

# MAINE STATE LEGISLATURE

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## **Maine Heating Fuels Inventory 2002**

Maine State Planning Office  
Report to the Maine Legislature  
Utilities and Energy Committee  
Betsy Elder 1/30/2003

# **Maine Heating Fuels Inventory**

Maine State Planning Office - Betsy Elder -1/30/2003

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## Executive Summary

Maine is dependent on oil supplies stored south of us in the rest of New England and when delivery systems are disrupted, it can be challenging for petroleum supplies to get to points north, including Maine. With only a five to six day storage capacity in the event of a supply disruption, does Maine ever have enough oil inventory? Any inventory of oil supplies, conducted in Maine, can only give a snapshot of a very dynamic situation, which can change radically overnight. Plentiful supplies in the morning can quickly be gone by nightfall with the onset of a cold snap incentivizing consumers to fill their tanks. Maine consumers are vulnerable to market volatility because of our current storage and delivery system. The behavior of the oil industry has changed over the past decade to *just-in-time* inventories, which is risk-averse for the industry but often causes the Maine consumer to absorb the brunt of volatile prices in the current marketplace. Because conditions can change rapidly which re-supply or deplete *regional* inventories and supplies, any report on Maine's current heating oil inventories may be irrelevant. It is the *regional* inventories, which offer a more meaningful indicator of the state of Maine's supplies.

Having discounted the significance of an accounting of Maine's inventories, SPO's research into the state of heating oil and kerosene inventories does show some very basic things. Based on the information that SPO has received from Primary Terminal Operators, Maine's 2002 inventories of heating oil were more voluminous than 2001 during most of the heating season but have been less plentiful this fall compared to last year. Heating oil inventories for 2002 in general display less seasonal fluctuation than 2001, which had inventories dropping down to as low as 21% of available storage in June. By contrast, June 2002 heating oil inventories stood at 62% of available storage and the lowest point of inventory storage was in April at the end of the heating season when storage was only filled to 46% of capacity. Year 2002, in general, found inventories consistently in the 60-70% range. The data shows that heating oil inventories were building during spring and summer 2002 to a high point in August when 75% of heating oil storage capacity was filled.

The data seems to imply that dealers held almost as much oil in August 2002 as they did at the height of the heating season in 2001. What does this mean? Since the low point in April 2002, oil dealers were gradually, month by month, increasing the volume of their stored heating oil in anticipation of the heating season. With the onset of an early and cold winter, supplies dwindled during fall 2002 so that in November and December 2002, we were only holding enough inventory to fill half of the available storage capacity. Building excessive stock is a costly practice that competitive enterprises will seek to minimize. The overall decline in seasonal heating oil inventories during the last decade is an indicator of the increased competitiveness and risk aversion, which now characterizes the oil industry. Each individual supplier chooses to keep the level of inventory that will maximize business prospects. Suppliers face stiff penalties in the competitive market for failing to correctly estimate the level of inventories that they will need to satisfy contracts to customers. If inventories are too high, suppliers pay unnecessary storage costs, thereby reducing profits. If inventories are too low, they lose customers to competitors.

Thus, market incentives insure that private unregulated suppliers of distillate adequately prepare for each winter. Marketers have to manage a risk that they didn't have before with these kinds of contractual demands.

In October 2000, Maine heating oil inventories stood at 45% of possible storage capacity. In October 2001 we were 20% higher at 65% of storage capacity filled and this year in October 2002 storage capacity was only 58% filled with 1,016,711 thousand barrels. New England heating oil inventories have been down 30% compared to last year. Adequate New England inventories are important to Maine consumers because 273,430 Maine households or 57.3% of the population heats with #2 heating oil. In November 2001 Maine heating oil stood at 61% of storage capacity and November 2002 found us at only 50% of storage capacity holding 874,044 thousand barrels. In December 2001, Maine heating oil stood at 71% of capacity and this December 2002 we were only filled to 55% of capacity with 966,766 thousand barrels. Heating oil prices have been stable but rising gradually in Maine during the first three months of the heating season during the end of 2002.

Based on the information that SPO has received from Primary Terminal Operators this year, Maine 2002 kerosene inventories overall were more robust than last year but fall inventories have been slack in 2002 compared to 2001. Like heating oil, kerosene supplies have been somewhat diminished by demand resulting with an early and fierce Maine winter weather pattern. Typically, stored supplies decline in summer and start to build during September and October and peak in January, February and March. Unlike heating oil, whose stocks were anomalously full during last summer, kerosene supplies did cycle-down and diminished to half-full levels over the summer months. Kerosene inventories began to build in during the fall to 83% in October 2002. Compared with October 2001, when Maine kerosene inventories were filled to 72% of storage capacity, kerosene inventories this year were robust.

Maine's storage capabilities fluctuate from month to month, but it appears that our statewide capacity to store kerosene has decreased over the past couple of years. Recent kerosene storage capacities indicate that in October 2001, Maine's kerosene storage capacity expanded to 567,246 thousand barrels, which is comparable with storage in September 1999 and 2000. In May 2002, kerosene storage decreased to 428,000 thousand barrels and has stayed at this level until November 2002 when it increased to 497,246 thousand barrels. The attacks of September 11th and the ensuing war on terror, have had effects which belie the best state of inventory readiness. Increased domestic security has had effects on localized energy infrastructure in Maine including deliveries to Portland Harbor. Border-crossing delays can affect deliveries of New England heating oil supplies as can winter weather. The entire country has experienced an economic downturn putting downward pressure on prices of most commodities; oil products notwithstanding. Potential supply uncertainty, the strike in Venezuela, OPEC manipulations, and the uncertainty of the impacts from a war on Iraq all contribute this season to the price volatility for heating fuels that we are currently experiencing in Maine.

## Winter 2000 leads to Oil Inventory Project Mandate

During the winter of 1999-2000, Maine experienced a weather induced demand surge in the midst of an already strained heating oil market, which caused price volatility. During mid-January 2000 prices jumped almost 50 % in a few weeks prompting speculation about the causes of such a dramatic price spike. Similar price increases were experienced in the rest of the Northeast and in the Midwest. Cold weather contributed to a reduction in New England regional inventories and created transportation obstacles which were key factors causing the price spike. As a result of this, the Maine legislature created LD 2668 which requires SPO to prepare an annual report on the state of Maine oil inventories and provide information to the Joint Standing Committee of the Legislature having jurisdiction over energy matters, in this case the Utilities and Energy Committee, on the following energy issues;

1. Recent Statewide storage inventory for petroleum products including and especially, No.2 heating oil and kerosene
2. Historic trends of the statewide storage inventory over the prior twelve months
3. Anticipated reductions, curtailments or shortfalls in product deliveries or storage inventories in the coming months.
4. If the SPO determines that there may be a significant shortfall in heating oil supply inventories or anticipated deliveries into the State, (it shall issue) a report including;
  - the information suggesting a supply shortfall
  - current and anticipated inventories of home heating oil storage supplies
  - SPO recommendations for State action in response to the supply shortfall.

This report provides documentation of SPO's 2001-02 research into the status of Maine petroleum inventories. SPO maintained communication with Primary Terminal Operators and upheld reporting requirements. Bi-weekly reports provide information about Maine's inventories but **SPO prefaces this report by stating that the inventory information may not be especially relevant in ascertaining with certainty the adequacy of supplies or the level of preparedness of Maine's petroleum industry for winter. Because of the lack of storage in Maine, we are dependent on regional inventories, which are primarily stored south of us. The importance of Maine's storage inventories should not be over-stated or over-rated.**

Unanticipated demand was the single largest factor affecting oil prices during 2000, but a variety of other factors contributed to the magnitude of the price hike. The first months of winter were warm and dealers had little incentive to store product. January 2000's surge in demand for heating oil and the resulting price increase was compounded by the fact that extreme cold weather placed unanticipated stresses on other energy markets in the northeast. Fuel switching by commercial and industrial interruptible natural gas users in New York State extracted heating oil out of the northeast market. This had a significant effect on heating oil prices and supplies for New England. Above a certain threshold, weather-induced increases in the energy demand tend to have a compounding effect on heating oil market volatility, as other energy markets become stressed and turn to spot-market distillate as an alternative back-up.

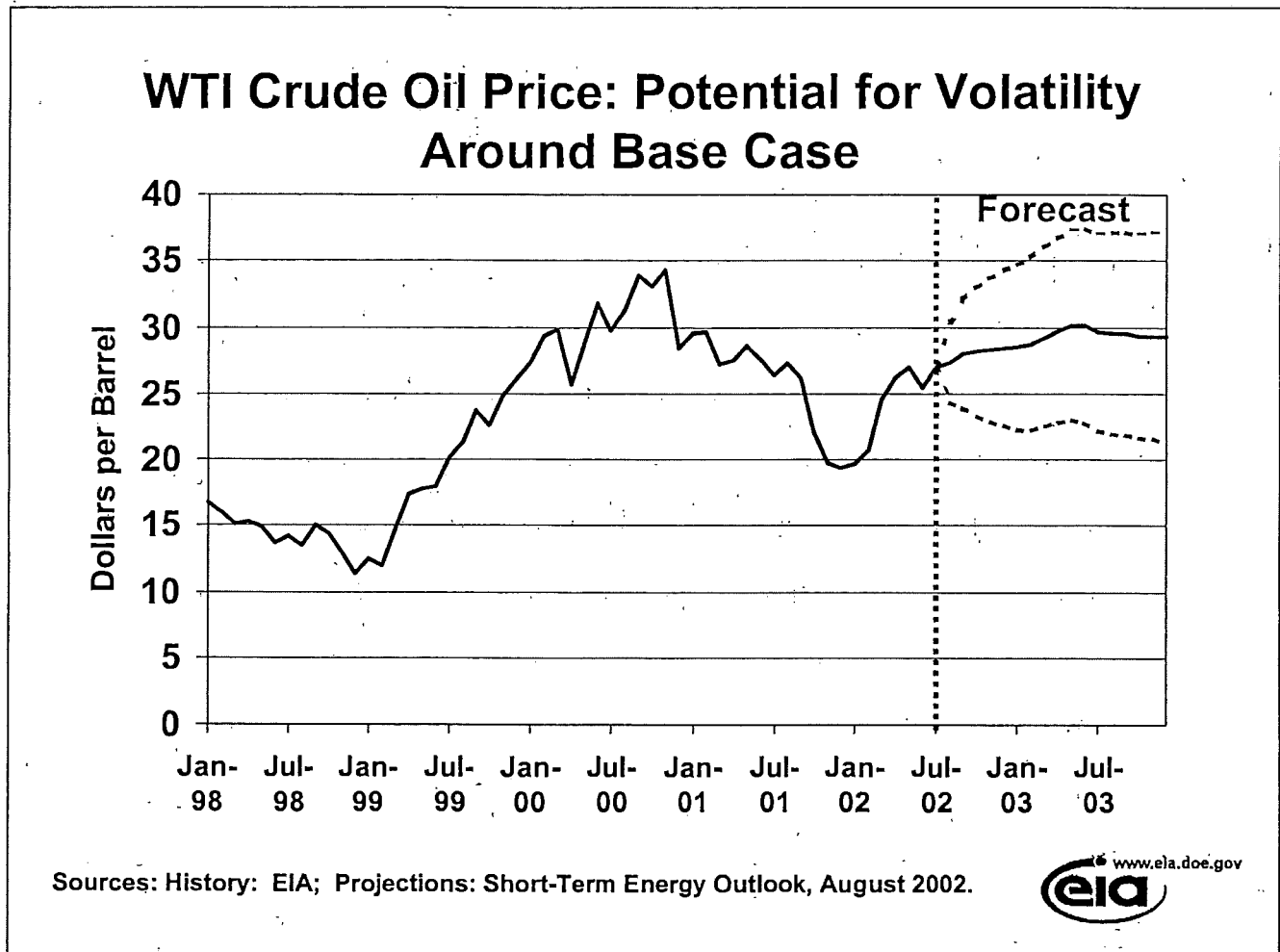
Non-residential consumption, especially within the electric utility sector, is less sensitive to price than residential consumption because maintenance of a reliable service is essential to stay in business and because utilities generally pass changes in the price of fuel used in power generation directly on to their ratepayers. To the extent that interruptible and utility customers were better able to absorb (or pass on) higher distillate prices, their substantial and unexpected presence in the January-February 2000 market may have significantly augmented the aggregate demand relationship between prices and total end-use sales. The surprising presence of the non-residential sector in the January-February 2000 markets resulted in an acceleration in the bidding process for scarce supplies, thereby inducing price overreaction to the cold weather and tight market conditions. Additionally, transportation and distribution problems further complicated matters. Supply shortages, transportation bottlenecks, low inventories and refinery outages all threatened prices and made the market unpredictable for commodity traders. As heating oil markets tightened, East Coast supply and distribution systems were severely strained. Transportation delays and other distribution problems contributed to the price spike by causing temporary spot run-outs at several major New England terminals.

