate for-hire motor carrier operators must apply for and obtain Michigan Public Service Commission (MPSC) authority in order to operate in Michigan. MPSC oversees intrastate for-hire motor carrier operations, including rates charged, routes or territories of operation, commodities transported, minimum liability insurance carried, accounting systems used, and safety regulation. Motor carriers must apply to MPSC to change their routes, territories, or commodities transported.

Interstate carriers are regulated by the United States Department of Transportation (USDOT) and the Interstate Commerce Commission. Private motor carriers, i.e., carriers that transport goods they own in vehicles they own or control, are not subject to federal and State regulation.

MPSC has assigned the responsibility for regulation of the intrastate for-hire trucking industry (motor carriers) to its Motor Carrier Regulation Division (MCRD). Subsequently, MCRD developed criteria to assess motor carrier safety using the safety information provided by USDOT and the safety inspections performed by the Motor Carrier Division of the Michigan Department of State Police (MSP). USDOT and MSP perform safety inspections of all (interstate, intrastate, and private) motor carriers. MCRD receives quarterly reports of USDOT motor carrier safety inspection results. Also, MCRD has on-line access to MSP's motor carrier data system that discloses the number of inspections and safety violations issued to specific motor carriers. Although this data is available, MCRD does not routinely use the data to monitor motor carrier safety.

Audit Objective: To assess the adequacy of MCRD's efforts to ensure that motor carrier services were provided in a safe manner.

Conclusion: We concluded that MCRD's efforts were not sufficient to ensure that motor carrier services were provided in a safe manner. MCRD did not establish a procedure to systematically review safety inspection information or always document that it assessed the safety records of motor carriers when they applied for new or expanded authority. Also, current laws do not require MCRD to regulate private and interstate motor carriers.

In addition, we identified concerns involving documenting vehicle inspections and monitoring informal complaints.

FINDING

1. Motor Carrier Safety Reviews

MCRD did not establish a procedure to systematically review motor carrier safety inspection information to determine if motor carriers with current authorizations were providing services in an unsafe manner. As a result, MCRD did not file formal complaints with MPSC to sanction unsafe motor carriers by amending, modifying, suspending, or revoking the authorization of these carriers.

Section 475.2 of the *Michigan Compiled Laws* requires MPSC to regulate motor carriers to protect the safety and welfare of the public. MPSC has assigned the responsibility to monitor motor carrier safety inspection information to MCRD. To meet this responsibility, MCRD relies on USDOT and MSP safety inspections. MCRD has established criteria defining unsafe motor carriers using USDOT and MSP safety inspection information. MCRD considers motor carriers to be providing services in an unsafe manner when they receive:

- a. A USDOT conditional or unsatisfactory safety rating.
- b. Ten or more MSP inspections in the past calendar year and 40% or more of the inspections resulted in out-of-service safety violations.

In addition, MCRD procedures require the issuance of a warning letter when less than 10 inspections result in 31% or more out-of-service violations or more than 10 inspections result in 31% - 39% out-of-service violations.

MCRD did not have a procedure to systematically review USDOT and MSP safety inspection information. Such a review would identify those regulated motor carriers that do not meet minimum safety criteria. For those not in compliance with the safety criteria, MCRD would file a complaint with MPSC against the carrier providing unsafe services as part of the due process action.

To determine the extent to which motor carriers were not in compliance with MCRD safety criteria, we reviewed MSP safety inspection information. This review identified 63 intrastate motor carriers, with a combined fleet of over 2,500 vehicles, that were not in compliance with MCRD safety criteria. For example, one motor carrier had

21 MSP inspections and 85% of the inspections resulted in issuance of out-of-service safety violations.

We also reviewed approximately 10% of the motor carriers appearing on the USDOT safety rating report dated June 2, 1993. We identified 16 regulated motor carriers operating in the State with conditional ratings.

Periodically reviewing the safety records of motor carriers and filing formal complaints against motor carriers whose records were not in compliance with MCRD's safety criteria would help ensure that motor carrier services are provided in a safe manner, thus protecting the safety and welfare of the public.

