Winter Fuels Report

NOV 25 1991

Week Ending:
November 15, 1991

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Cover: An artist's rendering of bulk terminal storage tanks.

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**Week Ending:
November 15, 1991**

Energy Information Administration
Office of Oil and Gas
U.S. Department of Energy
Washington, DC 20585

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Petroleum Supply Monthly, updated on the 20th of the month

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Winter Fuels Report, updated on Thursdays (Friday in event of a holiday) at 5:00 p.m.

Natural Gas Monthly, updated on the 20th of the month

Weekly Coal Production, updated on Fridays at 5:00 p.m.

Quarterly Coal Report, updated 60 days after the end of the quarter

Electric Power Monthly, updated on the 1st of the month

Monthly Energy Review, updated the last week of the month

Short Term Energy Outlook, updated 60 days after the end of the quarter.

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Preface

The *Winter Fuels Report* is intended to provide concise, timely information to the industry, the press, policymakers, consumers, analysts, and State and local governments on the following topics:

distillate fuel oil net production, imports and stocks for all Petroleum Administration for Defense Districts (PADD) and product supplied on a U.S. level;

propane net production, imports and stocks for PADD's I, II, and III;

natural gas supply and disposition and underground storage for the United States and consumption for all PADD's;

residential and wholesale pricing data for propane and heating oil for those States participating in the joint Energy Information Administration (EIA)/State Heating Oil and Propane Program;

crude oil and petroleum price comparisons for the United States and selected cities; and

U.S. total heating degree-days by city.

The distillate fuel oil and propane supply data are collected and published weekly. The data are based on company submissions for the week ending 7:00 a.m. for the preceding Friday. Weekly data for distillate fuel oil are published in the *Weekly Petroleum Status Report*. Monthly data for distillate fuel oil and propane are published in the *Petroleum Supply Monthly*.

The residential pricing information is collected by the EIA and the State Energy Offices on a semimonthly basis for the EIA/State Heating Oil and Propane Program. The wholesale price comparison data are collected daily and will be published weekly. Residential heating fuel prices are derived from price quotes for home delivery of No. 2 fuel oil and propane. As such, they reflect prices in effect on the dates shown. Wholesale heating oil and propane prices are estimates using a sample of terminal quotes to represent average State prices on the dates given. The Computer Petroleum Corporation, Inc., defines these prices to be "prices f.o.b. terminal, excluding taxes, discounts, and hauling allowances." The crude oil and petroleum product prices are from various industries sources as referenced on each table.

The natural gas data are collected and published monthly in the *Natural Gas Monthly*.

This report will be published weekly by the EIA starting the first week in October 1991 and will continue until the first week in April 1992. The data will also be available electronically after 5:00 p.m. on Thursday during the heating season through the EIA Electronic Publication System (EPUB). See page ii for details.

Contents

	Page
Highlights	xi
Tables	
Distillate Fuel Oil	
1. Monthly and Weekly Net Production, Imports, and Stocks of Distillate Fuel Oil by Petroleum Administration for Defense District (PADD) and Product Supplied for the United States	3
Propane	
2. Monthly and Weekly Net Production, Imports, and Stocks of Propane by Petroleum Administration for Defense Districts (PADD) I, II, and III	13
Natural Gas	
3. Supply and Disposition of Dry Natural Gas	23
4. Underground Natural Gas Storage (All Operators)	24
5. Natural Gas Consumption by Petroleum Administration for Defense District (PADD)	26
6. Selected National Average Natural Gas Prices	31
Prices	
7. Residential Heating Oil Prices by Region and State	35
8. Residential Propane Prices by Region and State	38
9. Wholesale Heating Oil Prices by Region and State	41
10. Wholesale Propane Prices by Region and State	44
11. U.S. Crude Oil and Petroleum Product Prices	47
12. Petroleum Product Prices for Selected Cities	48
Weather Summary	
Highlights	51
13. U.S. Total Heating Degree-Days by City	54
Illustrations	
F1. U.S. Distillate Fuel Oil Production	6
F2. U.S. Distillate Fuel Oil Imports	6
F3. U.S. Distillate Fuel Oil Stocks	7
F4. PADD I (East Coast) Distillate Fuel Oil Stocks	7
F5. PADD II (Midwest) Distillate Fuel Oil Stocks	8
F6. PADD III (Gulf Coast) Distillate Fuel Oil Stocks	8
F7. PADD IV (Rocky Mountain) Distillate Fuel Oil Stocks	9
F8. PADD V (West Coast) Distillate Fuel Oil Stocks	9
F9. U.S. Propane Production	17
F10. U.S. Propane Imports	17
F11. U.S. Propane Stocks	18
F12. PADD I (East Coast) Propane Stocks	18
F13. PADD II (Midwest) Propane Stocks	19
F14. PADD III (Gulf Coast) Propane Stocks	19
F15. Underground Natural Gas Storage in the United States	25
F16. Natural Gas Deliveries to Consumers	30
F17. Average Price of Natural Gas Delivered to Consumers in the United States	31
F18. Average Price of Natural Gas in the United States	31
F19. Residential Heating Oil Prices, New England	36
F20. Residential Heating Oil Prices, Central Atlantic	36
F21. Residential Heating Oil Prices, Lower Atlantic	37
F22. Residential Heating Oil Prices, Midwest	37
F23. Residential Propane Prices, New England	39
F24. Residential Propane Prices, Central Atlantic	39
F25. Residential Propane Prices, Lower Atlantic	40
F26. Residential Propane Prices, Midwest	40
F27. Wholesale Heating Oil Prices, New England	42
F28. Wholesale Heating Oil Prices, Central Atlantic	42
F29. Wholesale Heating Oil Prices, Lower Atlantic	43
F30. Wholesale Heating Oil Prices, Midwest	43
F31. Wholesale Propane Prices, Central Atlantic	45
F32. Wholesale Propane Prices, Lower Atlantic	45
F33. Wholesale Propane Prices, Midwest	46
F34. 6-10 Day Temperature Outlook	54
F35. 6-10 Day Precipitation Outlook	54
F36. 30 Day Temperature Outlook	55
F37. 90 Day Temperature Outlook	55

	Page
Appendices	
A. District Descriptions and Maps	57
B. Explanatory Notes	61
Glossary	
Definitions of Petroleum Products and Other Terms	67

Highlights

Liquefied petroleum gases are stored in pressurized tanks while other products are stored in conventional tanks.

Highlights

DISTILLATE FUEL OIL

United States distillate fuel oil inventories for the week ending November 15, 1991, rose slightly from the previous week to reach 138.6 million barrels (MMB). Production of distillate fuel oil rose marginally as well during the period, while demand (as measured by product supplied) fell almost 400 thousand barrels per day (MBD). Stocks in PADDs I, II, III, and IV are within their seasonally adjusted three-year average ranges for this time of year.

Currently, the situation for heating oil supplies is excellent as total distillate fuel oil stocks remain higher than they have been at this time since 1986, and refinery operating capacity utilization increases with the completion of repair and maintenance activity. Imports are also expected to show some increase in the next two weeks due to a five cent differential between higher New York and lower Rotterdam distillate prices.

Table H1. Distillate Fuel Oil
(Thousand Barrels per Day, Except Where Noted)

	Week Ending		
	11/15/90	11/08/91	11/15/91
Production	2,915	2,955	3,043
Imports	238	270	232
Product Supplied	3,094	3,408	3,025
Ending Stocks (million barrels)			
East Coast (PADD I)	63.1	64.9	65.3
Midwest (PADD II)	29.3	31.3	30.8
Gulf Coast (PADD III)	28.3	27.8	29.3
U.S. Total	134.5	137.7	138.6

Source: Energy Information Administration (EIA), Weekly and Monthly Petroleum Supply Reporting Systems

PROPANE

The EIA continues to "red flag" the Nation's primary propane inventory level which was 51.7 million barrels (MMB) on November 15, 1991 (see Table H2 p. xii). The East Coast, Midwest, and Gulf Coast regions, which normally hold about 97-98 percent of total U.S. propane stocks, were just slightly above 50 million barrels.

In comparison with estimates for the week ending November 8, 1991, stock levels for the week ending November 15, 1991 decreased in PAD District II and increased in PAD Districts I and III. The Midwest (PADD II) inventories fell 984 thousand barrels while inventories in the East Coast (PADD I) rose 163 thousand barrels and the Gulf Coast (PADD III), which is both the largest propane producing and consuming section of the country, increased by 264 thousand barrels.

United States inventories of propane recorded their second stock draw in 4 weeks, signaling the beginning of the normal seasonal drawdown of propane stocks during this time of year. A seasonal stockdraw was recorded in the Midwest region of the U.S. during the week, while the East Coast and Gulf Coast regions showed slight increases in stock levels during this same period. The higher East Coast stock level was the result of an increase in imports during the week, while Gulf Coast stocks of propane were higher because of continued declines in petrochemical feedstock demand for propane.

Table H2. Propane Stocks by Petroleum Administration for Defense Districts (PADD) I, II, and III
(Thousand Barrels)

PAD Districts	October 1990	November 1990	Week Ending					
			10/11/91	10/18/91	10/25/91	11/01/91	11/08/91	11/15/91
East Coast (PADD I)	4,325	4,979	^E 4,151	^E 4,211	^E 4,237	^E 4,367	^E 4,168	^E 4,331
Midwest (PADD II)	18,565	19,155	^E 22,063	^E 22,063	^E 22,967	^E 22,707	^E 21,971	^E 20,984
Gulf Coast (PADD III)	30,082	28,000	^E 23,018	^E 23,692	^E 23,737	^E 24,464	^E 24,802	^E 25,066
Total (PADD I-III)	52,972	52,134	^E 49,232	^E 49,966	^E 50,941	^E 51,538	^E 50,941	^E 50,381
U.S. Total	54,724	53,793	^E 50,494	^E 51,247	^E 52,247	^E 52,859	^E 52,247	^E 51,673

^E=Estimated data.

Source: Energy Information Administration (EIA), Monthly Petroleum Supply Reporting System and Form EIA-807, "Propane Telephone Survey."

NATURAL GAS

Supply and Disposition

The Energy Information Administration (EIA) estimates that total gas supply available for disposition in August was an estimated 1,578 billion cubic feet, 4 percent less than in August 1990 (Table 3). The August 1991 total includes 9 billion cubic feet of supplemental fuel supplies, 131 billion cubic feet of imported gas, and 54 billion cubic feet withdrawn from storage.

On the disposition side, the consumption of 1,315 billion cubic feet was 2 percent greater than in July 1991 and virtually the same as August 1990 (Table 3). Total disposition included 256 billion cubic feet of gas injected into underground storage reservoirs and exports of 7 billion cubic feet.

Consumption

Data for the four major end-use sectors indicate that the total amount of gas delivered to all consumers increased 8 percent to 1,149 billion cubic feet in July, from 1,063 billion cubic feet in June (Table 5). Consumption in the industrial sector increased from 536 billion cubic feet in June 1991 to 566 billion cubic feet in July 1991, an increase of 6 percent.

The electric utility sector maintained its strong consumption level, using 330 billion cubic feet, 27 percent higher than June 1991.

Both the residential sector and the commercial sector consumed 127 billion cubic feet in July 1991.

Natural Gas Prices

In July 1991, major interstate pipeline companies paid an average of \$1.87 per thousand cubic feet for gas purchased from domestic producers, a 6 percent decrease from June's \$1.98 total. In July 1991, these pipeline companies paid \$2.13 per thousand cubic feet for imported gas. Distributors paid an average \$2.76 per thousand cubic feet for gas at the city gate in July 1991. Residential consumers paid \$7.23 per thousand cubic feet in July 1991, 4 percent more than the \$6.97 per thousand cubic feet paid in June 1991.

PRICES

One month into the 1991 heating season, heating oil and propane prices have risen by about 5 and 3 cents per gallon, respectively. With some minor regional and State variations, the trends are similar in all the areas surveyed. Residential heating oil prices are about 30 cents per gallon below comparable 1990 levels, but 10 cents per gallon above 1989 prices. Residential propane prices are 16 cents per gallon below 1990 levels. Between October 7 and November 4, the relative difference between residential and wholesale prices has remained at about 29 cents per gallon for heating oil and about 45 cents per gallon for propane.

Table H3. Residential Heating Oil Prices by Petroleum Administration for Defense Districts (PADD)
(Cents per Gallon)

PAD Districts	October 1990	November 1990	Week Ending					
			10/07/91	10/21/91	11/04/91 ^P	11/18/91	12/02/91	12/16/91
Average	130.6	129.7	95.5	98.7	100.7			
East Coast	132.2	131.1	96.9	100.1	102.3			
New England	132.6	127.0	94.6	98.2	100.0			
Central Atlantic	132.3	133.4	98.6	101.9	104.1			
Lower Atlantic	129.5	128.5	91.4	93.0	95.3			
Midwest	122.9	122.6	88.1	90.7	92.6			

P=Preliminary data.

Source: Based on data collected by State Energy Offices.

Table H4. Residential Propane Prices by Petroleum Administration for Defense Districts (PADD)
(Cents per Gallon)

PAD Districts	October	November	Week Ending					
	1990	1990	10/07/91	10/21/91	11/04/91 ^P	11/18/91	12/02/91	12/16/91
Average	106.3	105.3	86.7	90.9	89.8			
East Coast	128.0	128.8	114.7	116.7	117.7			
New England	125.1	129.0	117.7	118.8	120.7			
Central Atlantic	136.0	136.4	124.3	126.6	126.6			
Lower Atlantic	123.7	121.7	101.2	104.0	104.9			
Midwest	94.8	93.0	70.7	74.2	74.1			

P=Preliminary data.