## **Global Oil Issues 2001-2002**

As one can see in the following chart, the price of crude oil has fluctuated drastically in the past five years. After peaking in September 2000, world crude oil prices declined over the past fourteen months as weakening global demand allowed inventories to recover from relatively low levels of year 2000. During the summer of 2001, the price of crude oil declined steadily to a rock bottom price of less than \$20.00 per barrel. Since then, the price of crude has risen almost steadily to current levels, which, at \$34.00/barrel, are at their highest levels in two years. The combination of industrial and power generation demand increases and the effects of OPEC quota cuts, which totaled 5 million barrels per day since the start of 2001, have contributed to current low crude oil inventories. In addition to production control by OPEC nations, higher refinery margin costs, higher natural gas wellhead prices, resulting from low levels of drilling activity earlier this year and impacts of the Venezuelan strike have all contributed to the decline of crude oil inventories and the incline in crude oil prices. Market uncertainty over the possibility of war with Iraq, the cessation of oil imports out of Venezuela and colder than normal weather this winter are all contributing to inclining petroleum prices and declining inventories.

Crude stocks have diminished and in order to make up for the reduction in Venezuelan imports, refiners have drawn upon inventories to keep refinery throughputs at relatively high levels so far. With little prospect of a resolution to the ongoing Venezuela general strike in the offing, the market focus on Iraq and the build up to potential military intervention in early 2003, there is speculation that crude oil prices will increase to as high as \$35.00/bbl. before this upward trend will end. OPEC is expected to respond aggressively to a potential supply crisis by increasing flows well above new quota levels with a significant surge in supply from Middle East producers with excess capacity. Concerned that if prices remain at these high levels, world economic growth and oil demand will falter, Saudi and other OPEC producers are ready to fill any supply shortfall with a collective 500,000 barrels per day, provided the OPEC reference

basket remains above the \$22.00-\$28.00/barrel price range. However, the market would be vulnerable to any perceptions of military or terrorist threats or damage to Middle East oil fields or production in Iraq. The possibility of civil unrest in key Middle East oil producing countries could raise the stakes even higher.



## Maine Heating Fuels Market Trends

Several key structural changes have taken place in the oil industry during the past decade. Due to oil price deregulation and trade in oil product futures, petroleum prices are subject to commoditization. They respond to supply and demand conditions in much the same way as pork bellies or soybeans. Oil, like other commodities, is competing in a global marketplace and because of this competition in the broad international market, it is less likely that any one player or sector has enough market influence to effectively dominate or control price and supply patterns. But while the industry may be more competitive, the market has become more volatile, reacting or overreacting to real or perceived changes in demand or market conditions. According

to DOE/EIA, "...the movement away from producer pricing or market-related pricing...has tended to increase both competitiveness and volatility of petroleum markets. The current price-determining process involves many more market participants, with varying expectations, including traders, brokers, speculators, retailers, wholesalers and refiners. More transactions are now directly or indirectly linked to spot or futures markets prices which encourages sellers to *follow the market*, which can rise or fall relatively quickly on either technical factors, or on changing near-term perceptions of market fundamentals" (1)

Consumers need to recognize that the same forces, which compel higher prices in response to increased demand, also serve to keep overall heating oil prices as low as possible under normal market conditions. In fact, the trend toward a more competitive, *through-put* oriented heating oil market has helped to insure that oil prices, on an inflation-adjusted basis, remain highly competitive relative to other fuels. However, the way in which market dynamics operate, especially when viewed in the context of increasing New England dependence on natural gas for heavy industrial uses and electric generation, suggests that price volatility will recur.

The high heating oil prices in all of New England during January 2000 were not only because of high crude prices, but primarily were a result of regionalized low inventories. Consumers often perceive heating oil prices to be constantly on the incline because the market dictates higher costs during the winter months when consumer demand and dependence are greatest. Maine consumers may feel gouged by paying higher prices at a time when they are most vulnerable to market forces and seasonal temperature changes. Prices for heating oil tend to be highest when the demand for heating oil is at its peak and consumers feel the effects that strong demand and low stocks may have on prices. Because the Northeast residential sector is highly dependent on home heating oil, whose prices are normally highest in the winter, colder than normal winter weather will further increase demand and concurrently the potential for price volatility. If heating oil re-supply problems are coupled with additional distillate fuel oil demand from interruptible or *fuel-switching* customers, home heating oil prices can rise sharply, as they did in the winter of 1999-2000.

Supply issues and consumer tastes and preferences dictate the market but the most significant factor influencing demand in the Maine home heating oil market is the weather. Seasonal temperature change, cold weather, snow, and harbor icing all inhibit efficient deliveries. As one would expect in the Northeast United States, the winter months of December, January and February are also the months of highest heating oil consumption. The lowest consumption rates occur in summer. The ability oil suppliers to re-supply kerosene and heating oil, if the transportation system is stressed by weather or other factors, is primary. If this is flawed or unreliable, the forces of a New England winter can dictate supply conditions. Ice, snow, wind and cold make slippery roads and frozen harbors; both of which have a deleterious impact on flawless deliveries; on which Maine is dependent. Industry reliance on just-in-time inventories is

1) Analysis of Heating Fuel Market Behavior 1989-90, United States Department of Energy, Energy Information Administration, June 1990, page 37

risky, as it assumes a flawless delivery system. Ninety percent of New England heating oil moves by sea and is dependent upon a smooth and well-oiled operation. The heating oil industry says, "Don't look at our inventories. Look at our ability to re-supply." But even when the refineries and transportation systems all function optimally and the northeast is well supplied, it is still appropriate to consider our regional and local energy consumption patterns and promote practical strategies for the consumer.

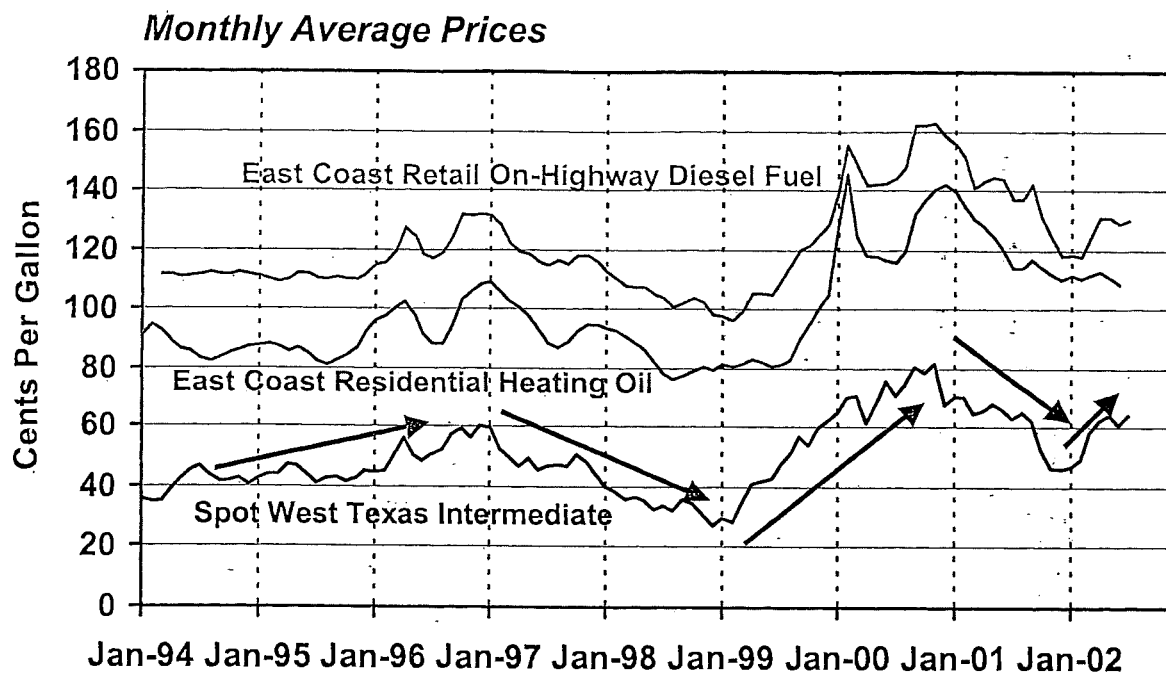
## **Distillate Trade and Export Trends**

The role of distillate trade, imports and exports in the U.S. supply/demand balance deserves some attention here. Distillate fuel oil is used primarily for production of heating oil and diesel fuel. The Northeast has no refinery and no distillate pipeline and is this country's biggest consumer of heating oil. The Northeast uses 70% of the heating oil supply in 12 weeks compared to the Mid-west, which uses only 14%. Among all the states, Maine ranks 6th in the nation for its total consumption of this product and consumers here burn an average of 13,755,000 barrels of No.2 fuel oil per year.

Distillate oil can be divided into two classes; low-sulfur and high-sulfur. Residential heating systems can usually tolerate both types of distillate, however high-sulfur distillate is what is usually thought of as heating oil. High sulfur distillate oil can also be used in off-road equipment. 1990 Clean Air Act Amendments require on-highway transportation, primarily heavy trucks, to use a distillate fuel with a sulfur content of less than 0.05 percent (referred to as low-sulfur diesel). Low sulfur diesel currently makes up about 67 percent of the total distillate sold. (American Petroleum Institute - API).