RECOMMENDATIONS

We recommend that MCRD establish a procedure to systematically review motor carrier safety inspection information to determine if motor carriers with current authorizations were providing services in an unsafe manner.

We also recommend that MCRD file formal complaints with MPSC to sanction unsafe motor carriers by amending, modifying, suspending, or revoking the authorizations of these carriers.

AGENCY PRELIMINARY RESPONSE

MCRD concurred with these recommendations and will comply.

FINDING

2. Application for New or Expanded Authority

MCRD did not always document that it assessed the safety records of motor carriers when they applied for new or expanded authority. Also, MCRD did not comply with its procedures by issuing warning letters or requesting safety audits and petitioning MPSC to intervene in the new or expanded authority application process when safety issues occurred.

A motor carrier application for expanded authority represents a request to change the motor carrier's routes, territories, or commodities transported. MCRD procedures require an assessment of a motor carrier's safety records as part of the new or expanded authority application process. When the assessment shows that the motor carrier was not in compliance with the minimum safety criteria, MCRD is required to

either issue a warning letter (31% - 39% of inspections with out-of-service safety violations) or request an MSP safety audit (over 40% of inspections with out-of-service safety violations) and file a petition with MPSC to intervene in the new or expanded authority application process.

Our review of 25 motor carriers whose expanded authority applications were approved by MPSC disclosed that MCRD did not document that it had reviewed 24 applicants' safety records. MCRD did not issue any warning letters or request MSP safety audits. In addition, in only 1 of the 25 cases had MCRD filed a petition to intervene against a motor carrier.

Further, our review of the 25 motor carriers' safety records disclosed that 11 of the motor carriers were not in compliance with MCRD's safety criteria:

<u>Number of Motor Carrier Applicants</u>	<u>Percentage of Inspections With Out-of-Service Safety Violations</u>
4	100
1	70
1	60
1	54
1	50
1	40
1	36
1	33

Based on the motor carriers' safety records, MCRD should have either issued each motor carrier a warning letter or requested an MSP safety audit and petitioned MPSC to intervene in the expanded authority application process.

RECOMMENDATIONS

We recommend that MCRD document its assessment of motor carriers' safety records when carriers apply for new or expanded authority.

We also recommend that MCRD comply with its procedures by issuing warning letters or requesting safety audits and petitioning MPSC to intervene in the new or expanded authority application process when safety issues occur.

AGENCY PRELIMINARY RESPONSE

MCRD concurred with these recommendations and will comply.

FINDING

3. Private and Interstate Motor Carrier Vehicles

Current laws do not require MCRD to regulate private and interstate motor carriers. Accordingly, MCRD did not monitor USDOT and MSP safety records of private and interstate motor carriers to determine that they met MCRD's minimum safety violation criteria. As a result, some private and interstate motor carriers with safety violations are operating on State highways.

We reviewed MSP safety inspection records of private and interstate motor carriers. This review disclosed that 45 private and 15 interstate motor carriers were not in compliance with MCRD's minimum safety violation criteria. This means that 45 private and 15 interstate motor carriers had at least 10 MSP inspections in the previous calendar year and that 40% of the safety inspections were significant enough that MSP issued out-of-service violations. For example, one private and one interstate motor carrier had 94% and 72%, respectively, of their inspections result in out-of-service safety violations.

One of MPSC's major goals is to ensure that regulated motor carriers provide their services in a safe manner. Although current legislation has not mandated the regulation of private and interstate motor carriers, we concluded that they should be held accountable to the same safety criteria regulating intrastate motor carriers. Allowing motor carriers to operate vehicles that do not meet the minimum safety criteria compromises the public safety on State highways.

RECOMMENDATION

We recommend that MPSC seek amendatory legislation requiring that private and interstate motor carriers be held accountable to the same safety criteria applicable to intrastate motor carriers.

AGENCY PRELIMINARY RESPONSE

MPSC supports this recommendation. However, it would require State legislation to regulate private motor carriers and federal authorization for interstate motor carriers.

FINDING

4. Documentation of Vehicle Inspections

MCRD did not enforce existing administrative rules requiring motor carrier applicants to submit documentation that their vehicles were inspected within the last year.