Source: Based on data collected by State Energy Offices.

Distillate Fuel Oil

Overall view of a typical bulk terminal facility.

Table 1. Monthly and Weekly Net Production^a, Imports, and Stocks of Distillate Fuel Oil by Petroleum Administration for Defense District (PADD) and Product Supplied for the United States
(Thousand Barrels per Day, Except Where Noted)

District/Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total U.S.												
Production												
1989	2,974	2,797	2,713	2,789	2,750	2,809	2,848	2,907	2,952	2,906	3,063	3,266
1990	3,130	2,753	2,657	2,803	2,874	2,996	3,008	3,131	2,968	2,928	2,915	2,917
1991	2,851	2,867	2,862	2,822	2,924	2,940	2,992	2,959				
Week Ending 1991	09/06	09/13	09/20	09/27	10/04	10/11	10/18	10/25	11/01	11/08	11/15	
	3,090	3,112	3,144	3,168	3,046	3,116	2,966	3,041	3,147	2,955	3,043	
Imports												
1989	346	331	439	301	290	233	334	254	249	261	307	324
1990	505	357	281	308	209	257	236	293	226	190	238	239
1991	190	138	206	258	185	209	153	167				
Week Ending 1991	09/06	09/13	09/20	09/27	10/04	10/11	10/18	10/25	11/01	11/08	11/15	
	201	224	515	122	218	166	145	147	245	270	232	
Stocks (Million Barrels)												
1989	120.6	107.6	96.7	98.5	99.6	99.6	115.0	116.3	123.2	121.7	119.8	105.7
1990	117.7	111.7	98.9	99.1	102.5	109.9	125.0	129.8	136.0	136.3	132.4	132.2
1991	112.1	101.3	98.3	102.2	107.0	113.5	124.3	130.5				
Week Ending 1991	09/06	09/13	09/20	09/27	10/04	10/11	10/18	10/25	11/01	11/08	11/15	
	132.6	135.6	139.6	140.6	138.8	139.3	137.8	137.7	139.8	137.7	138.6	
Product Supplied												
1989	3,303	3,427	3,428	2,975	2,954	3,002	2,596	2,966	2,889	3,127	3,311	3,914
1990	3,185	3,260	3,277	3,043	2,900	2,923	2,726	3,218	2,864	2,960	3,094	2,816
1991	3,356	3,000	2,966	2,869	2,735	2,783	2,649	2,779				
Week Ending 1991	09/06	09/13	09/20	09/27	10/04	10/11	10/18	10/25	11/01	11/08	11/15	
	2,774	2,826	2,987	3,053	3,417	3,086	3,233	3,054	2,977	3,408	3,025	
East Coast (PADD I)												
Production												
1989	401	344	321	284	309	338	368	385	370	387	389	448
1990	417	370	313	313	317	343	385	367	396	348	322	332
1991	344	374	344	299	339	367	367	359				
Week Ending 1991	09/06	09/13	09/20	09/27	10/04	10/11	10/18	10/25	11/01	11/08	11/15	
	340	362	380	395	360	434	357	296	364	314	334	
Stocks (Million Barrels)												
1989	46.6	37.2	33.3	33.2	33.1	35.7	44.6	48.4	50.2	51.7	49.7	35.1
1990	44.2	39.5	30.8	29.9	33.2	40.6	51.6	56.9	62.8	65.2	60.6	55.6
1991	39.8	31.7	29.7	31.6	35.4	43.3	50.6	56.0				
Week Ending 1991	09/06	09/13	09/20	09/27	10/04	10/11	10/18	10/25	11/01	11/08	11/15	
	57.2	58.8	61.6	62.9	63.0	64.9	64.7	66.3	66.8	64.9	65.3	

See footnotes at end of table.

Table 1. Monthly and Weekly Net Production^a, Imports, and Stocks of Distillate Fuel Oil by Petroleum Administration for Defense District (PADD) and Product Supplied for the United States (Continued)
(Thousand Barrels per Day, Except Where Noted)

District/Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
New England (PADD IX)												
Stocks (Million Barrels)												
1989	8.6	5.8	5.4	4.7	4.6	4.5	8.2	8.8	9.2	9.4	7.7	4.4
1990	5.4	4.6	4.0	3.8	3.8	5.5	8.7	9.9	10.7	10.6	9.7	8.3
1991	5.4	3.6	3.5	4.3	5.1	6.5	8.7	9.9				
Week Ending												
1991	09/06	09/13	09/20	09/27	10/04	10/11	10/18	10/25	11/01	11/08	11/15	
	9.2	9.9	10.7	11.1	11.0	11.5	11.4	11.4	11.9	11.8	11.8	
Central Atlantic (PADD IY)												
Stocks (Million Barrels)												
1989	23.9	20.3	17.4	18.2	18.0	21.0	24.3	28.6	28.4	30.0	28.4	19.4
1990	26.1	22.2	16.2	15.3	17.2	22.4	30.1	34.7	39.2	41.0	37.3	32.2
1991	21.9	18.0	14.9	17.0	20.0	25.2	30.3	35.2				
Week Ending												
1991	09/06	09/13	09/20	09/27	10/04	10/11	10/18	10/25	11/01	11/08	11/15	
	36.7	37.6	38.8	39.7	39.7	41.1	41.3	42.1	42.4	40.7	41.0	
Lower Atlantic (PADD IZ)												
Stocks (Million Barrels)												
1989	14.0	11.2	10.6	10.4	10.5	10.1	12.0	11.0	12.6	12.3	13.6	11.4
1990	12.7	12.7	10.6	10.8	12.2	12.7	12.8	12.3	12.9	13.7	13.6	15.1
1991	12.5	10.1	11.3	10.3	10.3	11.6	11.6	11.0				
Week Ending												
1991	09/06	09/13	09/20	09/27	10/04	10/11	10/18	10/25	11/01	11/08	11/15	
	11.3	11.3	12.1	12.1	12.3	12.3	12.1	12.8	12.5	12.4	12.5	
Midwest (PADD II)												
Production												
1989	713	687	661	658	625	677	662	670	698	650	710	797
1990	735	659	638	701	725	751	757	729	704	686	697	723
1991	669	678	676	684	720	734	769	711				
Week Ending												
1991	09/06	09/13	09/20	09/27	10/04	10/11	10/18	10/25	11/01	11/08	11/15	
	776	690	752	741	794	836	785	767	767	718	731	
Stocks (Million Barrels)												
1989	32.7	31.3	27.2	27.4	27.2	27.0	28.8	29.0	31.1	28.7	28.9	30.7
1990	33.2	32.6	30.1	29.4	30.0	30.0	31.6	30.4	30.0	28.7	30.0	32.7
1991	30.1	29.8	30.0	30.6	31.7	31.3	33.2	33.1				
Week Ending												
1991	09/06	09/13	09/20	09/27	10/04	10/11	10/18	10/25	11/01	11/08	11/15	
	33.5	33.5	33.6	32.5	31.7	31.0	30.8	30.5	31.7	31.3	30.8	

See footnotes at end of table.

Table 1. Monthly and Weekly Net Production^a, Imports, and Stocks of Distillate Fuel Oil by Petroleum Administration for Defense District (PADD) and Product Supplied for the United States (Continued)
(Thousand Barrels per Day, Except Where Noted)

District/Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Gulf Coast (PADD III)												
Production												
1989	1,324	1,257	1,240	1,291	1,268	1,227	1,227	1,278	1,309	1,305	1,401	1,444
1990	1,442	1,170	1,157	1,248	1,254	1,376	1,314	1,416	1,291	1,332	1,318	1,317
1991	1,286	1,293	1,328	1,295	1,292	1,264	1,293	1,329				
Week Ending												
1991	09/06	09/13	09/20	09/27	10/04	10/11	10/18	10/25	11/01	11/08	11/15	
	1,376	1,430	1,421	1,446	1,269	1,291	1,234	1,424	1,406	1,417	1,421	
Stocks (Million Barrels)												
1989	27.7	26.2	22.8	23.9	25.3	23.9	27.7	26.1	28.5	27.6	27.0	25.0
1990	25.6	24.4	23.4	25.5	24.0	24.9	28.4	29.0	29.3	29.5	27.0	28.2
1991	27.2	25.4	25.1	26.6	25.5	24.7	27.3	28.5				
Week Ending												
1991	09/06	09/13	09/20	09/27	10/04	10/11	10/18	10/25	11/01	11/08	11/15	
	28.5	29.1	30.5	30.8	30.3	28.8	27.9	26.8	27.5	27.8	29.3	
Rocky Mountain (PADD IV)												
Production												
1989	111	105	113	122	123	116	127	130	139	127	130	126
1990	112	124	116	122	132	129	136	137	134	129	130	122
1991	118	113	131	122	135	136	147	139				
Week Ending												
1991	09/06	09/13	09/20	09/27	10/04	10/11	10/18	10/25	11/01	11/08	11/15	
	134	127	111	123	130	143	128	131	140	118	132	
Stocks (Million Barrels)												
1989	2.8	2.7	2.3	2.4	2.8	2.4	2.6	2.6	2.7	2.5	2.8	3.3
1990	3.2	3.2	2.7	2.7	2.9	3.1	3.1	2.5	2.5	2.5	2.8	3.3
1991	3.2	3.3	3.5	3.1	3.4	3.3	3.2	2.9				
Week Ending												
1991	09/06	09/13	09/20	09/27	10/04	10/11	10/18	10/25	11/01	11/08	11/15	
	3.0	3.1	2.8	2.6	2.5	2.4	2.4	2.5	2.6	2.6	2.6	
West Coast (PADD V)												
Production												
1989	426	406	378	434	424	451	465	444	436	436	433	452
1990	425	431	432	418	447	397	416	483	443	433	448	423
1991	434	409	383	423	438	439	416	421				
Week Ending												
1991	09/06	09/13	09/20	09/27	10/04	10/11	10/18	10/25	11/01	11/08	11/15	
	464	503	481	463	493	412	462	424	471	387	426	
Stocks (Million Barrels)												
1989	10.8	10.3	11.1	11.7	11.2	10.6	11.3	10.2	10.7	11.1	11.3	11.6
1990	11.4	11.9	11.9	11.7	12.4	11.3	10.2	11.0	11.4	10.4	12.0	12.5
1991	11.8	11.0	10.0	10.2	11.1	10.9	10.0	10.0				
Week Ending												
1991	09/06	09/13	09/20	09/27	10/04	10/11	10/18	10/25	11/01	11/08	11/15	
	10.5	11.0	11.2	11.8	11.3	12.2	11.8	11.5	11.3	11.2	10.5	

^a Net production equals gross production minus input. Negative production will occur when the amount of product produced during the month is less than the amount of that same product reprocessed (input) or reclassified to become another product during the same month.

Notes: • Totals may not equal sum of components due to independent rounding. • Sum of PADD's IX, IY, and IZ may not equal PADD I because of independent estimation.

Source: Energy Information Administration, Weekly and Monthly Petroleum Supply Reporting Systems.

Figure 1. U.S. Distillate Fuel Oil Production

Source: • Monthly Data: 1990, EIA, *Petroleum Supply Annual*; 1991, *Petroleum Supply Monthly*. • Week-Ending Production: Estimates based on weekly data collected on Form EIA-800.

Figure 2. U.S. Distillate Fuel Oil Imports

Source: • Monthly Data: 1990, EIA, *Petroleum Supply Annual*; 1991, *Petroleum Supply Monthly*. • Week-Ending Imports: Estimates based on weekly data collected on Form EIA-804.

Figure 3. U.S. Distillate Fuel Oil Stocks

¹ Average level and width of average range are based on 3 years of monthly data: July 1988-June 1991. The seasonal pattern is based on 7 years of monthly data.

² The National Petroleum Council (NPC) defines the Minimum Operating Inventory as the inventory level below which operating problems and shortages would begin to appear in a defined distribution system. In its 1988 study, the NPC estimated this inventory level for distillate fuel oil to be 85 million barrels.

Source: • Data for Ranges and Seasonal Patterns: 1984-1990, Energy Information Administration (EIA), *Petroleum Supply Annual*; 1991, EIA, *Petroleum Supply Monthly*. • Monthly Data: 1990, EIA, *Petroleum Supply Annual*; 1991, *Petroleum Supply Monthly*. • Week-Ending Stocks: Estimates based on weekly data collected on Forms EIA-800, -801, and -802.

Figure 4. PADD I (East Coast) Distillate Fuel Oil Stocks

¹ Average level and width of average range are based on 3 years of monthly data: July 1988-June 1991. The seasonal pattern is based on 7 years of monthly data.

² The Observed Minimum for distillate fuel oil stocks in the last 36 month period was 29.7 million barrels, occurring in March 1991.

Source: • Data for Ranges and Seasonal Patterns: 1984-1990, Energy Information Administration (EIA), *Petroleum Supply Annual*; 1991, EIA, *Petroleum Supply Monthly*. • Monthly Data: 1990, EIA, *Petroleum Supply Annual*; 1991, *Petroleum Supply Monthly*. • Week-Ending Stocks: Estimates based on weekly data collected on Forms EIA-800, -801, and -802.

Figure 5. PADD II (Midwest) Distillate Fuel Oil Stocks

¹ Average level and width of average range are based on 3 years of monthly data: July 1988-June 1991. The seasonal pattern is based on 7 years of monthly data.

² The Observed Minimum for distillate fuel oil stocks in the last 36 month period was 27.0 million barrels, occurring in June 1989.