Trade does play a critical role in influencing winter peak demands. Overall the U.S. is a net importer of distillate. On a year average basis, exports and imports of high sulfur distillate are about in balance but in peak winter months, imports move up sharply while exports fall back. The distillate trade (and generically the petroleum trade) is significantly affected by geographic logistics and regulation. The bulk of U.S. refining capability is in the Gulf Coast while the greatest need for heating oil is in the Northeast. Much, if not all of the U.S. Gulf distillate production moves by pipeline to other parts of the country. The remainder must move by ship. Under the Jones Act, shipments between U.S. ports must be made on U.S. flag-ships, which are usually more expensive than foreign flag carriers, increasing the attractiveness of exports from both the supplier's viewpoint and from the domestic viewpoint, relative to domestic sources. Proposals to limit distillate exports are unlikely to have the intended effect of increasing supplies to East Coast customers. Without a waiver of the Jones Act, domestic production under an export ban would be reduced.

## Distillate Prices Generally Follow Crude Oil



Source: Spot Prices, S&P DRI Platt's; Retail, EIA

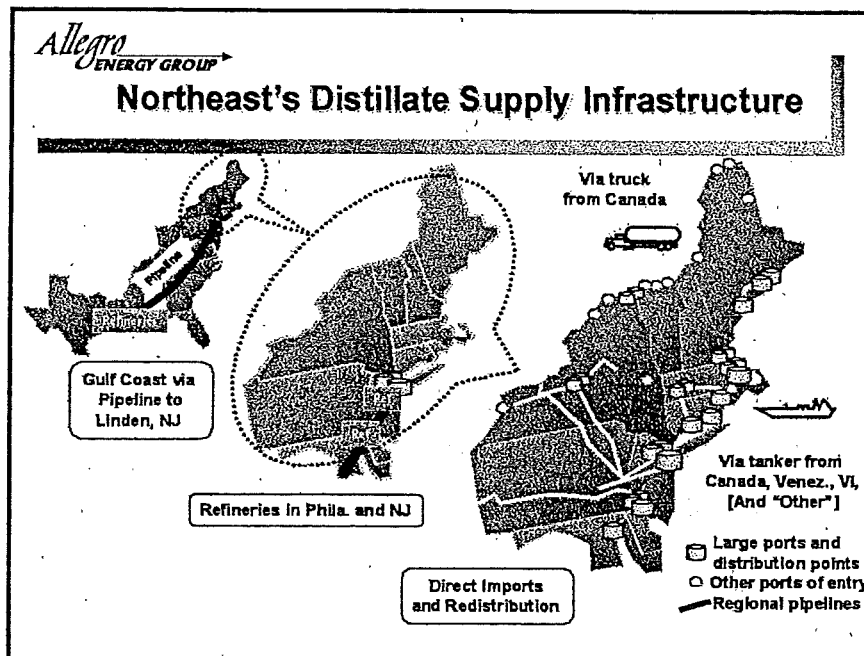


### New England's Regional Oil Distribution System

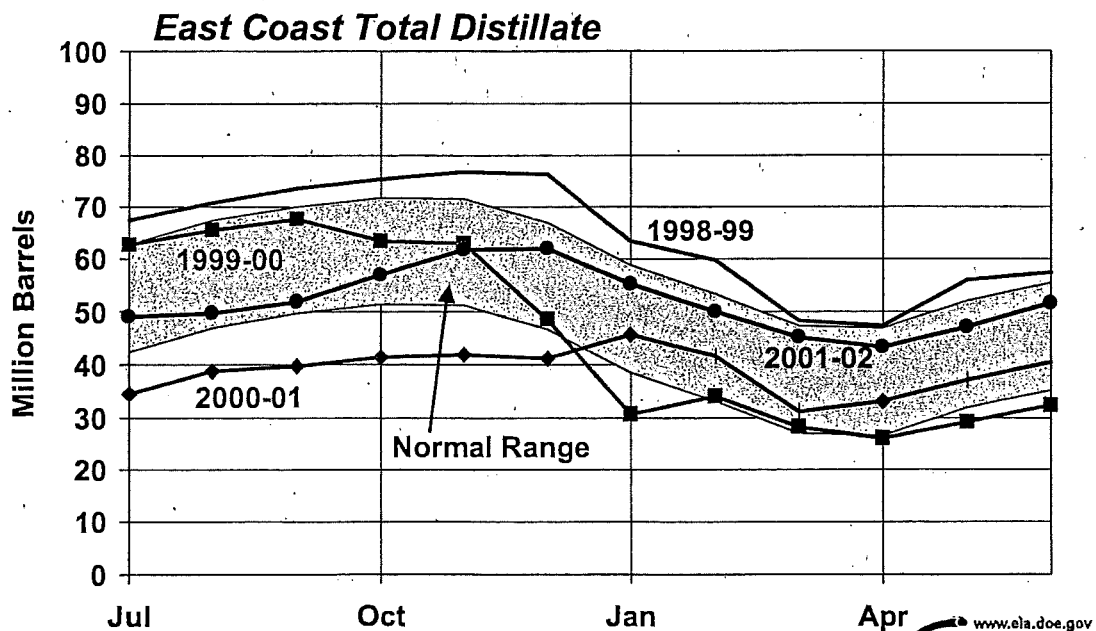
Northeast crude supplies originate primarily in Venezuela and Canada. The Northeast gets most of its distillate supply, a refined product, from the Gulf Coast via the Colonial pipeline to Linden, New Jersey. The nearest refineries are in Philadelphia and New Jersey, which send products to Boston and New York harbors. From there deliveries are made to Maine harbors through terminals in Portland, South Portland, Searsport, Bucksport and Belfast. The St. John, New Brunswick (Irving) refinery, which just completed a half-billion dollar renovation, provides a reliable source of refined products from the north.

Maine is dependent on imports from other U.S. regional supplies and 60-75% of our distillate supply is imported. New England stocks are the nearest source of supply and it can be challenging to get imports during the winter. We need to have stocks on hand to address immediate and unexpected draws because weather uncertainty is always a factor. During the past few years, warm winters held heating oil demand down while diesel demand grew. The import dependency in Maine is different than the rest of the northeast in that we are farther from supply centers and more vulnerable to supply disruption from weather. Also, because we are not in close proximity to refineries and supplies dwindle the further out from the refinery one goes, we are at

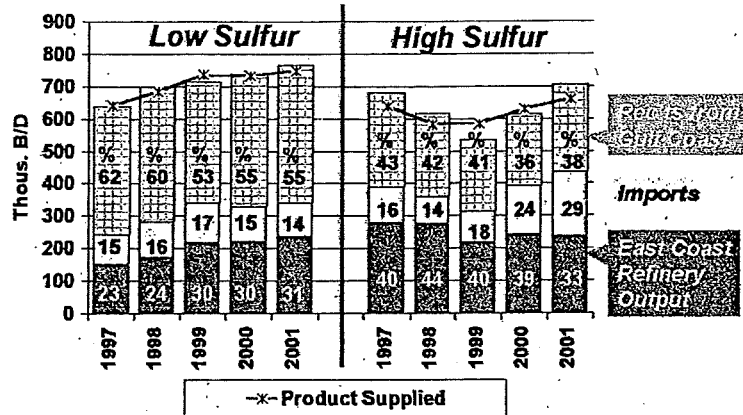
the end of the supply chain. The bulk of New England's storage capacity resides in other States such as Connecticut, New York and Massachusetts. We are dependent upon 75% of our imports from other New England states in the region.



## Distillate Stocks on the East Coast Built Through December Last Winter

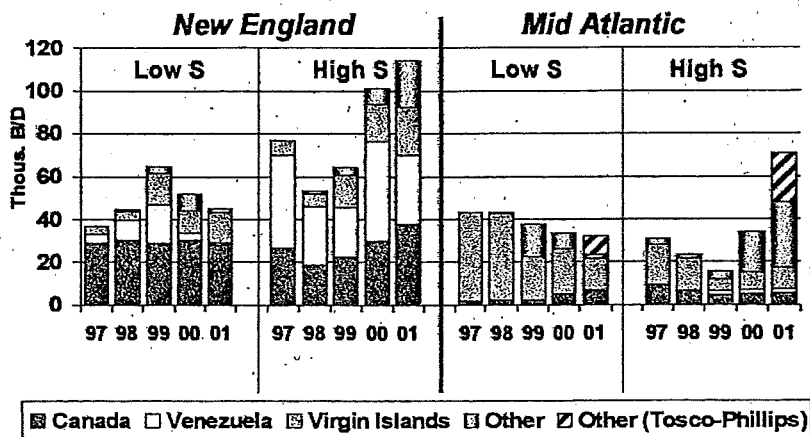


## Distillate Fuel Oil Supply on the East Coast



Source: EIA, Petroleum Supply Annual

## Imports of Distillate into the Northeast



Source: EIA, Form 814

## Maine's Oil Distribution System

Maine's oil distribution system has three categories. There are **primary** terminal facilities, which receive shiploads of products, **secondary** (or bulk storage facilities) and **tertiary** (or local) distribution facilities. Maine's oil distribution system is dependent on the status of supplies and the accessibility of regional inventories. Unlike other New England states, we have very little tank storage capacity, no pipelines (except for what is under construction for natural gas), and no refineries. Due to changes in the behavior of oil dealers, Maine doesn't have much storage or capacity to hold inventories. Over the years, petroleum product distribution has changed towards the elimination of large storage tanks for environmental and economic reasons. *Just-in-time inventories* or *fresh supply operations* are the mode of operation. Because of this, at any given time in Maine we have only enough storage to deliver and distribute about 4 to 5 days worth of oil. For these reasons we are vulnerable to market forces in the rest of New England and the potential for supply disruption and price volatility.

Bulk storage facilities are designed to receive quantities of oil for further distribution by truck to tertiary distributors. Since *just-in-time* inventories have become the standard mode of operation, tertiary storage facilities have decreased in Maine. However, tertiary facilities are by far the most numerous type of storage in Maine with over 270 oil dealers and a high ratio of oil dealers competing within a small population. Competition between the larger statewide retail oil delivery corporations such as; Irving, Dead River and C.N. Brown and the smaller, locally owned delivery businesses results in a relatively stable consumer market. Historically, Maine has enjoyed the lowest home heating oil prices of any state in New England. Ninety-five percent of Maine's customers pay the cash price compared to other states in New England, which pay 10% higher retail prices. Also, State fuel taxes are higher in many of our neighboring New England states. Most consumers in Maine continue to purchase heating oil in spite of high seasonal prices because it's a necessity to heat their homes. It's not a choice. Heating oil demand relative to price is inelastic because the demand for heating oil is influenced by factors other than price. Because the inventories of bulk-storage facilities can change significantly in a matter of hours, during an intense period of rapid response deliveries, the quantities that are delivered to Primary Terminals are more relevant. The following companies operate in Maine at the indicated locations.