Michigan Administrative Code R 460.18203(3) requires applicants to submit an affidavit stating that vehicles proposed to be used were inspected within the preceding 12-month period.

MCRD adopted federal regulations which require annual safety inspections of commercial motor vehicles. MCRD concluded that requiring applicants to comply with *Michigan Administrative Code R 460.18203(3)* was a duplication of the federal regulatory requirements. Thus, MCRD discontinued requiring motor carriers to submit documentation of their annual vehicle inspections.

However, the adoption of federal inspection regulations did not provide MCRD with evidence that the motor carriers' vehicles were inspected within the preceding 12-month period. Also, federal regulations require annual inspections of only commercial motor vehicles with a gross vehicle weight of over 10,000 pounds. MCRD also regulates commercial motor vehicles with lower weight limits. As a result, not all commercial motor vehicles regulated by MCRD were subject to the federal inspection regulations.

Documentation of motor carriers' safety inspections, in accordance with *Michigan Administrative Code R 460.18203(3)*, would help ensure that motor carriers meet safety requirements, thus protecting the safety and welfare of the public.

RECOMMENDATION

We recommend that MCRD obtain documentation that motor carrier applicants' vehicles were inspected, as required by *Michigan Administrative Code R 460.18203(3)*.

AGENCY PRELIMINARY RESPONSE

MCRD concurred with this recommendation. As of January 13, 1994, Sections 476.3 and 477.2 of the *Michigan Compiled Laws* (as amended by Act 352, P.A. 1993) require motor carrier applicants to certify to MPSC that the vehicles of the applicant

have passed an inspection. Also, *Michigan Administrative Code R 460.18203(3)* is in the process of being rescinded.

FINDING

5. Monitoring of Informal Complaints

MCRD had not established an effective monitoring system to ensure that informal complaints are resolved in a timely manner. As a result, MCRD had not determined the disposition of many complaints received since 1988.

Michigan Administrative Code R 460.17503 states that MPSC will attempt to resolve as an informal complaint any matter brought to its attention by a person not requesting a contested case proceeding. Most informal complaints relate to haul-for-hire and safety violations, which MCRD refers to MSP for investigation.

We reviewed with MSP staff the May 12, 1993 listing of 198 open complaints that MCRD referred to MSP from 1988 through April 1993. MSP staff indicated that 101 complaints were investigated and closed and 68 complaints were still open. MSP did not have a record of receiving the remaining 29 complaints.

RECOMMENDATION

We recommend that MCRD establish an effective monitoring system to ensure that informal complaints are resolved in a timely manner.

AGENCY PRELIMINARY RESPONSE

MCRD concurred with this recommendation and efforts are being made to address these problems including cooperative access to complaint and other computer files with the MSP.

ENERGY CONSERVATION PROGRAMS

COMMENT

Background: MPSC assigned responsibility for promoting energy conservation and renewable resource development and assisting public institutions, businesses, and homeowners in increasing energy efficiency and reducing energy costs to the Energy Resource Division.

Audit Objective: To assess the effectiveness of the Energy Resource Division's monitoring of selected energy conservation programs.

Conclusion: We concluded that MPSC's Energy Resource Division effectively monitored the programs which we reviewed (the institutional and State energy conservation programs). There were no reportable conditions related to this objective.

ADMINISTRATIVE PROCEDURES

COMMENT

Audit Objective: To assess the adequacy of selected administrative procedures.

Conclusion: We concluded that MPSC generally had adequate administrative procedures. However, MPSC had not established adequate internal controls over the recording and monitoring of employee time and attendance and did not provide the Department of Commerce with adequate data to properly assess public utility companies for their share of MPSC's annual appropriation for regulating public utilities.

In addition, MCRD had not established adequate internal controls to ensure the collection of and proper accounting for motor carrier assessments and decal revenue. Further, MCRD did not have a complete, written procedures manual for its operations.

FINDING

6. Timekeeping Controls

MPSC's Management Services Division had not established adequate internal controls over the recording and monitoring of employee time and attendance.