Source: • Data for Ranges and Seasonal Patterns: 1984-1990, Energy Information Administration (EIA), *Petroleum Supply Annual*; 1991, EIA, *Petroleum Supply Monthly*. • Monthly Data: 1990, EIA, *Petroleum Supply Annual*; 1991, *Petroleum Supply Monthly*. • Week-Ending Stocks: Estimates based on weekly data collected on Forms EIA-800, -801, and -802.

Figure 6. PADD III (Gulf Coast) Distillate Fuel Oil Stocks

¹ Average level and width of average range are based on 3 years of monthly data: July 1988-June 1991. The seasonal pattern is based on 7 years of monthly data.

² The Observed Minimum for distillate fuel oil stocks in the last 36 month period was 22.8 million barrels, occurring in March 1989.

Source: • Data for Ranges and Seasonal Patterns: 1984-1990, Energy Information Administration (EIA), *Petroleum Supply Annual*; 1991, EIA, *Petroleum Supply Monthly*. • Monthly Data: 1990, EIA, *Petroleum Supply Annual*; 1991, *Petroleum Supply Monthly*. • Week-Ending Stocks: Estimates based on weekly data collected on Forms EIA-800, -801, and -802.

Figure 7. PADD IV (Rocky Mountain) Distillate Fuel Oil Stocks

¹ Average level and width of average range are based on 3 years of monthly data: July 1988-June 1991. The seasonal pattern is based on 7 years of monthly data.

² The Observed Minimum for distillate fuel oil stocks in the last 36 month period was 2.3 million barrels, occurring in March 1989.

Source: • Data for Ranges and Seasonal Patterns: 1984-1990, Energy Information Administration (EIA), *Petroleum Supply Annual*; 1991, EIA, *Petroleum Supply Monthly*. • Monthly Data: 1990, EIA, *Petroleum Supply Annual*; 1991, *Petroleum Supply Monthly*. • Week-Ending Stocks: Estimates based on weekly data collected on Forms EIA-800, -801, and -802.

Figure 8. PADD V (West Coast) Distillate Fuel Oil Stocks

¹ Average level and width of average range are based on 3 years of monthly data: July 1988-June 1991. The seasonal pattern is based on 7 years of monthly data.

² The National Petroleum Council (NPC) defines the Minimum Operating Inventory as the inventory level below which operating problems and shortages would begin to appear in a defined distribution system. In its 1988 study, the NPC estimates this inventory level for distillate fuel oil to be 8 million barrels.

Source: • Data for Ranges and Seasonal Patterns: 1984-1990, Energy Information Administration (EIA), *Petroleum Supply Annual*; 1991, EIA, *Petroleum Supply Monthly*. • Monthly Data: 1990, EIA, *Petroleum Supply Annual*; 1991, *Petroleum Supply Monthly*. • Week-Ending Stocks: Estimates based on weekly data collected on Forms EIA-800, -801, and -802.

Period Ending 11/15/91 Energy Information Administration Winter Fuels Report

Propane

Spherical tanks are used to store liquefied petroleum gases under pressure.

Table 2. Monthly and Weekly Net Production^a, Imports, and Stocks of Propane^b by Petroleum Administration for Defense Districts (PADD) I, II, and III
(Thousand Barrels per Day, Except Where Noted)

District/Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total U.S.												
Production												
1989	909	862	887	895	887	858	871	847	845	826	847	814
1990	871	916	880	869	853	836	860	880	888	881	897	900
1991	905	916	900	889	910	894	888	877				
Imports												
1989	154	140	101	93	80	105	106	106	107	109	108	122
1990	186	152	118	116	147	100	91	113	77	91	72	113
1991	97	88	54	99	89	78	89	69				
Stocks (Million Barrels)												
1989	45.1	36.4	32.3	36.7	43.9	49.6	56.5	60.4	59.0	53.9	48.2	31.5
1990	33.5	33.2	33.1	32.1	36.2	45.0	50.1	54.2	57.2	54.7	53.8	48.9
1991	34.8	29.9	29.5	35.0	41.6	48.0	50.4	51.6				
Week Ending												
1991	09/06	09/13	09/20	09/27	10/04	10/11	10/18	10/25	11/01	11/08	11/15	
	NA	NA	NA	E 52.9	E 51.4	E 50.5	E 51.2	E 52.2	E 52.9	E 52.2	E 51.7	
East Coast (PADD I)												
Production												
1989	60	60	55	54	46	49	52	53	56	53	53	51
1990	58	55	44	46	39	35	41	48	53	43	41	51
1991	55	54	56	47	54	52	50	47				
Week Ending												
1991	09/06	09/13	09/20	09/27	10/04	10/11	10/18	10/25	11/01	11/08	11/15	
	NA	NA	NA	E 47	E 38	E 45	E 42	E 40	E 45	E 45	E 45	
Imports												
1989	41	37	22	19	16	19	21	4	17	9	23	12
1990	65	51	40	28	43	25	20	4	19	29	20	20
1991	24	17	18	16	6	14	3	4				
Week Ending												
1991	09/06	09/13	09/20	09/27	10/04	10/11	10/18	10/25	11/01	11/08	11/15	
	NA	NA	NA	E 37	E 7	E 38	E 5	E 8	E 7	E 8	E 25	
Stocks (Million Barrels)												
1989	3.9	2.9	2.3	2.6	3.0	4.0	4.9	4.8	4.9	4.9	4.8	1.8
1990	2.5	2.7	2.7	3.0	3.2	3.3	3.4	3.4	3.7	4.3	5.0	5.0
1991	4.1	3.5	3.8	4.2	4.1	4.2	3.9	3.3				
Week Ending												
1991	09/06	09/13	09/20	09/27	10/04	10/11	10/18	10/25	11/01	11/08	11/15	
	NA	NA	NA	E 3.8	E 4.0	E 4.2	E 4.2	E 4.2	E 4.4	E 4.2	E 4.3	

See footnotes at end of table.

Table 2. Monthly and Weekly Net Production^a, Imports, and Stocks of Propane^b by Petroleum Administration for Defense Districts (PADD) I, II, and III (Continued)
(Thousand Barrels per Day Except Where Noted)

District/Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
New England (PADD 1X)												
Production												
1989	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0				
Week Ending												
1991	09/06 NA	09/13 NA	09/20 NA	09/27 E 0	10/04 E 0	10/11 E 0	10/18 E 0	10/25 E 0	11/01 E 0	11/08 E 0	11/15 E 0	
Imports												
1989	27	27	17	15	8	17	14	1	10	5	18	6
1990	43	23	35	21	32	21	1	1	12	8	10	11
1991	16	11	13	13	1	13	1	1				
Week Ending												
1991	09/06 NA	09/13 NA	09/20 NA	09/27 E 2	10/04 E 4	10/11 E 36	10/18 E 2	10/25 E 4	11/01 E 3	11/08 E 3	11/15 E 3	
Stocks (Million Barrels)												
1989	0.4	0.2	0.3	0.4	0.2	0.6	0.7	0.4	0.3	0.1	0.3	*
1990	0.2	0.1	0.3	0.1	0.2	0.5	0.3	0.1	0.4	0.4	0.6	0.5
1991	0.5	0.3	0.3	0.6	0.2	0.4	0.3	0.1				
Week Ending												
1991	09/06 NA	09/13 NA	09/20 NA	09/27 E 0.5	10/04 E 0.6	10/11 E 0.8	10/18 E 0.7	10/25 E 0.7	11/01 E 0.6	11/08 E 0.6	11/15 E 0.6	
Central Atlantic (PADD 1Y)												
Production												
1989	46	46	42	41	36	40	41	40	43	39	40	39
1990	46	42	32	34	28	29	34	38	41	31	30	38
1991	42	42	43	36	43	45	42	38				
Week Ending												
1991	09/06 NA	09/13 NA	09/20 NA	09/27 E 41	10/04 E 32	10/11 E 39	10/18 E 36	10/25 E 34	11/01 E 39	11/08 E 39	11/15 E 39	
Imports												
1989	9	6	5	4	3	3	3	3	3	4	5	6
1990	11	23	5	7	5	4	19	3	3	18	4	6
1991	5	6	5	3	2	1	2	3				
Week Ending												
1991	09/06 NA	09/13 NA	09/20 NA	09/27 E 3	10/04 E 3	10/11 E 2	10/18 E 3	10/25 E 4	11/01 E 4	11/08 E 5	11/15 E 5	
Stocks (Million Barrels)												
1989	2.2	1.7	1.1	1.3	1.6	2.2	2.6	3.0	3.2	3.1	2.6	0.9
1990	1.2	1.7	1.2	1.2	1.4	1.6	1.6	1.9	2.3	2.4	2.3	2.3
1991	1.7	1.4	1.2	1.3	1.6	1.9	1.8	1.8				
Week Ending												
1991	09/06 NA	09/13 NA	09/20 NA	09/27 E 2.1	10/04 E 2.1	10/11 E 2.1	10/18 E 2.1	10/25 E 2.1	11/01 E 2.1	11/08 E 2.0	11/15 E 2.1	

See footnotes at end of table.

Table 2. Monthly and Weekly Net Production^a, Imports, and Stocks of Propane^b by Petroleum Administration for Defense Districts (PADD) I, II, and III (Continued)
(Thousand Barrels per Day Except Where Noted)

District/Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Lower Atlantic (PADD 1Z)												
Production												
1989	14	14	13	14	9	9	12	12	13	14	13	12
1990	12	13	12	12	11	7	7	10	12	12	11	12
1991	12	11	13	12	12	7	8	10				
Week Ending												
1991	09/06 NA	09/13 NA	09/20 NA	09/27 E 6	10/04 E 6	10/11 E 6	10/18 E 6	10/25 E 6	11/01 E 6	11/08 E 6	11/15 E 6	
Imports												
1989	4	4	0	0	5	0	4	0	4	0	0	0
1990	11	4	0	0	6	0	0	0	4	3	6	3
1991	3	0	0	0	4	0	0	0				
Week Ending												
1991	09/06 NA	09/13 NA	09/20 NA	09/27 E 32	10/04 E 0	10/11 E 0	10/18 E 0	10/25 E 0	11/01 E 0	11/08 E 0	11/15 E 17	
Stocks (Million Barrels)												
1989	1.2	1.1	1.0	1.0	1.2	1.3	1.5	1.4	1.5	1.7	1.9	0.9
1990	1.1	0.9	1.1	1.7	1.5	1.3	1.5	1.3	1.1	1.5	2.0	2.2
1991	1.9	1.8	2.3	2.3	2.3	1.9	1.8	1.4				
Week Ending												
1991	09/06 NA	09/13 NA	09/20 NA	09/27 E 1.2	10/04 E 1.2	10/11 E 1.2	10/18 E 1.4	10/25 E 1.5	11/01 E 1.6	11/08 E 1.6	11/15 E 1.6	
Midwest (PADD II)												
Production												
1989	214	205	200	204	200	203	202	194	191	179	193	197
1990	214	218	208	201	200	194	206	212	210	207	209	218
1991	215	228	217	212	212	204	209	206				
Week Ending												
1991	09/06 NA	09/13 NA	09/20 NA	09/27 E 222	10/04 E 170	10/11 E 168	10/18 E 187	10/25 E 201	11/01 E 224	11/08 E 171	11/15 E 169	
Imports												
1989	103	84	70	60	49	68	43	55	62	73	75	86
1990	94	79	47	55	63	39	36	45	32	53	38	66
1991	59	58	33	39	43	40	33	46				
Week Ending												
1991	09/06 NA	09/13 NA	09/20 NA	09/27 E 58	10/04 E 54	10/11 E 45	10/18 E 55	10/25 E 57	11/01 E 41	11/08 E 47	11/15 E 54	
Stocks (Million Barrels)												
1989	15.4	10.6	9.1	11.5	14.1	16.6	19.5	20.5	19.6	16.8	14.8	9.5
1990	11.5	10.7	10.9	11.6	13.9	16.6	18.6	19.2	20.8	18.6	19.2	17.9
1991	13.0	11.1	11.8	13.8	17.1	20.1	21.7	23.0				
Week Ending												
1991	09/06 NA	09/13 NA	09/20 NA	09/27 E 23.5	10/04 E 22.6	10/11 E 22.1	10/18 E 22.1	10/25 E 23.0	11/01 E 22.7	11/08 E 22.0	11/15 E 21.0	

See footnotes at end of table

Table 2. Monthly and Weekly Net Production^a, Imports, and Stocks of Propane^b by Petroleum Administration for Defense Districts (PADD) I, II, and III (Continued)
(Thousand Barrels per Day Except Where Noted)

District/Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Gulf Coast (PADD III)												
Production												
1989	532	503	538	545	545	518	523	509	507	500	505	468
1990	503	539	526	528	523	519	526	525	531	534	550	535
1991	534	538	527	532	540	537	532	526				
Week Ending												
1991	09/06 NA	09/13 NA	09/20 NA	09/27 E 540	10/04 E 552	10/11 E 543	10/18 E 568	10/25 E 565	11/01 E 598	11/08 E 531	11/15 E 594	
Imports												
1989	0	8	0	8	11	13	38	43	20	21	5	13
1990	19	17	18	29	38	32	32	60	22	6	8	20
1991	7	7	0	41	36	22	51	16				
Week Ending												
1991	09/06 NA	09/13 NA	09/20 NA	09/27 E 2	10/04 E 2	10/11 E 62	10/18 E 56	10/25 E 123	11/01 E 53	11/08 E 2	11/15 E 2	
Stocks (Million Barrels)												
1989	25.1	22.3	20.2	21.7	25.7	27.9	30.8	33.6	33.0	30.8	27.3	19.1
1990	18.6	19.1	19.0	16.9	18.4	24.1	27.0	30.1	31.0	30.1	28.0	24.8
1991	16.9	14.6	13.3	16.3	19.5	22.5	23.4	23.4				
Week Ending												
1991	09/06 NA	09/13 NA	09/20 NA	09/27 E 24.4	10/04 E 23.5	10/11 E 23.0	10/18 E 23.7	10/25 E 23.7	11/01 E 24.5	11/08 E 24.8	11/15 E 25.1	

^a Net production equals gross production minus input. Negative production will occur when the amount of product produced during the month is less than the amount of that same product reprocessed (input) or reclassified to become another product during the same month.