### Active Maine Terminal Facilities for Primary Petroleum Storage and Distribution

#### Company Name - Location(s)

**Motiva** - South Portland, Bangor

**Gulf Oil Ltd. Partnership** - South Portland

**Sprague Energy** - Bucksport, Searsport, South Portland

**ExxonMobil**- Portland & Bangor via pipeline

**Irving** - Searsport

**Webber Oil** - Bangor

**Webber Tanks** - Bucksport, Brewer

**Florida Power and Light (FPL)** Yarmouth, Wiscasset (#6 heavy oil only)

Note: Global and Sunoco are through-putters. With no terminal of their own, they *put through* another company's terminal. Portland Pipeline Corp. transports only crude oil via pipeline to Canada.

Section 3307-C of Maine Statute mandates that these facilities report inventory, storage and anticipated delivery information to the State Planning Office on a bi-weekly basis. SPO has received information from and established good communication with all of these companies.

## **Maine Heating Oil and Kerosene Inventories**

Any analysis of Maine heating fuels inventory must first take into account New England inventories. Because Maine doesn't have refineries, pipelines or much storage, its distillate inventory health can be measured against that of New England, or PADD I which serves New England. As one can observe in the graphs on pages 7,11,12 and 13, heating oil stocks in both New England and Maine are cyclical, diminishing in spring through summer and augmenting during August through February. During the past five years, stocks have been lower than what were average values for previous years. There are several factors at work here. OPEC behavior (intentional production cuts), global markets and risk-averse changes in the behavior of oil distributors are all contributing factors. The scarcity of heating oil stocks now compared to five years ago is reflected in prices. The statewide average price of heating oil in Maine is currently \$1.36 per gallon, which is twenty-five cents higher than the price average last year at this time. Heating oil stocks in New England this year are depressed. According to DOE/EIA, New England heating oil stocks are now 30% lower than last year and than the five-year average.

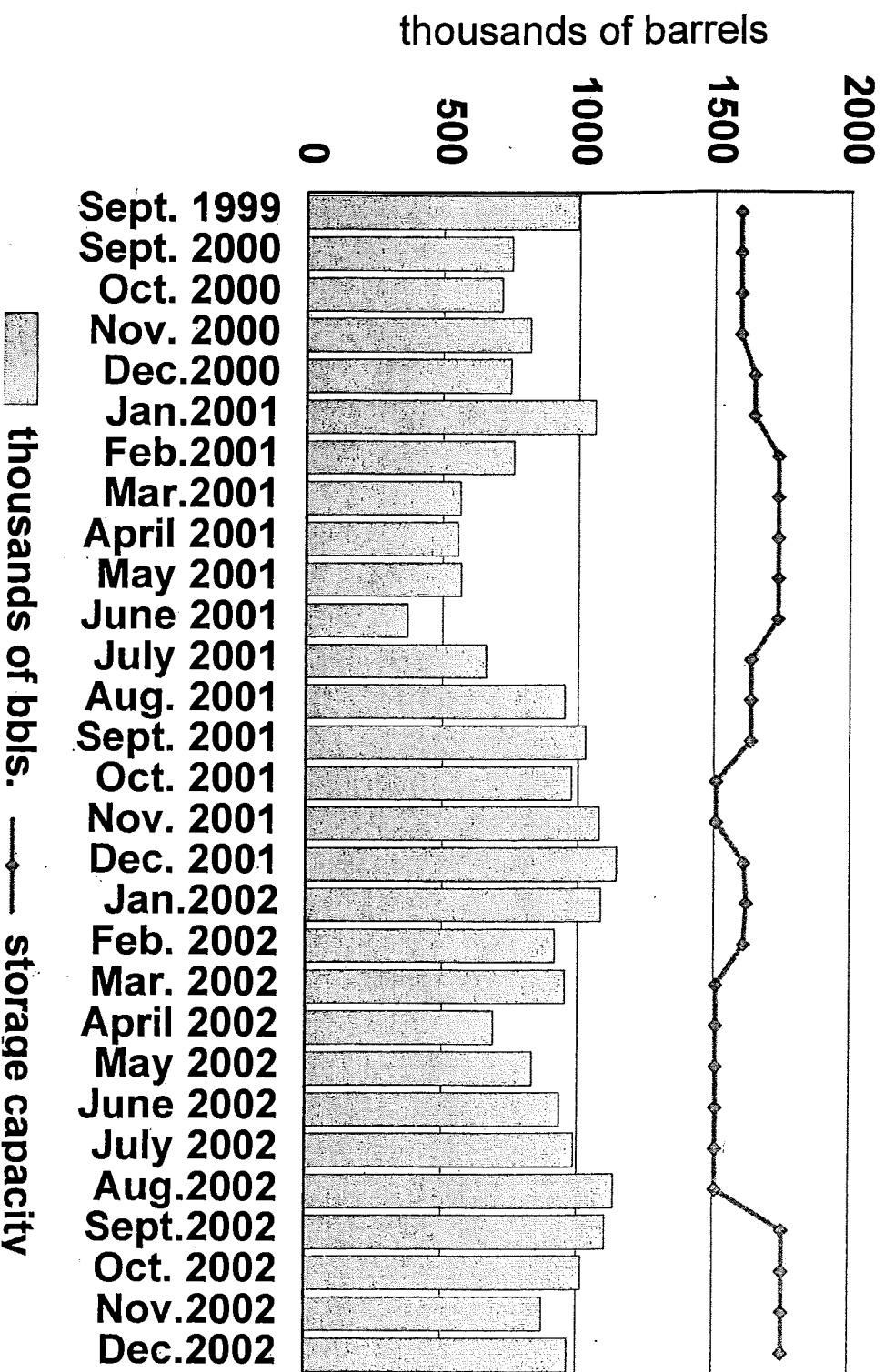
Any inventory can only give a snapshot of a very dynamic situation, which can change radically overnight. What may have looked like plentiful inventory in the morning can quickly be gone by nightfall with the onset of a cold snap incentivizing consumers to fill their tanks. For these reasons, a report on historical and current heating oil inventories may be irrelevant. Conditions can change rapidly which re-supply or deplete the region. But, SPO research into the state of heating oil and kerosene inventories does show some very basic things. Based on the information that SPO received from Primary Terminal Operators this year, inventories of heating oil were more voluminous than 2001 during most of the heating season but have been less plentiful this fall (2002) compared to last year. Heating oil inventories for 2002 in general display less seasonal fluctuation than 2001, which had inventories dropping down to as low as 21% of available storage in June. They stayed low during spring and summer 2002. By contrast, June 2002 heating oil inventories stood at 62% of available storage and the lowest point of inventory storage was in April at the end of the heating season when storage was only filled to 46% of capacity. Year 2002, in general found inventories consistently in the 60-70% range.

The data shows that heating oil inventories were building, during spring and summer 2002, to a high point in August when 75% of heating oil storage capacity was filled. The data

# Maine Heating Oil Inventories

Based on Bi-Weekly Reports of Primary Terminals to the MSPO  
January 7, 2003 B.Elder

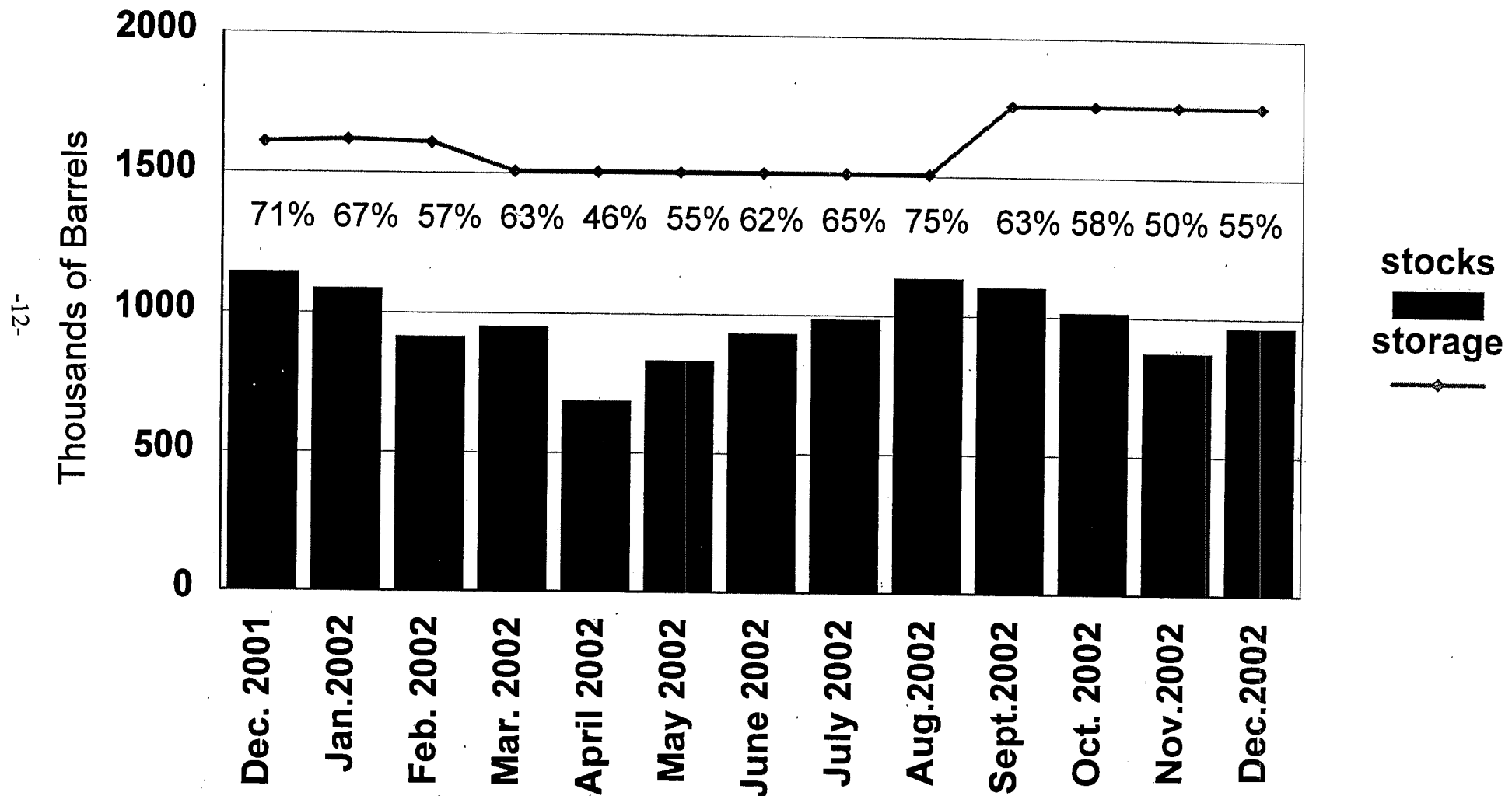
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# Maine Heating Oil Inventories