Our review of a total of 16 biweekly time and attendance reports (TAR's) prepared by 5 timekeeping units during the period October 1, 1991 through June 19, 1993 disclosed the following weaknesses:

- a. In all 5 timekeeping units, the employees certifying the TAR's returned them to the timekeeper prior to their entry into the payroll system. Because the TAR's were returned to the timekeepers, unauthorized changes could have been made to the reports without the certifiers' knowledge. To strengthen internal control, certifiers should forward TAR's directly to the personnel office for entry into the payroll system.

- b. One timekeeper did not forward employee time sheets to the certifier with the TAR's. Without employee time sheets, the certifier cannot reasonably ensure that the timekeeper accurately prepared the TAR's.
- c. In all 5 timekeeping units, MPSC included certifiers on the TAR's that they signed. Department of Management and Budget (DMB) Administrative Guide procedure 1210.20 requires employees not to certify TAR's on which their own time and attendance is recorded.
- d. The timekeepers or certifiers distributed payroll warrants and W-2 forms. To strengthen internal control, only employees not involved with the timekeeping function should receive and distribute the payroll warrants and W-2 forms.

RECOMMENDATION

We recommend that the Management Services Division establish internal controls over the recording and monitoring of employee time and attendance by requiring that:

- (a) Certifiers forward the TAR's directly to the personnel office after certification for entry into the payroll system.
- (b) Timekeepers forward employee time sheets and TAR's to the certifiers for review and approval.
- (c) Certifiers not approve their own time records in accordance with the DMB Administrative Guide.
- (d) Employees not involved with the timekeeping function be assigned to receive and distribute payroll warrants and W-2 forms.

AGENCY PRELIMINARY RESPONSE

The Management Services Division concurred with these recommendations and will comply.

FINDING

7. Public Utility Assessments

MPSC's Technical Services Division did not provide the Department of Commerce with adequate data to properly assess public utility companies for their share of MPSC's annual appropriation for regulating public utilities, as required by statute.

Section 460.112 of the *Michigan Compiled Laws* requires that the Department of Commerce assess all regulated public utilities for the amount of MPSC's annual appropriation attributable to the regulation of public utilities. A public utility company's assessment is based on the percentage of its gross annual intrastate revenue to the total gross annual intrastate revenues for all public utility companies. In 1975, MPSC issued Interpretive and Informational Statement 1975-1 (I&IS), which defined intrastate revenue to also include revenue from interstate operations that were subject to the Michigan income tax then in existence. In 1985, MPSC rescinded the I&IS that defined the mechanism for allocating the MPSC appropriation.

We noted that Technical Services Division staff continued to apply the definition contained in the rescinded I&IS. However, the division inconsistently applied this definition. The division included interstate revenue for 4 long-distance telecommunication carriers, but excluded interstate revenue for 2 long-distance telecommunication carriers. As a result, the Department of Commerce incorrectly assessed the individual public utility companies, although the total dollar amount assessed was correct.

RECOMMENDATIONS

We recommend that the Technical Services Division provide the Department of Commerce with adequate data to properly assess public utility companies for their share of MPSC's annual appropriation for regulating public utilities in accordance with Section 460.112 of the *Michigan Compiled Laws*.

We also recommend that the Technical Services Division retroactively adjust for overassessments and underassessments collected from public utility companies.

AGENCY PRELIMINARY RESPONSE

The Technical Services Division concurred with these recommendations. On March 30, 1994, MPSC issued its order in Case No. U-10323 that defined intrastate revenue to include interstate revenue in computing a public utility company's

assessment. As a result of the MPSC order, the division is in the process of contacting the 2 long-distance telecommunication carriers to report interstate revenue and intrastate revenue.

FINDING

8. Motor Carrier Violation Assessments

MCRD had not established internal controls to ensure the collection and proper accounting of motor carrier violation assessments.

Since our prior audit, MPSC had assessed 55 motor carriers a total of \$411,910 in accordance with Section 479.18(1) of the *Michigan Compiled Laws*. Our review of the files of 22 motor carriers which were assessed more than \$5,000 disclosed the following internal control weaknesses:

- a. MCRD did not follow up assessments or refer uncollected assessments to the Department of Treasury for collection. We noted that four motor carriers with assessments totaling \$135,000 had not made any payments and were 22 to 41 months past due.