^b Includes propylene

E=Estimated data

* Less than 50,000 barrels. ** Less than 500 barrels per day

NA=Not available

Note: • This table presents weekly data, derived from a cut-off sample of refineries and fractionators that produce propane and from companies that import or store propane, which have been extrapolated to the universe of companies reporting in PADD's I, II, and III. • Totals may not equal sum of components due to independent rounding.

Source: Energy Information Administration (EIA). Monthly Petroleum Supply Reporting System and data collected on Form EIA-807, "Propane Telephone Survey."

Figure 9. U.S. Propane Production

Source: 1990, EIA, *Petroleum Supply Annual*; 1991, EIA, *Petroleum Supply Monthly*.

Figure 10. U.S. Propane Imports

Source: 1990, EIA, *Petroleum Supply Annual*; 1991, EIA, *Petroleum Supply Monthly*.

Figure 11. U.S. Propane Stocks

¹ Average level and width of average range are based on 3 years of monthly data: July 1988-June 1991. The seasonal pattern is based on 7 years of monthly data.

² The Observed Minimum for propane stocks in the last 36 month period was 29.5 million barrels, occurring in March 1991.

Source: • Data for Ranges and Seasonal Patterns: 1984-1990, Energy Information Administration (EIA), *Petroleum Supply Annual*; 1991, EIA, *Petroleum Supply Monthly*. • Monthly Data: 1990, EIA, *Petroleum Supply Annual*; 1991, EIA, *Petroleum Supply Monthly*. • Week-Ending Stocks: Estimates based on data from Table H1.

Figure 12. PADD I (East Coast) Propane Stocks

¹ Average level and width of average range are based on 3 years of monthly data: July 1988-June 1991. The seasonal pattern is based on 7 years of monthly data.

² The Observed Minimum for propane stocks in the last 36 month period was 1.8 million barrels, occurring in December 1989.

Source: • Data for Ranges and Seasonal Patterns: 1984-1990, Energy Information Administration (EIA), *Petroleum Supply Annual*; 1991, EIA, *Petroleum Supply Monthly*. • Monthly Data: 1990, EIA, *Petroleum Supply Annual*; 1991, EIA, *Petroleum Supply Monthly*. • Week-Ending Stocks: Estimates based on data collected on Form EIA-807, "Propane Telephone Survey."

Period Ending 11/15/91 Energy Information Administration/Winter Fuels Report

Figure 13. PADD II (Midwest) Propane Stocks

¹ Average level and width of average range are based on 3 years of monthly data: July 1988-June 1991. The seasonal pattern is based on 7 years of monthly data.

² The Observed Minimum for propane stocks in the last 36 month period was 9.1 million barrels, occurring in March 1989.

Source: • Data for Ranges and Seasonal Patterns: 1984-1990, Energy Information Administration (EIA), *Petroleum Supply Annual*; 1991, EIA, *Petroleum Supply Monthly*. • Monthly Data: 1990, EIA, *Petroleum Supply Annual*; 1991, EIA, *Petroleum Supply Monthly*. • Week-Ending Stocks: Estimates based on data collected on Form EIA-807, "Propane Telephone Survey."

Figure 14. PADD III (Gulf Coast) Propane Stocks

¹ Average level and width of average range are based on 3 years of monthly data: July 1988-June 1991. The seasonal pattern is based on 7 years of monthly data.

² The Observed Minimum for propane stocks in the last 36 month period was 13.3 million barrels, occurring in March 1991.

Source: • Data for Ranges and Seasonal Patterns: 1984-1990, Energy Information Administration (EIA), *Petroleum Supply Annual*; 1991, EIA, *Petroleum Supply Monthly*. • Monthly Data: 1990, EIA, *Petroleum Supply Annual*; 1991, EIA, *Petroleum Supply Monthly*. • Week-Ending Stocks: Estimates based on data collected on Form EIA-807, "Propane Telephone Survey."

Natural Gas

Pipelines carry natural gas across geographic regions.

Table 3. Supply and Disposition of Dry Natural Gas
(Billion Cubic Feet)

Year and Month	Supply					Total Supply/Disposition ^c	Disposition		
	Total Dry Gas Production	Withdrawals from Storage ^a	Supplemental Gaseous Fuels	Imports	Balancing Item ^b		Additions to Storage ^a	Exports	Consumption ^d
1985 Total	16,382	2,397	126	950	-356	19,499	2,163	55	17,281
1986 Total	15,991	1,837	113	750	-427	18,265	1,984	61	16,221
1987 Total	16,536	1,905	101	993	-359	19,175	1,911	54	17,211
1988 Total	17,026	2,270	101	1,294	-376	20,315	2,211	74	18,030
1989									
January	1,532	426	11	119	-4	2,084	53	7	2,024
February	1,415	614	10	110	-101	2,048	32	7	2,009
March	1,500	369	10	113	72	2,064	106	11	1,947
April	1,428	138	8	110	93	1,777	184	11	1,582
May	1,447	44	8	108	77	1,684	326	8	1,350
June	1,388	20	7	104	72	1,591	381	9	1,201
July	1,415	29	8	101	55	1,608	377	9	1,222
August	1,404	29	8	108	39	1,588	362	9	1,217
September	1,337	39	7	117	16	1,516	325	9	1,182
October	1,403	96	9	123	-57	1,574	225	10	1,339
November	1,461	227	9	123	-139	1,681	105	8	1,568
December	1,514	821	12	145	-275	2,217	52	8	2,157
Total	17,245	2,850	107	1,382	-149	21,435	2,529	107	18,799
1990									
January	1,605	339	11	140	132	2,227	91	14	2,122
February	1,428	324	9	118	31	1,910	70	8	1,832
March	1,515	256	10	116	31	1,928	124	11	1,793
April	1,429	140	9	123	92	1,793	183	6	1,604
May	1,454	45	8	123	68	1,698	289	6	1,403
June	1,406	42	7	117	54	1,626	327	6	1,293
July	1,425	27	9	120	31	1,612	325	5	1,282
August	1,436	37	8	118	37	1,636	321	5	1,310
September	1,374	36	8	120	31	1,569	284	7	1,278
October	1,475	61	8	142	-70	1,616	214	6	1,396
November	1,496	144	9	140	-94	1,695	136	6	1,553
December	1,566	467	11	156	-173	2,027	72	7	1,948
Total	17,609	1,918	105	1,532	173	21,337	2,436	86	18,815
1991									
January	1,572	632	10	156	-22	2,348	57	8	2,283
February	1,425	360	9	131	47	1,972	60	7	1,905
March	1,507	262	10	119	35	1,933	98	9	1,826
April	1,440	83	9	145	96	1,773	212	8	1,553
May	1,452	31	9	128	34	1,654	306	6	1,342
June	1,403	20	7	125	-35	1,520	308	8	1,204
July	E 1,439	46	9	132	-63	1,563	266	6	1,291
August	E 1,450	54	9	131	-66	1,578	256	7	1,315
1991 YTD	11,688	1,488	72	1,067	26	14,341	1,563	59	12,719
1990 YTD	11,698	1,210	71	975	476	14,430	1,730	61	12,639
1989 YTD	11,529	1,669	70	873	303	14,444	1,821	71	12,552

^a Monthly and annual data for 1985 through 1989 include underground storage and liquefied natural gas storage. Data for January 1990 forward include underground storage only.

^b Represents quantities lost and imbalances in data due to differences among data sources.

^c "Total" data for 1985 through 1989 do not equal equivalent data in Table 1 of the 1989, *Natural Gas Annual* due to the exclusion of intransit receipts and deliveries in the *Natural Gas Monthly*.

^d Consists of pipeline fuel use, lease and plant fuel use, and deliveries to consuming sectors.

E=Estimated data.

Notes: • Data for 1985 through 1989 are final. All other data are preliminary unless otherwise indicated. • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding. • Full explanations of all survey processing, estimation procedures, and computations are provided in the publications listed under "Sources."

Sources: Energy Information Administration (EIA), *Natural Gas Annual* and *Natural Gas Monthly*.

Table 4. Underground Natural Gas Storage (All Operators)
(Billion Cubic Feet)

Year and Month	Natural Gas In Underground Storage at End of Period			Change in Working Gas from Same Period Previous Year		Storage Activity		
	Base Gas	Working Gas	Total ^b	Volume	Percent	Injections	Withdrawals	Net ^c
1985 Total^a	3,842	2,607	6,448	-270	-9.4	2,128	2,359	-231
1986 Total^a	3,819	2,749	6,567	142	5.5	1,952	1,812	140
1987 Total^a	3,792	2,756	6,548	7	.3	1,887	1,881	6
1988 Total^a	3,800	2,850	6,650	94	3.4	2,174	2,244	-69
1989								
January	3,798	2,509	6,307	281	12.6	53	418	-365
February	3,801	1,994	5,796	168	9.2	32	602	-570
March	3,801	1,776	5,578	94	5.6	106	362	-256
April	3,801	1,823	5,624	54	3.0	181	138	43
May	3,802	2,062	5,863	34	1.7	321	44	277
June	3,802	2,374	6,176	82	3.6	375	20	355
July	3,802	2,644	6,446	77	3.0	371	29	341
August	3,802	2,938	6,740	103	3.6	356	29	328
September	3,802	3,187	6,990	67	2.2	320	39	281
October	3,792	3,268	7,061	25	.8	221	96	124
November	3,809	3,199	7,008	28	.9	105	223	-118
December	3,812	2,513	6,325	-337	-11.8	52	805	-752
Total	--	--	--	--	--	2,493	2,804	-311
1990								
January	3,818	2,265	6,083	-243	-9.7	91	339	-248
February	3,814	2,013	5,827	19	.9	70	324	-253
March	3,818	1,878	5,695	101	5.7	124	256	-131
April	3,839	1,932	5,771	109	6.0	183	140	43
May	3,823	2,159	5,982	97	4.7	289	45	245
June	3,844	2,454	6,297	79	3.3	327	42	285
July	3,850	2,747	6,597	103	3.9	325	27	298
August	3,851	2,995	6,846	57	1.9	321	37	283
September	3,852	3,267	7,119	80	2.5	284	36	248
October	3,852	3,426	7,277	158	4.8	214	61	153
November	3,868	3,417	7,285	218	6.8	136	144	-8
December	3,868	3,039	6,876	496	19.7	72	467	-395
Total	--	--	--	--	--	2,436	1,918	520
1991								
January	3,831	2,262	6,094	-3	-1	57	632	-576
February	3,889	2,080	5,969	67	3.3	60	360	-300
March	3,865	1,912	5,777	34	1.8	98	262	-164
April	3,878	2,039	5,917	107	5.5	212	83	129
May	3,914	2,279	6,192	120	5.6	306	31	276
June	3,942	2,548	6,490	94	3.8	308	20	288
July	3,923	2,750	6,673	3	.1	266	46	220
August	3,939	2,971	6,910	-24	-8	256	54	202

^a Total as of December 31.

^b Total underground storage capacity at the end of each calendar year (in billion cubic feet): 1985 - 8,087; 1986 - 8,145; 1987 and 1988 - 8,124; and 1989 - 8,124. Current total capacity is 8,125.

^c Positive numbers indicate the volume of injections in excess of withdrawals. Negative numbers indicate the volume of withdrawals in excess of injections.

E=Estimated data.

Notes: • Data for 1985 through 1989 are final. All other data are preliminary unless otherwise indicated. • Gas in storage at the end of a reporting period may not equal the quantity derived by adding or subtracting net injections or withdrawals during the period to the quantity of gas in storage at the beginning of the period. This is due to changes in the quantities of native gas included in base gas and/or losses in base gas due to migration from storage reservoirs. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia. • Full explanations of all survey processing, estimation procedures, and computations are provided in the publications listed under "Sources."

Sources: Energy Information Administration (EIA), Form EIA-191/FERC-8, "Underground Gas Storage Report," Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition," *Natural Gas Annual*, and *Natural Gas Monthly*.

Figure 15. Underground Natural Gas Storage in the United States

Source: Energy Information Administration (EIA), Form EIA-191/FERC-8, "Underground Natural Gas Storage Report," and Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition," *Natural Gas Annual*, and *Natural Gas Monthly*.