Based on Bi-Weekly Reports from Primary Terminals to the MSPO

January 8, 2003

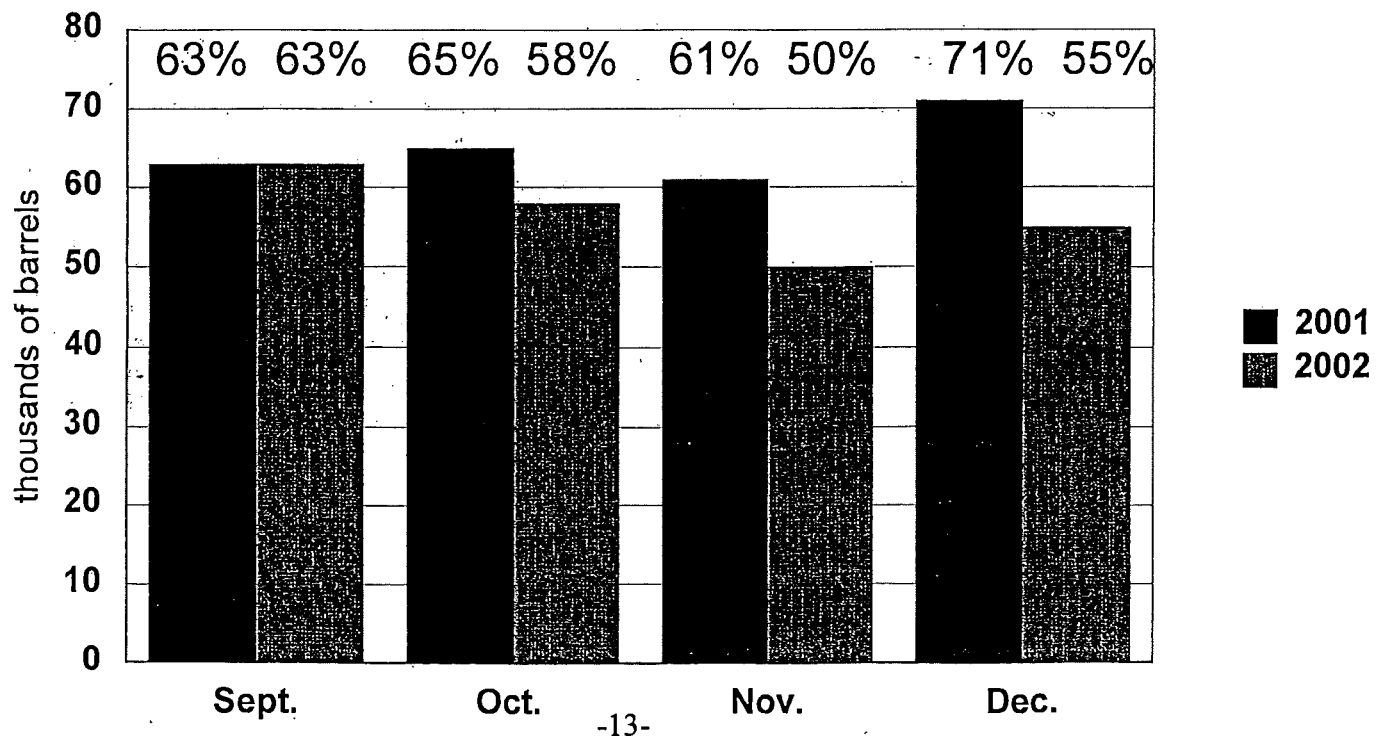


seems to indicate that dealers held almost as much oil in August 2002 as they did at the height of the heating season in 2001. What does this mean? Since the low point in April 2002, oil dealers were gradually, month by spring and summer month, increasing the volume of their stored heating oil in anticipation of the heating season. With the onset an early and cold winter, supplies dwindled during fall 2002 so that in November and December 2002, we were only holding inventory to fill half of the available storage capacity.

In October 2000, Maine heating oil inventories stood at 45% of possible storage capacity. In October 2001 we were 20% higher at 65% of storage capacity filled and this year in October 2002 storage capacity was only 58% filled with 1,016,711 thousand barrels. New England heating oil inventories have been down 28% compared to last year. Adequate New England inventories are important to Maine consumers because 273,430 Maine households or 57.3% of the population heats with #2 heating oil. In November 2001, Maine heating oil stood at 61% of storage capacity and November 2002 found us at only 50% of storage capacity holding 874,044 thousand barrels. In December 2001, Maine heating oil stood at 71% of capacity and this December 2002 we were only filled to 55% of capacity with 966,766 thousand barrels. Prices have been stable but rising gradually in Maine during the first three months of the heating season during the end of 2002.

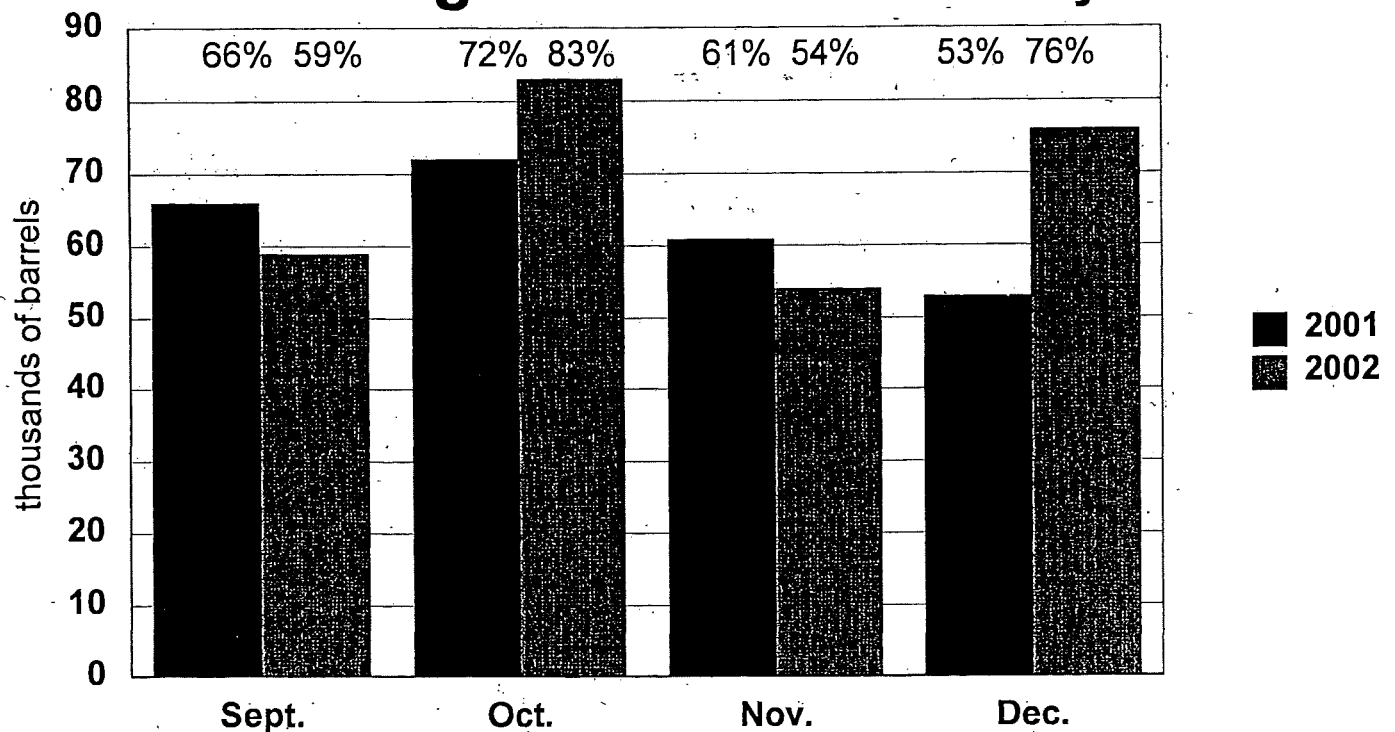
## Maine Heating Oil Stocks

Fall 2001-2002 Comparison of percentage  
of storage filled MSPO January 2003



According to 1995 SPO data, 39,607 Maine households, or 8.3% of the population, heats with kerosene. Kerosene supplies are very cyclical. Usually, stored supplies decline in summer and start to build in Maine during September and October and peak in January, February and March. Based on the information that SPO has received from Primary Terminal Operators this year, Maine 2002 kerosene inventories overall were more robust than last year but fall inventories have been slack in 2002 compared to 2001. Like heating oil, kerosene supplies have been somewhat diminished by demand resulting with an early and fierce Maine winter weather pattern. Unlike heating oil, whose capacity was anomalously high last summer, kerosene supplies did cycle-down and diminished to half full levels over the summer months. Kerosene inventories began to build during the fall to 83% in October 2002. Compared with October 2001, when Maine kerosene inventories were filled to 72% of storage capacity, kerosene inventories this year look robust.

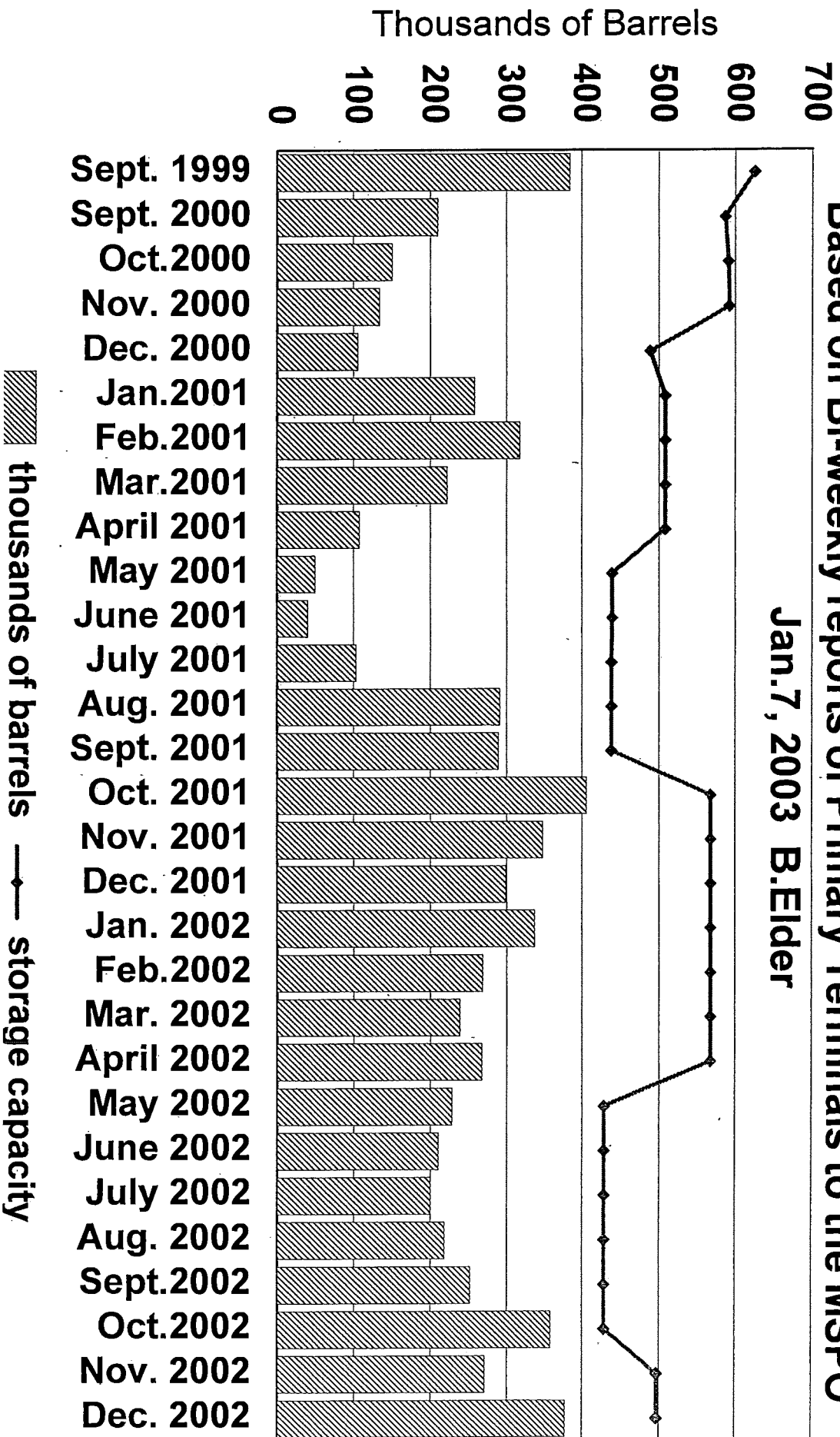
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# Maine Kerosene Inventories