DMB Administrative Guide procedure 1250.1 requires agencies to refer delinquent accounts to the Department of Treasury after six months of collection efforts.

- b. MCRD did not always document compliance with the conditions of waiver for a motor carrier's assessment. MPSC allows MCRD to waive portions of a motor carrier's assessment if the motor carrier complied with certain conditions specified in MPSC's orders. However, MCRD did not document that four motor carriers, whose uncollected conditional assessments totaling \$16,500, were waived, had complied with the conditions specified in MPSC's orders.
- c. One MCRD employee notified motor carriers of assessment amounts, accounted for assessments, and receipted in assessment payments. To strengthen internal control, MCRD should separate the accounting and receipting functions.
- d. MCRD did not record in the State's accounting records approximately \$149,500 of uncollected assessment amounts as of September 30, 1992. As a result, the

accounts receivable and revenue accounts were understated in the State's accounting records.

DMB Administrative Guide procedure 1210.27 requires agencies to record amounts owed the State.

RECOMMENDATION

We recommend that MCRD establish internal controls to ensure the collection of and proper accounting for motor carrier violation assessments, including:

- (a) Follow-up of assessments and referral of uncollected assessments to the Department of Treasury for collection.
- (b) Documentation of compliance with the conditions of waiver for a motor carrier's assessment.
- (c) Separation of the assessment notification, accounting, and receipting functions.
- (d) Recording of the uncollected assessment amounts in the State's accounting records at year-end.

AGENCY PRELIMINARY RESPONSE

MCRD concurred with this recommendation and will comply.

FINDING

9. Motor Carrier Revenue and Decal Reconciliation

MCRD did not reconcile revenue from registration decals sold with the revenue recorded in the State's accounting records.

The revenue generated from registration decals sold represents a significant amount of the total revenue earned by MCRD. For fiscal year 1991-92, revenue from decal sales exceeded \$3 million. Approximately \$700,000 of the revenue is from over-the-counter sales for which a limited number of MCRD employees are responsible for both recording decals issued and receiving the corresponding revenue. Without reconciliations, MCRD does not have assurance of the accountability for and accuracy of revenue transactions.

We reported on this condition in our prior audit. MCRD stated that it could not comply because of the time delay between receipt of revenue by the department's main office and MCRD's receipt of registration documentation. However, MCRD has the information necessary to prepare periodic reconciliations. MCRD maintains a log of the first-time decals issued on a calendar year basis. The log includes the decal number, type of decal, and fee of the decal. Also, MCRD can obtain a computer-generated listing of the decals renewed on a calendar year basis. Therefore, MCRD can determine the revenue from the decals issued and renewed.

RECOMMENDATION

WE AGAIN RECOMMEND THAT MCRD PERIODICALLY RECONCILE REVENUE FROM THE REGISTRATION DECALS SOLD WITH THE REVENUE RECORDED IN THE STATE'S ACCOUNTING RECORDS.

AGENCY PRELIMINARY RESPONSE

MCRD concurred with this recommendation and will comply.

FINDING

10. Procedures Manual

MCRD did not have a written procedures manual which describes and explains the procedural operations of all sections of the division.

A procedures manual provides for consistent application of motor carrier statutes and rules. The absence of written procedures causes confusion between the division and motor carriers, as well as within the division.

We reported on this condition in our prior audit report. MCRD agreed that a written procedures manual had not been developed but stated that each section manager keeps adequate written procedures for his/her respective operations. However, we noted that the lack of written procedures for some operations contributed to other conditions (specifically, those related to safety reviews, assessments, revenue reconciliations, and complaint monitoring) identified in this audit report.

RECOMMENDATION

WE AGAIN RECOMMEND THAT MCRD ESTABLISH A WRITTEN PROCEDURES MANUAL WHICH ADDRESSES ALL OPERATIONS OF THE DIVISION.

AGENCY PRELIMINARY RESPONSE

MCRD concurred with this recommendation and has assigned a systems analyst to establish written procedures.