Table 5. Natural Gas Consumption by Petroleum Administration for Defense District (PADD)
(Billion Cubic Feet)

Year and Month	New England				Central Atlantic			
	Residential	Commercial	Industrial	Electric Utilities	Residential	Commercial	Industrial	Electric Utilities
1989								
January	28	14	5	0	146	68	46	4
February	26	13	5	0	137	65	45	6
March	27	13	6	2	133	65	49	23
April	18	10	6	6	89	46	45	31
May	12	7	6	6	56	31	41	31
June	6	5	5	7	31	21	38	34
July	5	4	4	7	25	19	36	35
August	4	4	5	6	23	19	37	33
September	5	4	5	8	24	20	38	27
October	8	6	6	10	42	27	40	25
November	13	7	6	2	73	41	43	13
December	27	13	5	0	151	71	46	5
Total	180	100	65	54	931	493	506	269
1990								
January	32	14	6	0	152	71	46	6
February	25	12	6	1	124	61	46	9
March	24	11	7	1	114	58	47	21
April	18	9	8	6	86	46	44	22
May	11	6	7	9	48	28	39	21
June	7	5	6	5	31	23	38	27
July	5	4	6	9	24	21	35	34
August	4	4	8	11	22	21	39	43
September	5	4	7	9	25	22	40	37
October	6	5	8	9	36	27	43	37
November	13	8	8	5	71	41	46	26
December	20	11	8	2	108	60	47	18
Total	171	93	82	66	841	479	508	302
1991								
January	27	15	8	2	146	76	52	15
February	26	14	8	0	131	69	45	12
March	23	13	8	2	117	62	46	17
April	17	10	9	4	81	46	45	23
May	10	7	10	4	44	28	40	32
June	6	5	10	5	26	22	37	35
July	5	6	8	8	23	23	36	44
1991 YTD	114	69	61	25	568	326	301	179
1990 YTD	122	61	45	31	580	308	295	140
1989 YTD	122	66	39	28	617	315	301	166

See footnotes at end of table.

Table 5. Natural Gas Consumption by Petroleum Administration for Defense District (PADD) (Continued)
(Billion Cubic Feet)

Year and Month	Lower Atlantic				PAD District I			
	Residential	Commercial	Industrial	Electric Utilities	Residential	Commercial	Industrial	Electric Utilities
1989								
January	43	27	42	12	218	109	93	16
February	42	26	39	11	204	104	89	17
March	35	24	44	15	195	102	99	40
April	23	18	44	17	131	74	95	54
May	13	13	43	19	81	50	90	56
June	8	10	41	21	45	36	85	62
July	7	10	39	21	37	33	79	63
August	6	9	41	20	34	32	83	60
September	7	10	39	20	37	34	82	54
October	12	12	44	17	63	45	91	52
November	24	17	43	14	111	65	92	28
December	53	29	34	10	231	113	85	15
Total	275	205	493	196	1,386	799	1,064	518
1990								
January	50	30	45	12	234	115	96	18
February	33	22	42	13	182	95	93	22
March	29	21	45	16	166	90	99	37
April	20	17	42	16	125	73	95	44
May	11	12	44	18	71	47	89	43
June	8	10	40	17	47	38	84	49
July	7	10	41	22	36	34	81	64
August	7	10	45	22	33	35	92	76
September	7	10	45	21	37	36	92	67
October	11	12	49	20	53	43	99	67
November	22	17	45	16	106	66	99	46
December	36	23	44	14	165	94	99	35
Total	242	193	527	206	1,254	765	1,118	574
1991								
January	46	28	47	15	219	119	107	32
February	40	26	41	14	198	109	94	26
March	33	23	46	16	173	98	100	36
April	18	16	45	17	116	72	99	44
May	10	12	46	20	64	47	96	57
June	8	11	44	21	40	38	90	61
July	7	10	43	26	34	39	87	78
1991 YTD	162	126	311	130	844	521	674	334
1990 YTD	158	122	299	113	860	491	638	283
1989 YTD	171	128	291	115	911	509	631	309

See footnotes at end of table.

Table 5. Natural Gas Consumption by Petroleum Administration for Defense District (PADD) (Continued)
(Billion Cubic Feet)

Year and Month	PAD District II				PAD District III			
	Residential	Commercial	Industrial	Electric Utilities	Residential	Commercial	Industrial	Electric Utilities
1989								
January	318	157	171	17	66	40	254	76
February	329	162	171	17	72	41	246	94
March	286	144	172	17	60	37	250	105
April	180	90	150	20	33	26	249	109
May	105	54	135	23	19	19	244	133
June	54	34	123	21	15	17	249	124
July	45	32	120	27	14	19	254	151
August	42	33	120	26	13	17	258	157
September	54	34	121	19	14	15	249	123
October	105	56	139	17	18	17	255	113
November	193	99	155	16	32	23	279	88
December	371	176	178	19	75	41	295	101
Total	2,083	1,072	1,756	239	431	311	3,083	1,312
1990								
January	325	170	178	16	86	43	266	75
February	274	136	163	14	54	32	244	63
March	230	121	169	17	45	30	266	91
April	171	90	157	16	32	25	289	96
May	101	54	143	20	21	20	297	136
June	57	36	130	27	16	20	275	170
July	44	38	127	29	14	20	272	160
August	43	36	131	31	14	17	288	167
September	49	37	136	29	14	15	271	145
October	102	59	154	21	17	16	294	118
November	166	91	164	14	32	22	266	90
December	278	139	179	16	57	34	284	92
Total	1,840	1,007	1,833	252	401	293	3,311	1,403
1991								
January	387	188	198	16	84	45	263	85
February	295	151	172	13	65	36	232	68
March	247	124	169	16	48	30	234	94
April	148	76	148	20	29	24	251	112
May	87	48	138	27	18	18	244	132
June	49	32	130	29	15	16	235	140
July	43	37	132	38	14	18	262	168
199 YTD	1,255	658	1,087	159	274	188	1,723	799
1990 YTD	1,201	645	1,068	140	268	189	1,909	791
1989 YTD	1,317	675	1,043	141	279	198	1,746	791

See footnotes at end of table.

Table 5. Natural Gas Consumption by Petroleum Administration for Defense District (PADD) (Continued)
(Billion Cubic Feet)

Year and Month	PAD District IV				PAD District V			
	Residential	Commercial	Industrial	Electric Utilities	Residential	Commercial	Industrial	Electric Utilities
1989								
January	41	25	20	2	109	45	60	37
February	41	25	19	1	97	47	44	42
March	36	21	19	1	69	37	61	48
April	22	14	17	1	48	30	52	50
May	14	8	15	1	37	27	59	37
June	9	6	15	0	32	29	58	54
July	7	4	13	1	26	22	59	78
August	6	4	16	1	26	23	62	66
September	7	5	15	1	28	25	65	70
October	10	7	17	1	33	27	67	72
November	19	12	17	1	50	33	60	56
December	33	10	18	1	79	40	65	36
Total	244	152	201	12	633	385	713	646
1990								
January	41	25	19	1	99	47	69	35
February	35	21	18	0	94	52	60	32
March	31	19	18	1	77	42	54	38
April	23	14	16	1	47	34	70	41
May	16	10	16	1	38	27	61	39
June	10	6	15	1	31	25	66	50
July	6	4	14	1	26	27	67	71
August	6	4	14	1	25	24	59	67
September	6	4	15	1	26	25	69	58
October	10	7	18	1	30	25	70	49
November	19	12	19	1	51	33	71	34
December	31	19	19	1	95	46	74	31
Total	235	146	201	10	639	412	788	547
1991								
January	49	29	22	1	108	51	75	36
February	39	23	19	1	72	39	66	38
March	31	18	20	1	76	40	70	46
April	23	13	18	1	60	41	73	38
May	17	10	17	1	44	31	64	32
June	9	6	16	1	35	28	64	29
July	6	4	16	2	29	29	68	44
1991 YTD	173	104	128	8	423	259	480	262
1990 YTD	163	99	116	5	412	254	446	307
1989 YTD	169	103	117	8	417	236	394	346

Notes: • Data for 1984 through 1989 final. All other data are preliminary unless otherwise indicated. • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding. • Full explanations of all survey processing, estimation procedures, and computations are provided in the publications listed under "Sources."

Sources: Energy Information Administration (EIA), Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers," Form EIA-759, "Monthly Power Plant Report," *Natural Gas Annual* and *Natural Gas Monthly*.

Figure 16. Natural Gas Deliveries to Consumers

Sources: Energy Information Administration (EIA), Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers," Form EIA-759, "Monthly Power Plant Report," *Natural Gas Annual* and *Natural Gas Monthly*.

Table 6. Selected National Average Natural Gas Prices
(Dollars per Thousand Cubic Feet)

Year and Month	Wellhead Price ^a	Major Interstate Pipeline Companies		City Gate	Delivered to Consumers			
		Imports ^b	Purchased from Producers ^b		Residential	Commercial ^c	Industrial ^c	Electric Utilities ^d
1985 Annual Average	2.51	3.19	2.85	3.75	6.12	5.50	3.95	3.55
1986 Annual Average	1.94	2.53	2.39	3.22	5.83	5.08	3.23	2.43
1987 Annual Average	1.67	2.17	2.10	2.87	5.54	4.77	2.94	2.32
1988 Annual Average	1.69	2.00	2.13	2.92	5.47	4.63	2.95	2.33
1989								
January	1.99	1.77	2.35	3.17	5.41	4.81	3.39	2.63
February	1.81	2.20	2.16	3.10	5.38	4.80	3.33	2.44
March	1.69	1.99	2.14	2.89	5.45	4.79	3.12	2.32
April	1.56	2.01	2.19	2.83	5.54	4.77	2.91	2.31
May	1.61	2.00	2.11	2.94	5.93	4.64	2.80	2.39
June	1.65	2.04	2.05	2.98	6.58	4.57	2.69	2.40
July	1.65	1.88	2.00	3.08	6.92	4.65	2.70	2.40
August	1.61	2.27	2.11	3.04	7.07	4.61	2.71	2.38
September	1.55	2.02	2.08	2.99	6.80	4.67	2.67	2.33
October	1.58	2.17	2.13	2.84	6.06	4.61	2.75	2.39
November	1.66	2.13	2.23	2.98	5.56	4.71	2.98	2.56
December	1.92	2.08	2.39	3.10	5.30	4.81	3.32	2.85
Annual Average	1.69	2.04	2.18	3.01	5.64	4.74	2.97	2.42
1990								
January	2.22	2.04	2.42	3.24	5.41	4.98	3.50	3.00
February	1.85	2.25	2.17	3.10	5.62	5.04	3.37	2.76
March	1.56	1.99	1.94	2.94	5.58	4.92	3.04	2.37
April	1.50	2.00	2.17	2.83	5.62	4.82	2.81	2.28
May	1.47	2.08	1.98	2.81	5.98	4.63	2.64	2.18
June	1.49	1.91	2.18	3.00	6.54	4.57	2.54	2.16
July	1.50	1.88	2.00	3.03	7.01	4.47	2.46	2.22
August	1.51	1.93	1.86	2.91	7.04	4.56	2.48	2.23
September	1.57	1.89	1.93	2.92	6.86	4.56	2.56	2.21
October	1.79	1.90	2.18	2.81	6.11	4.67	2.64	2.45
November	1.99	2.21	2.45	3.14	5.66	4.81	2.99	2.79
December	2.07	2.27	2.58	3.19	5.60	4.92	3.21	2.89
Annual Average	1.72	2.03	2.19	3.03	5.77	4.83	2.89	2.38
1991								
January	1.95	2.24	2.23	3.08	5.53	4.98	3.25	2.71
February	1.57	2.12	1.98	2.94	5.55	4.97	2.99	2.35
March	1.46	1.94	2.06	2.79	5.60	4.93	2.78	2.21
April	1.47	2.05	1.91	2.75	5.88	4.90	2.53	2.10
May	1.42	2.00	2.04	2.77	6.28	4.68	2.40	2.01
June	1.39	2.05	1.98	2.85	6.97	4.81	2.33	1.94
July	NA	2.13	1.87	2.76	7.23	1.49	2.28	NA
1991 YTD	NA	2.08	2.01	2.88	5.79	4.89	2.69	2.18
1990 YTD	NA	2.02	2.12	3.02	5.70	4.86	2.96	2.38
1989 YTD	NA	1.98	2.14	3.01	5.59	4.76	3.02	2.40

^a A discussion of wellhead price is provided in the publications listed under "Sources."

^b A discussion of major interstate pipeline company data is provided in the publications listed under "Sources."

^c An explanation of break in series for consumer prices in 1987 is provided in the publications listed under "Sources."

^d Includes all stream electric utility generating plants with a combined capacity of 50 megawatts or greater.

NA=Not Available

Notes: Data for 1985 through 1989 are final. All other data are preliminary unless otherwise indicated. Geographic coverage is the 50 States and the District of Columbia. Average prices for gas delivered to industrial consumers for 1985 through 1987 include imputed averages for volumes of gas delivered for the account of others. From 1988 on, average prices reflect on-system sales prices only. The change in series in 1987 affects the commercial, industrial, and all consumer averages.

Sources: • Average wellhead price: EIA *Natural Gas Annual 1989*, 1985 through 1989; and EIA estimates, January 1990 through current month. • Imports and Interstate Pipeline Company Purchases: Form FERC-11. • Average City Gate, Residential, Commercial and Industrial average prices for 1985 through current month from Form EIA-857. • Earlier prices from EIA *Natural Gas Annual 1989*. Electric Utilities averages from Form FERC-423, "Monthly Report of Cost and Quality of Fuels for Electric Plants." • *Natural Gas Monthly*.

Figure 17. Average Price of Natural Gas Delivered to Consumers In the United States

Sources: Energy Information Administration (EIA), Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers," Form FERC-11, *Natural Gas Annual*.

Figure 18. Average Price of Natural Gas In the United States

Sources: Energy Information Administration (EIA), Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers," Form FERC-423, *Natural Gas Annual*.

Prices

Distillate fuel oil and propane are two sources of residential heating in the United States.