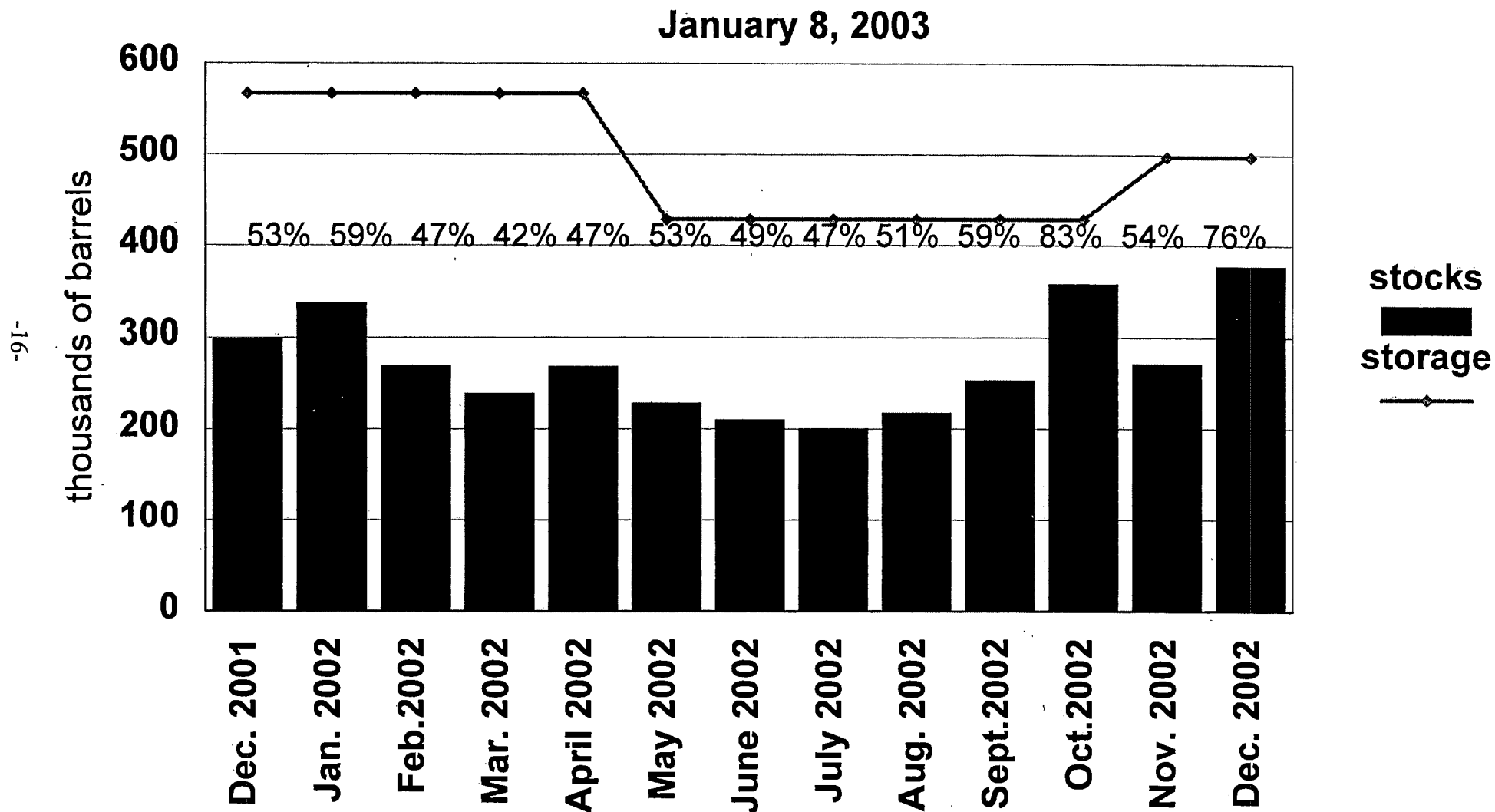
Based on Bi-weekly reports of Primary Terminals to the MSPO

Jan. 7, 2003 B.Elder



# Maine Kerosene Inventories

Based on Bi-weekly reports from Primary Terminals to the MSPO



Maine's storage capabilities fluctuate from month to month, but it appears that our statewide capacity to store kerosene has decreased over the past couple of years. Recent kerosene storage capacities indicate that in October 2001, Maine's kerosene storage capacity expanded to 567,246 thousand barrels, which is comparable with storage in September 1999 and 2000. In May 2002, kerosene storage decreased to 428,000 thousand barrels and has stayed at this level until November 2002 when it increased to 497,246 thousand barrels. Currently, only Sprague, Irving, Webber and Webber Tanks (half-owned by Dead River) supply kerosene in Maine.

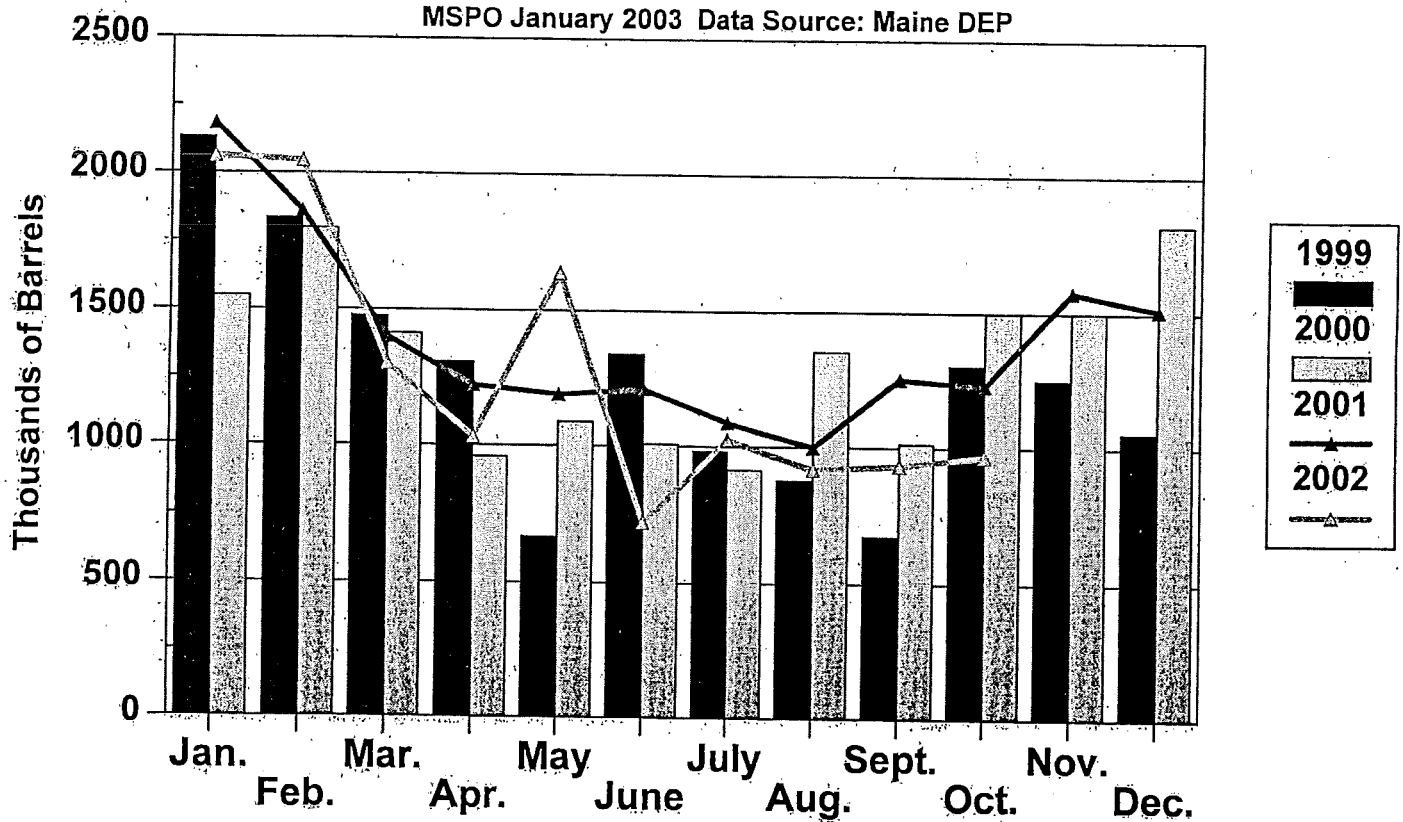
Tankage is not always a consistent indicator of inventory capacity. Often a tank, which was allocated for one product, may be used the next year for a more marketable alternative. There is an anomalous use of fuels for different purposes as the market dictates. Many tanks in Maine are used for multiple purposes. The same tank may be used half the year for gasoline and half the year for heating oil or some other distillate. Maine's storage capabilities fluctuate from month to month, but it appears that our capacity to store kerosene has diminished over the past couple of years. In October 2001, Maine's kerosene storage capacity expanded to 567,246 bbl. which is comparable with storage in September 2000 and falls short of what Maine held for storage capacity in Sept. 1999 which, at 625,000 bbl., was at its highest point since SPO has been tracking this data.