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

Region/State	1990/91 Heating Season					
	October	November	December	January	February	March
Average	130.6	129.7	126.2	121.6	116.3	107.6
East Coast (PADD I)	132.2	131.1	128.5	124.3	119.7	111.2
New England (PADD IX)	132.6	127.0	124.1	119.7	116.1	107.1
Central Atlantic (PADD IY)	132.3	133.4	131.1	127.2	122.3	114.2
Lower Atlantic (PADD IZ)	129.5	128.5	124.0	118.2	111.2	101.8
Midwest (PADD II)	122.9	122.6	115.5	108.5	100.3	90.7

Region/State	1991/92 Heating Season											
	10/07	10/21	11/04 ^P	11/18	12/02	12/16	01/06	01/20	02/03	02/17	03/02	03/16
Average	95.5	98.7	100.7									
East Coast (PADD I)	96.9	100.1	102.3									
New England (PADD IX)	94.6	98.2	100.0									
Connecticut	96.5	100.7	102.3									
Maine	85.8	89.2	92.8									
Massachusetts	96.5	99.2	100.8									
New Hampshire	90.5	95.2	97.7									
Rhode Island	97.1	101.5	102.2									
Vermont	93.3	98.1	99.3									
Central Atlantic (PADD IY)	98.6	101.9	104.1									
Delaware	93.2	98.6	100.6									
District of Columbia	104.9	105.9	107.7									
Maryland	98.1	101.8	102.5									
New Jersey	99.7	104.1	106.5									
New York	104.4	108.1	109.9									
Pennsylvania	88.7	90.6	94.0									
Lower Atlantic (PADD IZ)	91.4	93.0	95.3									
North Carolina	91.7	93.6	96.4									
Virginia	91.2	92.3	94.1									
Midwest (PADD II)	88.1	90.7	92.6									
Indiana	89.4	93.0	94.1									
Iowa	81.3	NA	86.9									
Michigan	89.3	90.6	93.6									
Minnesota	88.5	91.6	92.9									
Ohio	85.8	90.5	93.7									
Wisconsin	89.1	89.1	91.3									

P=Preliminary data.

NA=Not available.

Source: Based on data collected by State Energy Offices.

Figure 19. Residential Heating Oil Prices, New England

Source: Based on data collected by State Energy Offices.

Figure 20. Residential Heating Oil Prices, Central Atlantic

Source: Based on data collected by State Energy Offices.

Figure 21. Residential Heating Oil Prices, Lower Atlantic

Source: Based on data collected by State Energy Offices.

Figure 22. Residential Heating Oil Prices, Midwest

Source: Based on data collected by State Energy Offices.

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

1990/91 Heating Season												
Region/State	October	November	December	January	February	March						
Average	106.3	105.3	102.0	100.2	93.9	88.4						
East Coast (PADD I)	128.0	128.8	127.8	127.4	122.9	118.0						
New England (PADD IX)	125.1	129.0	129.1	130.0	125.3	118.9						
Central Atlantic (PADD IY)	136.0	136.4	136.2	135.8	132.2	128.6						
Lower Atlantic (PADD IZ)	123.7	121.7	118.9	117.1	112.1	107.4						
Midwest (PADD II)	94.8	93.0	88.3	85.8	78.6	72.8						

1991/92 Heating Season												
Region/State	10/07	10/21	11/04 ^P	11/18	12/02	12/16	01/06	01/20	02/03	02/17	03/02	03/16
Average	86.7	90.9	89.8									
East Coast (PADD I)	114.7	116.7	117.7									
New England (PADD IX)	117.7	118.8	120.7									
Connecticut	119.2	120.7	120.7									
Maine	129.4	129.6	131.8									
Massachusetts	115.3	115.3	120.2									
New Hampshire	106.4	107.8	110.7									
Rhode Island	135.0	133.2	137.1									
Vermont	117.0	119.9	118.3									
Central Atlantic (PADD IY)	124.3	126.6	126.6									
Delaware	117.2	119.2	119.9									
Maryland	122.0	122.4	120.1									
New Jersey	124.6	127.4	128.4									
New York	131.3	134.5	135.1									
Pennsylvania	112.7	114.7	114.5									
Lower Atlantic (PADD IZ)	101.2	104.0	104.9									
North Carolina	98.7	101.9	102.9									
Virginia	109.7	110.9	111.9									
Midwest (PADD II)	70.7	74.2	74.1									
Indiana	78.5	79.9	80.6									
Iowa	57.8	NA	60.6									
Kansas	56.4	59.3	60.4									
Michigan	85.6	87.7	88.8									
Minnesota	71.5	71.6	73.2									
Missouri	68.1	71.1	73.7									
Nebraska	55.2	58.8	59.7									
North Dakota	57.9	61.8	61.8									
Ohio	95.6	94.7	97.1									
South Dakota	58.8	61.5	62.6									
Wisconsin	70.0	72.1	73.9									

P=Preliminary data.

NA=Not available.

Note: A significant number of residential bulk delivery customers in the Midwest are also large volume agricultural users. The residential propane prices shown for the Midwestern States, therefore, reflect lower prices associated with large-volume sales in these States.

Source: Based on data collected by State Energy Offices.

Figure 23. Residential Propane Prices, New England

Source: Based on data collected by State Energy Offices.

Figure 24. Residential Propane Prices, Central Atlantic

Source: Based on data collected by State Energy Offices.

Figure 25. Residential Propane Prices, Lower Atlantic

Source: Based on data collected by State Energy Offices.

Figure 26. Residential Propane Prices, Midwest

Source: Based on data collected by State Energy Offices.

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

1990/91 Heating Season												
Region/State	October	November	December	January	February	March						
Average	105.2	91.9	85.8	77.5	72.6	64.5						
East Coast (PADD I)	105.5	91.1	86.6	78.7	75.0	66.8						
New England (PADD IX)	107.2	92.4	88.3	80.5	79.2	71.1						
Central Atlantic (PADD IY)	104.7	90.7	86.1	78.4	73.9	65.8						
Lower Atlantic (PADD IZ)	104.6	89.8	84.0	75.0	67.6	58.9						
Midwest (PADD II)	104.6	94.3	83.3	73.6	64.9	57.3						

1991/92 Heating Season												
Region/State	10/07	10/21	11/04 ^P	11/18	12/02	12/16	01/06	01/20	02/03	02/17	03/02	03/16
Average	66.2	70.6	71.5									
East Coast (PADD I)	66.7	71.0	72.1									
New England (PADD IX)	68.4	72.6	73.6									
Connecticut	67.8	72.4	73.6									
Maine	68.8	73.0	74.2									
Massachusetts	68.8	72.8	73.6									
New Hampshire	68.5	73.0	74.2									
Rhode Island	67.1	71.5	72.8									
Central Atlantic (PADD IY)	66.0	70.3	71.5									
Delaware	64.6	69.4	70.9									
District of Columbia	65.6	70.0	71.1									
Maryland	64.9	69.4	70.7									
New Jersey	65.5	69.8	71.0									
New York	67.3	71.4	72.3									
Pennsylvania	65.8	70.2	71.5									
Lower Atlantic (PADD IZ)	65.5	70.0	71.1									
North Carolina	65.9	70.3	71.4									
Virginia	65.2	69.7	70.8									
Midwest (PADD II)	64.7	69.2	69.6									
Illinois	63.9	67.5	68.8									
Indiana	64.5	68.8	70.1									
Iowa	65.5	70.1	70.8									
Kansas	64.3	69.1	69.6									
Michigan	64.2	68.9	70.1									
Minnesota	65.2	69.8	70.5									
Missouri	64.7	69.3	70.0									
Nebraska	65.2	69.9	70.3									
North Dakota	66.1	70.5	71.3									
Ohio	65.3	70.5	67.8									
South Dakota	65.8	70.4	75.4									
Wisconsin	64.8	69.0	69.0									

P=Preliminary data

Source: Based on terminal quotes collected by the Computer Petroleum Corporation, Inc.

Figure 27. Wholesale Heating Oil Prices, New England

Source: Based on terminal quotes collected by the Computer Petroleum Corporation, Inc.

Figure 28. Wholesale Heating Oil Prices, Central Atlantic

Source: Based on terminal quotes collected by the Computer Petroleum Corporation, Inc.

Figure 29. Wholesale Heating Oil Prices, Lower Atlantic

Source: Based on terminal quotes collected by the Computer Petroleum Corporation, Inc.

Figure 30. Wholesale Heating Oil Prices, Midwest

Source: Based on terminal quotes collected by the Computer Petroleum Corporation, Inc.

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

Region/State	1990/91 Heating Season					
	October	November	December	January	February	March
Average	64.2	52.8	45.4	41.5	31.5	32.7
East Coast (PADD I)	65.7	56.2	50.0	46.9	38.6	38.7
Central Atlantic (PADD IY)	66.3	56.5	50.8	47.9	39.3	39.7
Lower Atlantic (PADD IZ)	NA	NA	NA	NA	NA	NA
Midwest (PADD II)	63.8	52.1	44.4	40.1	29.9	31.3

Region/State	1991/92 Heating Season											
	10/07	10/21	11/04 ^P	11/18	12/02	12/16	01/06	01/20	02/03	02/17	03/02	03/16
Average	42.2	42.2	44.9									
East Coast (PADD I)	48.4	50.6	51.3									
Central Atlantic (PADD IY)	49.0	51.2	51.4									
New York	49.6	51.6	51.9									
Pennsylvania	48.6	50.9	51.1									
Lower Atlantic (PADD IZ)	47.4	49.7	51.0									
North Carolina	47.4	49.7	51.0									
Midwest (PADD II)	40.8	40.3	43.4									
Illinois	40.4	41.0	42.8									
Indiana	47.9	49.3	50.3									
Iowa	39.6	38.0	42.2									
Kansas	37.3	35.9	40.4									
Minnesota	40.5	38.3	42.1									
Missouri	39.0	38.7	42.4									
Nebraska	39.1	37.6	42.3									
North Dakota	38.3	40.7	39.5									
Ohio	47.9	49.7	50.1									
South Dakota	39.8	38.5	42.2									
Wisconsin	42.2	40.2	44.4									

P=Preliminary data.

NA=Not available.

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

Figure 31. Wholesale Propane Prices, Central Atlantic

Source: Based on data collected by the Computer Petroleum Corporation, Inc.

Figure 32. Wholesale Propane Prices, Lower Atlantic

Source: Based on data collected by the Computer Petroleum Corporation, Inc.

Figure 33. Wholesale Propane Prices, Midwest

Source: Based on data collected by the Computer Petroleum Corporation, Inc.

Table 11. U.S. Crude Oil and Petroleum Product Prices
(Cents per Gallon, Except Where Noted)

Report Period	Crude WTI ^a (Dollars per Barrel)	No. 2 Distillate				Propane	
		Spot ^a	Terminal ^b	Resi- dential ^c	Diesel Retail ^d	Spot ^e	Resi- dential ^c
Monthly							
01/91	25.23	75.0	77.2	121.6	140.0	36.2	100.2
02/91	20.48	70.7	67.5	116.3	133.0	30.0	93.9
03/91	19.90	61.8	58.9	107.6	125.7	32.5	88.4
04/91	20.83	56.2	58.9	NA	122.7	32.3	NA
05/91	21.20	55.0	57.7	NA	122.3	33.3	NA
06/91	20.16	53.5	55.2	NA	122.2	27.4	NA
07/91	21.44	57.8	57.9	NA	117.8	27.9	NA
08/91	21.69	60.4	62.6	NA	118.9	31.5	NA
09/91	21.89	61.5	63.5	NA	120.3	37.5	NA
Week Ending							
09/20/91	21.85	60.8	62.7	NA	119.5	38.9	NA
09/27/91	22.24	62.6	63.2	NA	NA	39.3	NA
10/04/91	22.41	63.4	64.2	NA	NA	41.0	NA
10/11/91	23.08	65.8	65.7	95.5	120.9	44.5	86.7
10/18/91	23.82	67.6	67.5	NA	NA	42.9	NA
10/25/91	23.54	67.9	69.5	98.7	121.3	43.1	90.9
Daily							
10/28/91	23.24	67.4	69.6	NA	NA	42.4	NA
10/29/91	23.09	67.6	69.6	NA	NA	43.4	NA
10/30/91	23.11	67.2	69.6	NA	NA	43.4	NA
10/31/91	23.29	67.4	69.7	NA	NA	43.6	NA
11/01/91	23.85	68.6	69.7	NA	NA	43.1	NA
11/04/91	23.82	69.8	69.9	100.7	NA	43.9	89.8
11/05/91	23.92	70.1	70.5	NA	NA	44.4	NA
11/06/91	23.44	69.1	70.8	NA	NA	44.9	NA
11/07/91	23.29	68.4	70.9	NA	NA	44.9	NA
11/08/91	23.00	67.8	70.8	NA	123.7	43.9	NA
11/11/91	22.66	65.6	70.5	NA	NA	43.9	NA
11/12/91	22.58	64.9	69.8	NA	NA	43.1	NA
11/13/91	22.28	64.0	69.0	NA	NA	43.1	NA
11/14/91	22.55	63.6	68.4	NA	NA	42.5	NA
11/15/91	22.79	65.6	67.8	NA	NA	42.6	NA

NA=Not available.

^a Source: Spot West Texas Intermediate (WTI) at Cushing, Oklahoma; No. 2 distillate in New York Harbor from Reuters.

^b Source: Computer Petroleum Corp. rack prices.

^c Source: Residential No. 2 distillate and propane prices from State Heating Oil and Propane Program.

^d Source: Diesel Retail prices from Lundberg PS.

^e Source: Mt. Belvieu, Texas, spot propane prices from *Platts' Oilgram Price Report*.

Table 12. Petroleum Product Prices for Selected Cities
(Cents per Gallon)

Report Period	Chicago				Houston			
	No. 2 Distillate		Propane		No. 2 Distillate		Propane	
	Spot ^a	Terminal ^b	Diesel Retail ^c	Terminal ^d	Spot ^a	Terminal ^b	Diesel Retail ^c	Terminal ^d
Monthly								
01/91	66.9	74.1	145.7	39.6	69.3	76.0	135.2	41.0
02/91	58.2	61.3	137.1	28.8	61.1	65.7	128.0	32.5
03/91	53.9	55.2	130.4	31.9	53.4	56.0	119.0	32.9
04/91	55.2	57.6	128.7	31.9	52.7	55.5	115.4	33.8
05/91	54.6	56.6	128.5	32.7	53.2	54.8	115.9	34.4
06/91	51.8	53.4	127.5	31.1	51.8	53.9	115.4	30.6
07/91	54.9	56.4	125.2	30.1	55.8	57.0	114.1	27.9
08/91	58.9	60.0	127.8	31.2	58.9	60.8	115.4	31.1
09/91	59.4	61.2	128.8	34.3	59.9	61.5	116.4	38.5
Week Ending								
09/20/91	58.9	60.2	128.6	34.8	58.9	60.2	116.2	39.5
09/27/91	59.8	61.7	NA	36.2	61.3	62.0	NA	40.9
10/04/91	60.7	62.7	NA	37.8	61.9	63.1	NA	41.7
10/11/91	62.2	64.1	127.9	41.6	64.2	64.9	119.9	44.8
10/18/91	64.5	65.4	NA	40.8	66.3	67.0	NA	45.2
10/25/91	65.1	66.8	123.9	39.1	66.4	68.5	121.5	44.3
Daily								
10/28/91	64.2	67.1	NA	39.1	66.2	68.4	NA	44.7
10/29/91	64.7	67.0	NA	39.0	66.4	68.2	NA	44.9
10/30/91	64.9	66.9	NA	39.6	66.4	68.1	NA	44.8
10/31/91	65.4	67.0	NA	40.7	66.8	68.3	NA	44.8
11/01/91	66.1	67.1	NA	42.6	67.6	68.3	NA	44.9
11/04/91	67.8	67.4	NA	42.2	68.7	68.6	NA	45.2
11/05/91	67.2	68.3	NA	42.7	68.8	69.3	NA	45.4
11/06/91	NA	68.9	NA	42.6	NA	69.7	NA	45.9
11/07/91	66.6	69.0	NA	43.0	67.3	69.8	NA	46.1
11/08/91	65.9	68.9	131.0	44.2	66.6	69.6	122.4	46.3
11/11/91	64.9	68.6	NA	43.9	64.8	69.3	NA	46.4
11/12/91	63.0	67.6	NA	43.2	63.4	68.4	NA	46.4
11/13/91	62.8	66.1	NA	42.6	62.8	66.2	NA	45.5
11/14/91	62.9	66.1	NA	42.7	62.6	66.4	NA	46.4
11/15/91	63.8	66.4	NA	42.4	64.4	66.1	NA	44.5

See footnotes at end of table.

Table 12. Petroleum Product Prices for Selected Cities (Continued)
(Cents per Gallon)

Report Period	Los Angeles				New York			
	No. 2 Distillate		Propane		No. 2 Distillate		Propane	
	Spot ^a	Terminal ^b	Diesel Retail ^c	Terminal ^d	Spot ^a	Terminal ^b	Diesel Retail ^c	Terminal ^d
Monthly								
01/91	71.6	74.3	140.9	60.1	75.0	84.0	155.3	48.8
02/91	64.9	73.1	137.1	42.9	70.7	76.0	149.4	40.0
03/91	54.4	58.9	127.3	32.3	61.8	68.0	145.1	41.8
04/91	56.1	60.7	124.1	30.6	56.2	61.7	139.3	41.7
05/91	56.5	60.8	126.3	31.3	55.0	59.4	133.6	42.1
06/91	52.1	53.3	124.7	31.1	53.5	58.2	130.5	38.1
07/91	55.4	56.3	121.3	29.9	57.8	60.7	131.5	35.5
08/91	59.9	62.0	122.6	29.8	60.4	64.8	130.2	38.8
09/91	58.8	61.6	124.1	34.3	61.5	66.1	130.7	44.5
Week Ending								
09/20/91	56.9	61.3	124.0	34.5	60.8	65.4	131.1	44.4
09/27/91	58.5	60.0	NA	37.1	62.6	66.3	NA	47.4
10/04/91	58.3	59.9	NA	38.1	63.4	67.2	NA	48.6
10/11/91	60.4	60.4	123.7	39.7	65.8	69.1	131.3	52.3
10/18/91	62.3	62.7	NA	38.7	67.6	70.9	NA	52.5
10/25/91	61.6	64.4	123.9	40.7	67.9	72.8	133.1	52.1
Daily								
10/28/91	61.3	64.8	NA	42.5	67.4	73.1	NA	52.2
10/29/91	61.9	64.8	NA	42.5	67.6	73.1	NA	52.0
10/30/91	61.9	65.0	NA	40.0	67.2	73.1	NA	52.2
10/31/91	62.0	65.1	NA	40.0	67.4	73.4	NA	52.7
11/01/91	62.0	65.3	NA	40.0	68.6	73.3	NA	52.4
11/04/91	63.3	65.5	NA	42.5	69.8	73.3	NA	52.5
11/05/91	63.9	65.8	NA	42.5	70.1	74.2	NA	52.6
11/06/91	63.8	66.0	NA	42.5	69.1	74.3	NA	52.8
11/07/91	63.0	66.2	NA	45.0	68.4	74.2	NA	53.0
11/08/91	62.5	66.0	124.3	45.0	67.8	74.1	134.7	53.3
11/11/91	61.5	65.9	NA	45.0	65.6	74.0	NA	53.6
11/12/91	60.5	65.6	NA	44.0	64.9	73.2	NA	53.7
11/13/91	60.8	64.7	NA	47.0	64.0	71.8	NA	52.8
11/14/91	57.5	64.7	NA	45.0	63.6	72.2	NA	53.2
11/15/91	60.8	64.0	NA	NA	65.6	70.9	NA	52.3

NA=Not available.

^a Source: No. 2 distillate spot prices in Chicago, Houston, and Los Angeles, are from Telerate; New York spot prices are from Reuters.

^b Source: No. 2 distillate terminal prices in Chicago, Houston, Los Angeles, and New York are from Computer Petroleum Corp.

^c Source: Diesel Retail self-serve prices in Chicago, Houston, Los Angeles, and Long Island, New York are from Lundberg PS.

^d Source: Propane terminal prices in Lemont, Illinois; Mt. Belvieu, Texas; Los Angeles, California; and Selkirk, New York are from Computer Petroleum Corp.

Weather Summary

Weather conditions continue to have a strong effect on U.S. petroleum supply and demand.

United States Weather Summary

6 - 10 Day Outlook - November 28 Through November 30, 1991

Temperatures are expected to be above normal for the Atlantic Coast states from Virginia to Florida as well as in the deep south, Arkansas, eastern Oklahoma, the Texas Gulf Coast, the central portion of the California Coast, and western Washington. Below normal temperatures are expected in Arizona, Utah, the southeastern Great Basin, the western region of the southern and central Rockies, as well as the northern portions of Minnesota, Michigan, Ohio, and Pennsylvania. and the southern regions of New York and New England. Remaining areas are expected to have temperatures near normal.

Precipitation amounts are expected to be near normal in the northwestern regions of Washington and Nevada, eastern Oregon, central Idaho, the upper Mississippi Valley, the Northeast, southeastern Texas and the Florida Peninsula. Above normal precipitation is expected from the Great Plains westward. In addition to remaining unspecified areas, little or no precipitation is expected in western Texas, southeastern New Mexico, southern California, and southwestern Arizona.

(Refer to Figures 34 and 35).

30 Day Outlook - Mid-November Through Mid-December 1991

The 30 day outlook calls for at least a 55 percent chance of above normal temperatures for most of the northern and middle Atlantic Coast states as well as the southeastern regions of Florida and California and the western regions of Nevada and Arizona. The probability of milder weather reaches 60 percent in Maine. Temperatures below normal with at least a 55 percent chance are expected for the region between the Rocky Mountains and the Mississippi Valley. This probability increases to a 60 percent chance for most of the Great Plains area extending from the Canadian border to northeastern Texas.

Remaining areas are expected to have temperatures near normal to climatological values.

(Refer to Figure 36).

90 Day Outlook - November Through January 1992

The 90 day outlook calls for at least a 55 percent chance of above normal temperatures everywhere east of a line extending southward from the central Great Lakes through the Ohio and Tennessee Valleys to the Gulf Coast at the western tip of the Florida Panhandle. Mild weather with at least a 60 percent chance is expected from central New England and New York southward along the Atlantic Coast to the Florida Peninsula. Below normal temperatures with a 55 percent chance extend over the southern and central portions of the Rocky Mountains and Great Plains as well as in the extreme eastern portion of the Central Plateau. The chance for cold temperatures rise as high as 60 percent in southern Colorado and northeastern New Mexico.

Remaining areas are expected to have temperatures near normal to climatological values.

(Refer to Figure 37).

Source: National Weather Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

Figure 34. 6 - 10 Day Temperature Outlook for November 26 through November 30, 1991

Source: National Weather Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

Figure 35. 6 - 10 Day Precipitation Outlook for November 26 through November 30, 1991

Source: National Weather Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

Figure 36. 30 Day Temperature Outlook for Mid-November through Mid-December 1991

Source: National Weather Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

Figure 37. 90 Day Temperature Outlook for November 1991 through January 1992

Source: National Weather Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

Table 13. U.S. Total Heating Degree Days by City
(Population Weighted Heating Degree-Days^a, Except Where Noted)

City	Percent Change				
	1991-1992	1990-1991	Normal	1991-1992 vs. 1990-1991	1991-1992 vs. Normal
July 1 - June 30		4,138	4,689	--	--
July 1 - November 16	690	571	617	21	12
Albuquerque	509	499	546	2	-7
Amarillo	723	498	516	45	40
Asheville	664	535	609	24	9
Atlanta	351	252	315	39	11
Billings	1,291	904	1,178	43	10
Boise	871	822	931	6	-6
Boston	729	571	691	28	5
Buffalo	998	875	947	14	5
Cheyenne	1,335	1,197	1,290	12	3
Chicago	1,053	866	805	22	31
Cincinnati	772	637	674	21	15
Cleveland	888	772	830	15	7
Columbia, SC	346	248	275	40	26
Denver	1,006	804	934	25	8
Des Moines	1,123	824	804	36	40
Detroit	948	818	911	16	4
Fargo	1,634	1,291	1,395	27	17
Hartford	852	699	830	22	3
Houston	212	144	123	47	72
Jacksonville, FL	155	59	88	****	****
Kansas City	880	556	601	58	46
Las Vegas	166	123	206	35	-19
Los Angeles	54	23	172	135	-69
Memphis	448	330	333	36	35
Miami	8	0	0	****	****
Milwaukee	1,081	874	997	24	8
Minneapolis	1,445	1,071	1,124	35	29
Montgomery	319	207	222	54	44
New York	525	392	526	34	0
Oklahoma City	558	343	375	63	49
Omaha	1,108	752	770	47	44
Philadelphia	567	449	573	26	-1
Phoenix	55	20	72	****	****
Pittsburgh	887	738	840	20	6
Portland, ME	1,109	956	1,173	16	-5
Providence	730	632	771	16	-5
Raleigh	454	310	403	46	13
Richmond	502	372	468	35	7
St. Louis	710	476	580	49	22
Salem, OR	666	720	916	-8	-27
Salt Lake City	760	701	834	8	-9
San Francisco	346	224	565	54	-39
Seattle	754	769	1,033	-2	-27
Shreveport	328	257	205	28	60
Washington, DC	505	388	432	30	17

^a See Glossary.

****=Normal heating degree days 100 or less or ratio in calculable.

The weather for the Nation, as measured by population-weighted heating degree-days from July 1, 1991, through November 16, 1991, has been 21 percent cooler than last year and 12 percent cooler than normal.

Source: Weather data reported in the *Winter Fuels Report* are taken directly from a computerized system implemented by the National Oceanic and Atmospheric Administration, Department of Commerce. The National Oceanic and Atmospheric Administration (NOAA)/NWS, as a U.S. Government Agency, does not endorse any consumer information services.

Appendix A

District Descriptions and Maps

Tank trucks are used to distribute heating oil to remote areas.

District Descriptions and Maps

The following are the Petroleum Administration for Defense (PAD) Districts.

PAD District I

East Coast: District of Columbia and the States of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida, and the following counties of the State of New York: Cayuga, Tompkins, Chemung, and all counties east and north thereof. Also the following counties in the State of Pennsylvania: Bradford, Sullivan, Columbia, Montour, Northumberland, Dauphin, York, and all counties east thereof.

Appalachian No. 1: The State of West Virginia and those parts of the States of Pennsylvania and New York not included in the East Coast District.

Sub-PAD District I

New England (PADD IX): The States of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont.

Central Atlantic (PADD IY): The District of Columbia and the States of Delaware, Maryland, New Jersey, New York, and Pennsylvania.

Lower Atlantic (PADD IZ): The States of Florida, Georgia, North Carolina, South Carolina, Virginia, and West Virginia.