## **Monthly Oil Transfer Trends**

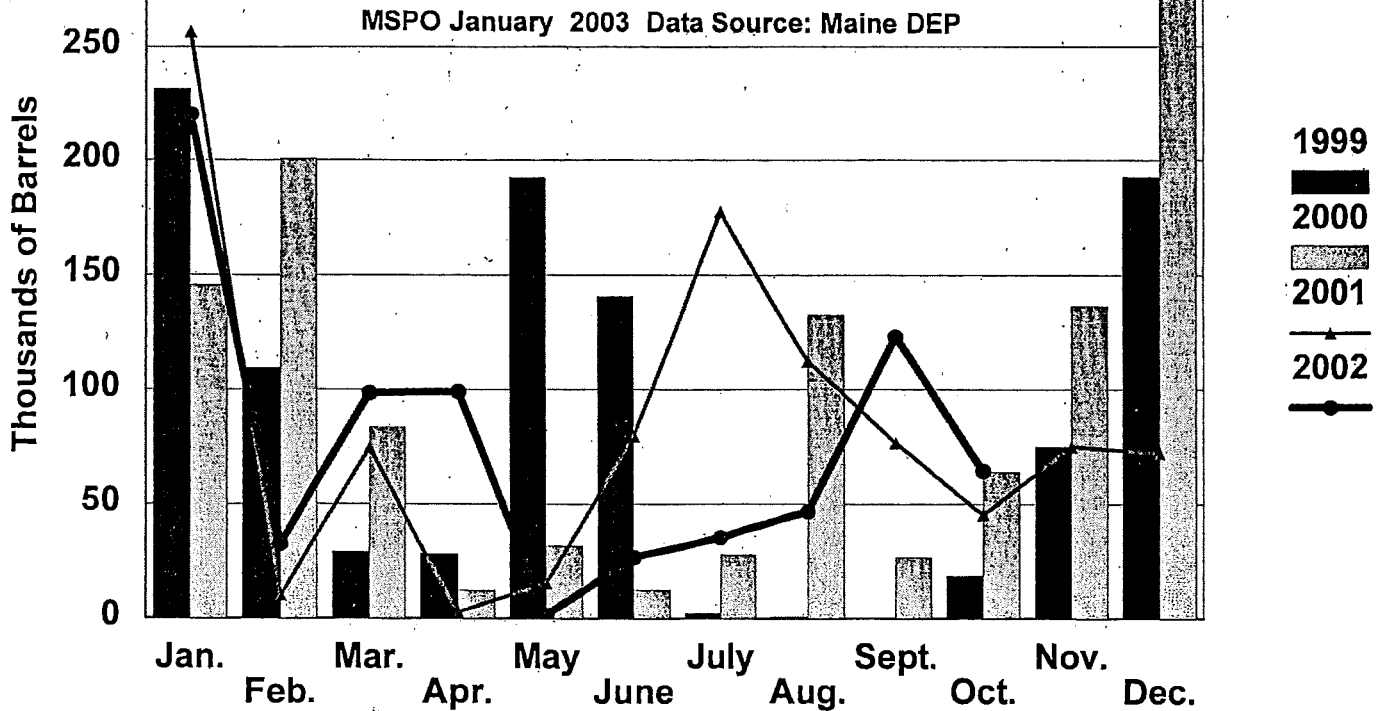
The charts on the following pages give information from DEP on the volumes of taxed kerosene and distillate fuels, which arrived on Maine shores during the past several years. Distillate includes No.2 heating oil and diesel combined. (See Appendix 3 for raw data). The DEP data indicates that with respect to distillate, during year 2002, volumes that were transferred into Maine tracked lower than 2001, except in late spring and the month of February. During most years, heating oil supplies follow a seasonal cycle with the highest volumes of heating oil arriving during the months of December, January, February and March. Generally, in 2002 distillate followed the seasonal pattern of being at maximum capacity in January and February and diminishing during the summer months.

According to the data, which does not yet include November and December, the highest volumes of kerosene arrived in Maine during year 2002 in January and September. Like the previous year, a paucity of kerosene was in the Maine market in the crucial heating month of February 2002. This contrasts with 1999-2000 when volumes of kerosene brought to Maine increased when you would expect them to, during November, December, January and February, the prime heating months. In Maine, the use of kerosene or No.1 heating oil is popular for space heating and monitor heaters. Purchased quantities are often smaller than for No.2 heating oil or propane.

# Distillate (No.2 Heating Oil/Diesel) Transferred to Maine Shores

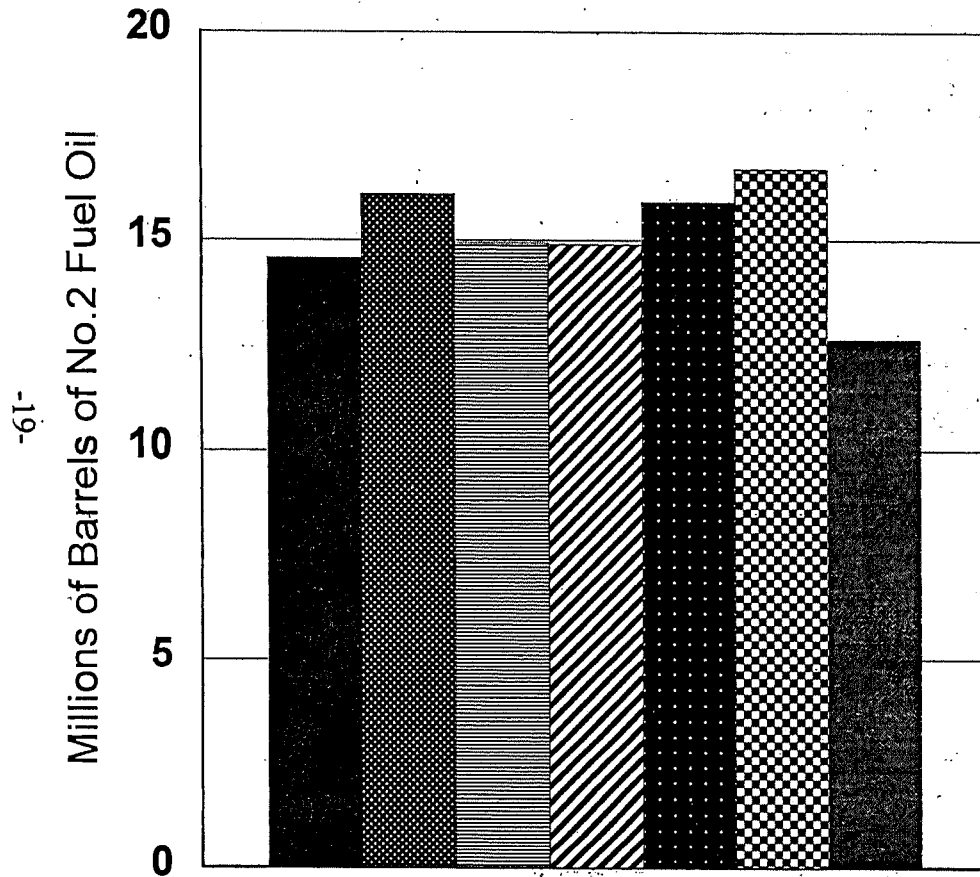


# Kerosene/No.1 Fuel Oil Transferred to Maine Shores

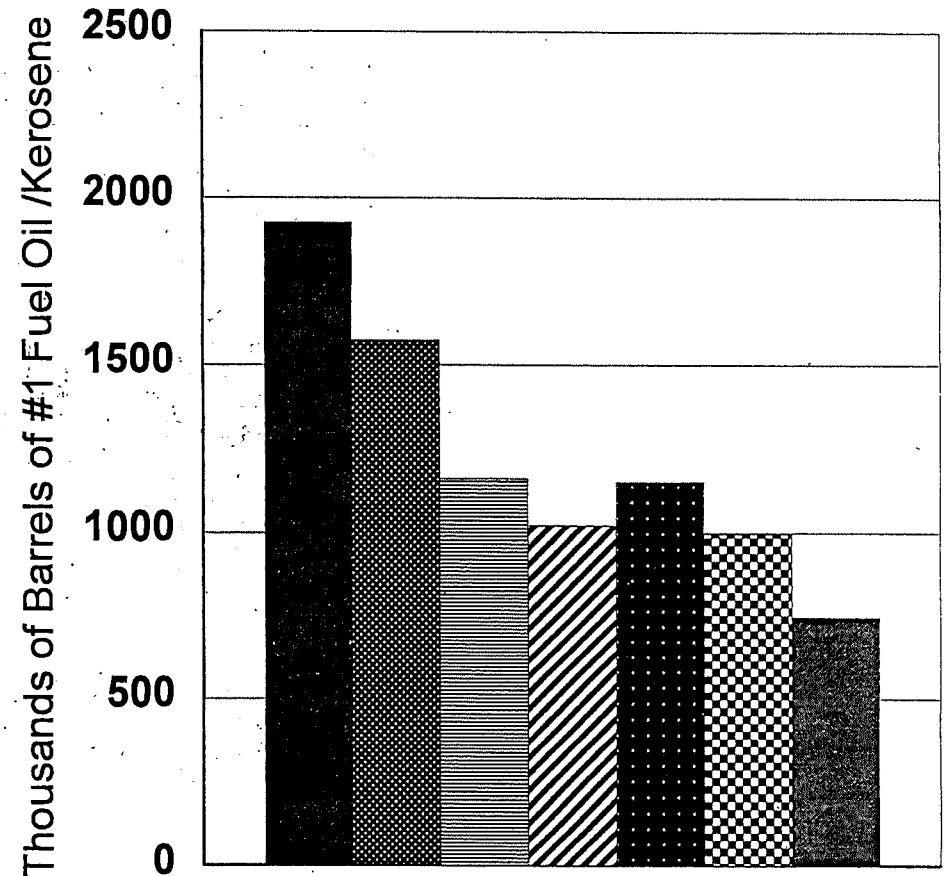


# Annual Totals by Year of Petroleum Products Transferred into Maine

MSPO January 2003 Data Source: Maine DEP



note: data set is incomplete for 2002



note: data set is incomplete for 2002



## **Maine Consumer Heating Fuels Price Issues**

Maine's energy profile is unique relative to the national average. While coal and natural gas dominate the rest of the nation's energy supply profile, until now they have played a minimal role in Maine's energy mix. Maine is very dependent on oil and the choices of the Maine energy consuming public have long been dictated by oil prices and the economic influences, which drive price in the petroleum marketplace. While great strides have been made to diversify our energy mix over the past three decades, Maine is still highly dependent on petroleum products. The oil price shocks of the late 1970's sent both the nation and Maine into a recession, which led to significant decreases in oil consumption. Both consumption of oil and use of renewable energy grew dramatically during the 1980's. Total oil consumption in Maine increased by almost 30 percent during that decade mostly because of increased use of gasoline and diesel fuel for transportation.

As oil prices subsided through the eighties and the national economy flourished, energy demand in Maine grew rapidly. By 1989, Maine was using more oil than ever before in its history. When the state and region entered into a recession in 1990, energy consumption dropped and the demand for energy did not surpass the 1989 peak until 1994 as the economy began to flourish again. As you can see from the following chart showing heating oil prices for the last nine years, Maine consumers paid more for fuel oil last year than they have during the past nine years, with the exception of price volatility experienced for four weeks during winter 2000.

### **2001-2002 Maine Price Trends for No. 2 Heating Oil**

SPO conducts a heating fuels price survey throughout the heating season, from October through the end of March. As you can see from the graphs, which follow, Maine price trends for No.2 heating oil during 2002 were lower and flatter than the year 2001. The statewide average price for heating oil for the 2000-01 season was \$1.463, twenty-nine cents higher than the previous year's average of \$1.17/gallon. The season's average for 2000-01 was one of the highest in recent Maine history exceeding by seven cents the statewide average in 1980 which was \$1.39/gallon. The 2001-02 season statewide average price for heating oil was \$1.13/gallon. The prices for 2002-03 so far are also lower than during 1999-2001, but higher than last year.