PAD District II

Indiana-Illinois-Kentucky: The States of Indiana, Illinois, Kentucky, Tennessee, Michigan, and Ohio.

Minnesota-Wisconsin-North and South Dakota: The States of Minnesota, Wisconsin, North Dakota, and South Dakota.

Oklahoma-Kansas-Missouri: The States of Oklahoma, Kansas, Missouri, Nebraska, and Iowa.

PAD District III

Texas Inland: The State of Texas except the Texas Gulf Coast District.

Texas Gulf Coast: The following counties of the State of Texas: Newton, Orange, Jefferson, Jasper, Tyler, Hardin, Liberty, Chambers, Polk, San Jacinto, Montgomery, Harris, Galveston, Waller, Fort Bend, Brazoria, Wharton, Matagorda, Jackson, Victoria, Calhoun, Refugio, Aransas, San Patricio, Nueces, Kleberg, Kenedy, Willacy, and Cameron.

Louisiana Gulf Coast: The following parishes of the State of Louisiana: Vernon, Rapides, Avoyelles, Pointe Coupee, West Feliciana, East Feliciana, Saint Helena, Tangipahoa, Washington, and all parishes south thereof. Also the following counties of the State of Mississippi: Pearl River, Stone, George, Hancock, Harrison, and Jackson. Also the following counties of the State of Alabama: Mobile and Baldwin.

North Louisiana-Arkansas: The State of Arkansas and those parts of the States of Louisiana, Mississippi, and Alabama not included in the Louisiana Gulf Coast District.

New Mexico: The State of New Mexico.

PAD District IV

Rocky Mountain: The States of Montana, Idaho, Wyoming, Utah, and Colorado.

PAD District V

West Coast: The States of Washington, Oregon, California, Nevada, Arizona, Alaska, and Hawaii.

Petroleum Administration for Defense (PAD) Districts

Appendix B

Detailed Statistics Explanatory Notes

The cluster of pipes and valves that control the flow of oil at the mouth of an oil well is what oilmen call a "Christmas Tree."

Explanatory Notes

Note 1. Overview

The following Explanatory Notes are provided to assist in understanding and interpreting the data presented in this publication.

- Note 2. Monthly Data
- Note 3. Weekly Data
- Note 4. Price Data
- Note 5. Interpretation and Derivation of Average Inventory Levels

Note 2. Monthly Data

Data for distillate fuel oil and propane are extracted from selected surveys in the Monthly Petroleum Supply Reporting System (MPSRS). Refer to the *Petroleum Supply Monthly* for a detailed discussion of the MPSRS.

The forms that comprise the monthly data are:

Form Number	Name
EIA-810	<i>Monthly Refinery Report</i>
EIA-811	<i>Monthly Bulk Terminal Report</i>
EIA-812	<i>Monthly Product Pipeline Report</i>
EIA-814	<i>Monthly Imports Report</i>
EIA-816	<i>Monthly Natural Gas Liquids Report</i>

Note 3. Weekly Data

Distillate Fuel Oil

Data collected from the Weekly Petroleum Supply Reporting System (WPSRS) are used to develop estimates for distillate fuel oil.

The forms that comprise the WPSRS are:

Form Number	Name
EIA-800	<i>Weekly Refinery Report</i>
EIA-801	<i>Weekly Bulk Terminal Report</i>
EIA-802	<i>Weekly Product Pipeline Report</i>
EIA-803	<i>Weekly Crude Oil Report</i>
EIA-804	<i>Weekly Imports Report</i>

A sample of all petroleum companies report weekly data to the Energy Information Administration (EIA) on crude oil and petroleum products stocks, refinery inputs and production, and crude oil and petroleum product imports. The sample of companies that report weekly is selected from the universe of companies that report on the comparable monthly surveys.

Sampling

The sampling procedure used for the weekly system is the cut-off method. In the cut-off method, companies are ranked from largest to smallest on the basis of the quantities reported during some previous period. Companies are chosen for the sample beginning with the largest and adding companies until the total sample covers about 90 percent of the total, for each item and each geographic region for which weekly data are published.

Estimation and Imputation

After the company reports have been checked and entered into the weekly data base, explicit imputation is done for companies which have not yet responded. The imputed values are exponentially smoothed means of recent weekly reported values for this specific company. The imputed values are treated like reported values in the estimation procedure, which calculates ratio estimates of the weekly totals. First, the current week's data for a given product reported by companies in a geographic region are summed. (Call this weekly sum, W_t .) Next, the most recent month's data for the product reported by those same companies are summed. (Call this monthly sum, M_t .) Finally, let M_i be the sum of most recent month's data for the product as reported by all companies. Then, the current week's ratio estimate for that product for all companies, W_i , is given by:

$$W_i = \frac{M_t}{M_i} \cdot W_t$$

This procedure is used directly to estimate total weekly inputs to refineries and production. To estimate stocks of finished products, the preceding procedure is followed separately for refineries, bulk terminals, and pipelines. Total estimates are formed by summing over establishment types.

Weekly imports data are highly variable on a company-by-company basis or a week-by-week basis. Therefore, an exponentially smoothed ratio has been developed. The estimate of total weekly imports is the product of the

smoothed ratio and the sum of the weekly reported values and imputed values.

Propane

Data collected on the Form EIA-807, "Propane Telephone Survey" are used to develop estimates for propane.

Sampling

The sampling procedure used for Form EIA-807 is the cut-off method. In the cut-off method, establishments were ranked from largest to smallest on the basis of quantities reported (propane production, propane imports, propane stocks) during October 1989. Companies were chosen for the sample beginning with the largest and adding companies until the total sample covered about 80 percent of the total for each item and each geographic region (Petroleum Administration for Defense Districts I, IX, IY, IZ, II and III) for which data are published.

Estimation and Imputation

After the company reports have been checked and entered into the EIA-807 data base, imputation is done for companies which have not yet responded. The imputed values are equal to the latest reported data for a particular reporting unit. Response rates are over 90 percent so very little imputation is done.

After the data files have been edited and corrected, aggregation is done for net production, imports, and stocks by each geographic region. Estimation factors, which were derived from 1989 reported data, are then applied to each cell to generate published estimates.

Note 4. Price Data

The residential No. 2 heating oil and propane prices for a given State are based on the results of telephone surveys of a sample of marketers and refiners. Data are collected under the 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:

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

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.

Residential No. 2 Heating Oil

For the No. 2 heating oil price data, a sample design similar to that used for the Energy Information Administration (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 1989 and containing 1988 sales volume information. A one-way stratified sample design using No. 2 residential distillate frame sales volumes by State, for each of the 27 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.

After unduplicating these companies, the initial frame file contained approximately 5,100 companies. Additional companies were obtained from an extract of a current Dun and Bradstreet file of SIC code 5984(9903), primary and secondary retail propane dealers, containing 3,283 names and addresses. Removal of duplicates within this file and between it and the initial frame file was performed using tailored automated match programs with manual review, and resulted in approximately 1,000 potential adds to the initial file. Similarly, additional names and addresses were furnished by industry associations and journals and by State Energy Offices, yielding another 7,429 names. Again, removal of duplicates through the match programs yielded an approximate potential add of 900 companies. Another 800 companies were identified as residing on the Master File but not previously selected as potential

propane sellers. Further matching, merging and unduplicating reduced the final total frame count to approximately 6,000 companies. Reseller/retailer propane price data were unavailable to calculate a target coefficient of variation. However, it was expected that residential propane price variances were similar to heating oil. Increases in variances were expected as a result of lack of detailed stratification, but were only expected to reach three to four percent.

Note 5. Interpretation and Derivation of Average Inventory Levels

The national inventory (stocks) graphs for distillate fuel oil and propane include features to assist in comparing current inventory levels with past inventory levels and with judgments of critical levels. Methods used in developing the average inventory levels and minimum operating levels are described below.

Average Inventory Levels

The charts displaying inventory levels of distillate fuel oil and propane (Figures 1 through 14) provide the reader with actual inventory data compared to an "average range" for the most recent 3-year period running from January through December or from July through June. The ranges also reflect seasonal variation for the past 7 years.

The seasonal factors, which determine the shape of the upper and lower curves, are estimated with a seasonal adjustment technique developed at the Bureau of Census (Census X-11). The seasonal factors are assumed to be stable (i.e., unchanging from year to year) and additive (i.e., the series is deseasonalized by subtracting the seasonal factor for the appropriate month from the reported inventory levels.) The intent of deseasonalization is to remove only annual variation from the data. Thus, deseasonalized series would contain the same trends, cyclical components, and irregularities as the original data. The seasonal factors are updated annually in October, using the 7 most recent year's final monthly data.

The seasonal factors are used to deseasonalize data from the most recent 3-year period (January-December or July-June). The average of the deseasonalized 36-month series determines the midpoint of the "average range." The standard deviation of the deseasonalized 36 months is then calculated after adjusting for extreme data points. The upper curve of the "average range" is defined as average plus the seasonal factors plus the standard deviation. The lower curve is defined as the average plus the seasonal factors minus the standard deviation. Thus, the width of the "average range" is twice the standard deviation. The ranges are updated every 6 months in April and October.

Glossary

Pipelines carry crude oil and petroleum products between refineries and ports.

Definitions of Petroleum Products and Other Terms

Degree-Day Normals. Simple arithmetic averages of monthly or annual degree-days over a long period of time (usually the 30-year period 1951-1980). These may be simple degree-day normals or population-weighted degree-day normals.

Distillate Fuel Oil. A general classification for one of the petroleum fractions produced in conventional distillation operations. It is used primarily for space heating, on-and-off-highway diesel engine fuel including railroad engine fuel and fuel for agricultural machinery, and electric power generation. Included are products known as No. 1, No. 2, and No. 4 fuel oils; No. 1, No. 2, and No. 4 diesel fuels.

No. 1 Fuel Oil. A light distillate fuel oil intended for use in vaporizing pot-type burners. ASTM Specification D396 specifies for this grade maximum distillation temperatures of 400 degrees F at the 10-percent recovery point and 550 degrees F at the 90-percent point, and kinematic viscosities between 1.4 and 2.2 centistokes at 100 degrees F.

No. 2 Fuel Oil. A distillate fuel oil for use in atomizing-type burners for domestic heating or for moderate capacity commercial-industrial burner units. ASTM Specification D396 designates minimum and maximum distillation temperatures at the 90-percent recovery point of 540 degrees F and 640 degrees F, and kinematic viscosities between 2.0 and 3.6 centistokes at 100 degrees F.

No. 1 and No. 2 Diesel Fuel Oils. Distillate fuel oils used in compression-ignition engines, as designated in the ASTM Specification D975:

No. 1-D. A volatile distillate fuel oil with a maximum distillation temperature of 550 degrees F at the 90-percent recovery point for use in high-speed diesel engines generally operated under variations in speed and load. Includes type C-B diesel fuel used for city buses and similar operations. Properties are defined in ASTM Specification D975.

No. 2-D. A gas oil type distillate of lower volatility with minimum and maximum distillation temperatures at the 90-percent recovery point of 540 and 640 degrees F for use in high-speed diesel engines generally operated under uniform speed and load conditions. Includes Type R-R diesel fuel used for railroad locomotive engines, and

Type T-T for diesel-engine trucks. Properties are defined in ASTM Specification D975.

No. 4 Fuel Oil. A fuel oil for commercial burner installations not equipped with preheating facilities. It is used extensively in industrial plants. This grade is a blend of distillate fuel oil and residual fuel oil stocks that conforms to ASTM Specification D396 or Federal Specification VV-F-815C; with minimum and maximum kinematic viscosities between 5.8 and 26.4 centistokes at 100 degrees F. Also included is No. 4-D, a fuel oil for low and medium-speed diesel engines that conforms to ASTM Specification D975.

Heating Degree-Days. The number of degrees per day the daily average temperature is below 65 degrees F. The daily average temperature is the mean of the maximum and minimum temperature for a 24-hour period.

Population-Weighted Degree-Days. Heating or cooling degree-days weighted by the population of the area in which the degree-days are recorded. To compute national population-weighted degree-days, the Nation is divided into nine Census regions comprised of from three to eight States which are assigned weights based on the ratio of the population of the region to the total population of the Nation. Degree-day readings for each region are multiplied by the corresponding population weight for each region and these products are then summed to arrive at the national population weighted degree-day figure.

Propane (C₃H₈). A normally gaseous straight-chain hydrocarbon. It is a colorless paraffinic gas that boils at a temperature of -43.67 degrees F. It is extracted from natural gas or refinery gas streams. It includes all products designated in ASTM Specification D1835 and Gas Processors Association Specifications for commercial propane and HD-5 propane.

Propylene (C₃H₆). An olefinic hydrocarbon recovered from refinery processes or petrochemical processes.

Report Dates. The official report dates for the residential and wholesale price surveys are the first and third Mondays. The official day for the primary stock survey is 7 a.m. on the Friday preceding the report date.

Residential Heating Oil Price. The price charged for home delivery of No. 2 heating oil, exclusive of any discounts such as those for prompt cash payment. Prices do not include taxes paid by the consumer.

Residential Propane Price. The "bulk keep full" price for home delivery of consumer grade propane intended for use in space heating, cooking, or hot water heaters in residences.

United States. For the purpose of this report, the 50 States and the District of Columbia. Data for the Virgin Islands, Puerto Rico, and other U.S. territories are not included in the U.S. Totals.

Wholesale Price. The rack price charged for No. 2 heating oil: that is, the price charged customers who purchase No. 2 heating oil free-on-board at a supplier's terminal and provide their own transportation for the product.

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