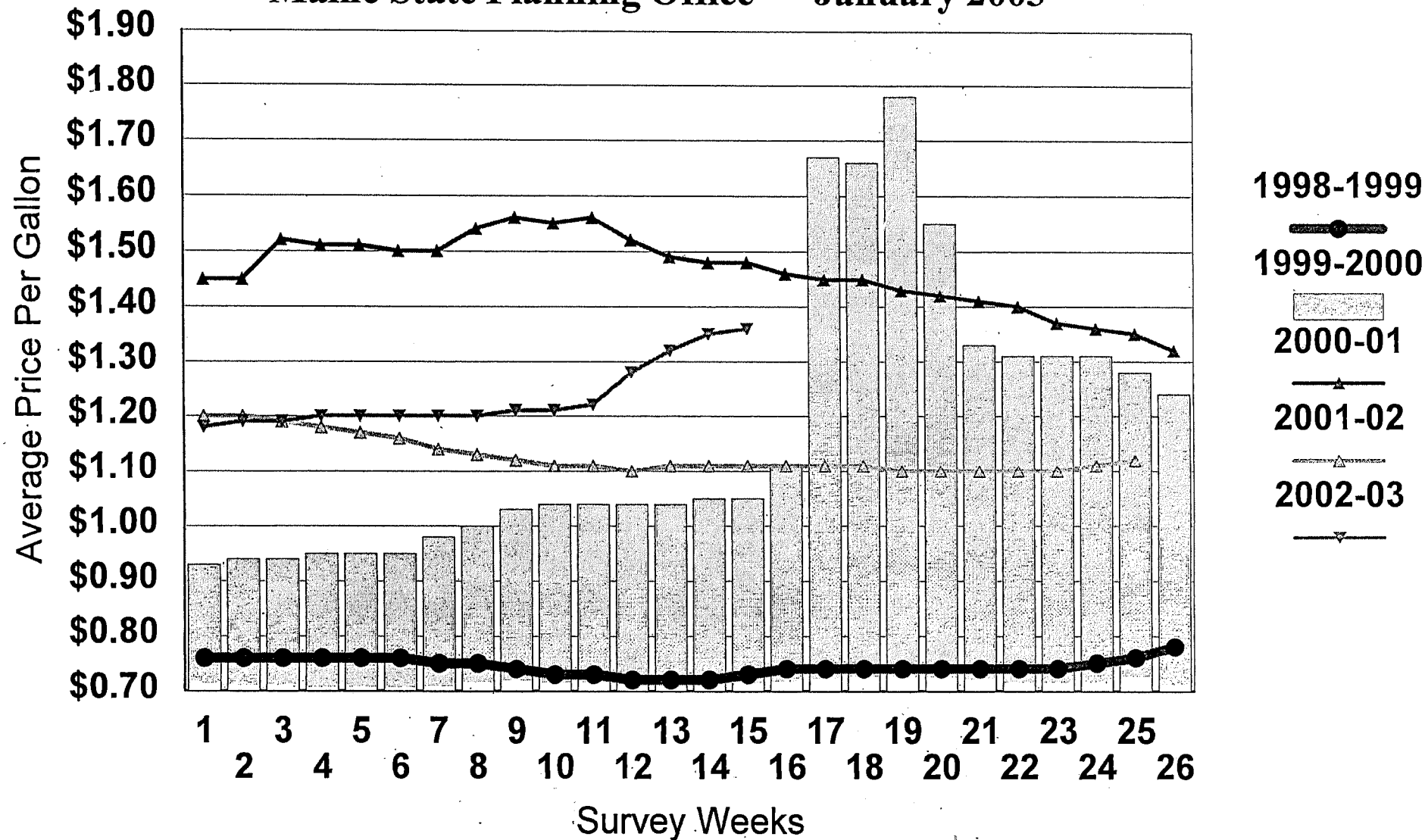
The price fluctuation for heating oil over the course of any given heating season is typically about ten cents per gallon. This year was very typical in its range of fluctuation, which was from \$1.20 to \$1.10. As one might note in the following graphs, compared to the past two years of recent history, prices were low last year. Compared to the first five years in the nine-year graph (1994-2000), the year 2001-02 ranks 7<sup>th</sup> highest.

Market stability characterized most year 2002 and all of its heating season. The season's first survey of home heating oil prices in October 2001 revealed the statewide average to be \$1.20 per gallon, down twelve cents from SPO's last report in March and twenty-five cents lower than the previous year. U.S. refineries and pipelines increased security measures subsequent to

# Maine Statewide Average Cash Price for No.2 Heating Oil

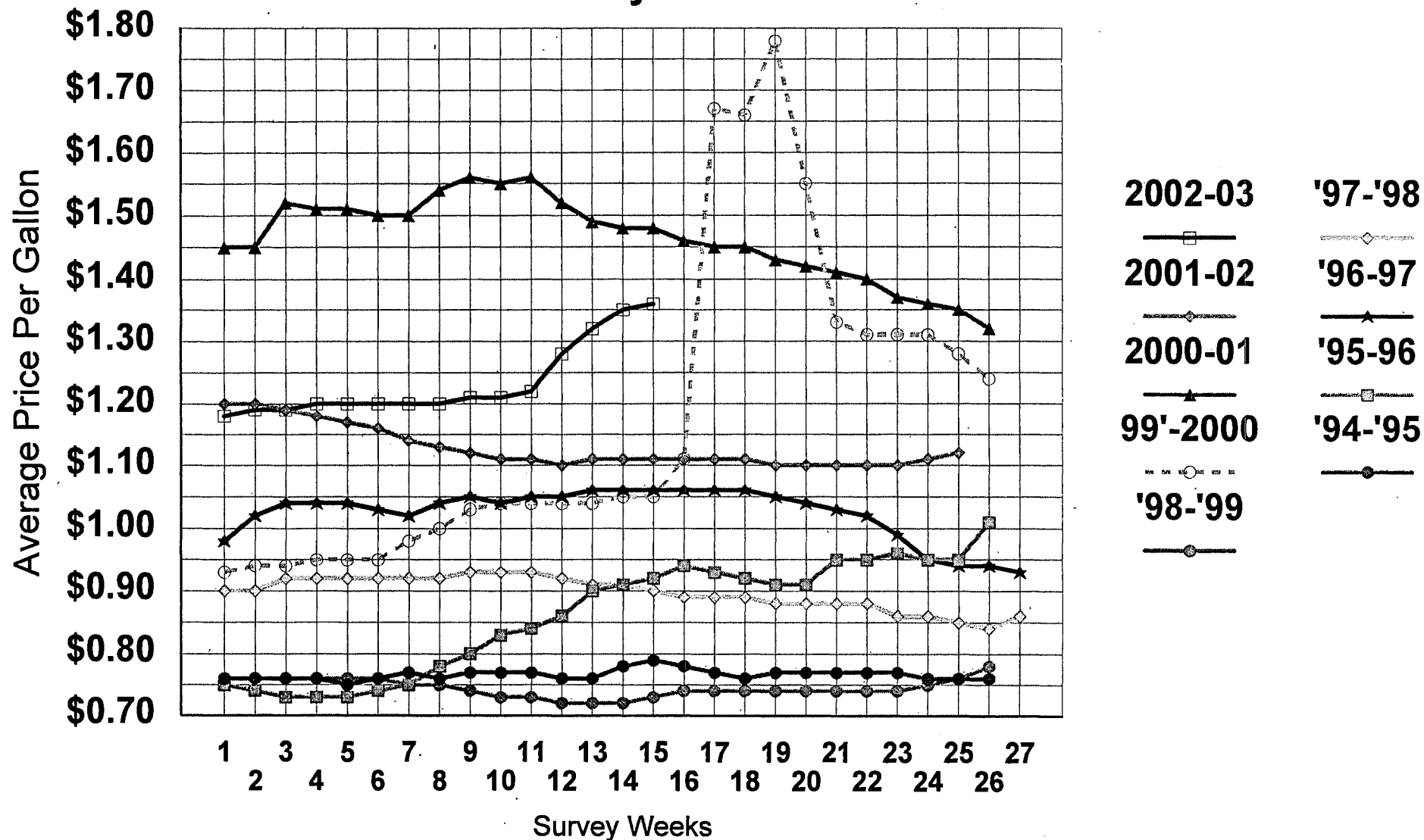
Maine State Planning Office

January 2003



# Nine-year Comparison of Maine Statewide Average Cash Prices for No.2 Heating Oil

MSPO January 2003 B. Elder



the terrorist attacks on New York and Washington D.C. on September 11<sup>th</sup>. Prior to the attacks, OPEC had stated that it was unlikely to increase oil production in the 4<sup>th</sup> quarter. Spot and futures prices were depressed as falling consumer confidence applied downward pressure on prices and fueled concerns about a global recession. Crude spot and futures prices were mixed in response to the U.S. bombing campaign in Afghanistan. Crude markets ignored bullish signals, such as OPEC's consideration of production cuts and industry data showing hefty stockdraws, in favor of bearish demand figures. A strong distillate stockbuild in September 2001 grew U.S. inventories to above the normal season range by late October 2001.

By early November 2001, Maine's statewide average for No. 2 heating oil had declined to \$1.16 per gallon and OPEC had virtually agreed to cut production by one million barrels per day. Speculation on how much of an impact this would have was rampant as several member countries were producing over the quota. By mid-November, DOE/EIA reported that New England heating oil stocks had built to a robust 8.4 million barrels of supply compared with the previous year's 3.9 MMB.. After nearly two months of overall declines in U.S. crude oil and petroleum product spot and futures prices, largely attributed to economic weakness in the wake of the 9/11 attacks, OPEC finally established a degree of credibility for proposed reductions in oil output by its members and other exporters, in order to tighten global supply balance. A decision to cut production by 1.5 million barrels per day (MMBD), on the stipulation that non-OPEC producers agree to cut their output by 0.5 MMBD, contributed to this effect. Although Norway and Mexico were willing to cooperate with OPEC, Russia took its time in evaluating the extent to which it would collaborate.

With the shift in month to December 2001, Maine's statewide heating oil average continued its decline to \$1.11/gallon, which was forty-four cents lower than the previous years price. Ongoing mild weather slowed heating oil demand, tightening the spread between heating oil and gasoline. Release of a government forecast predicting low U.S. petroleum growth demand continued to affect a decline in crude oil spot and futures prices. Just after Christmas, prices for crude oil recorded their largest incline of the year on the New York Mercantile Exchange as traders became convinced that oil-producing nations would cut production in January. Indeed OPEC officials announced on the first of the year that they had received pledges from major non-OPEC producers, led by Russia, Mexico and Norway, to cooperate by cutting their production by another 500,000 barrels per day. The belated arrival of cold weather to the northeast United States in January and the attendant demand that accompanied winter, was also a contributing factor to the price increase. East coast heating oil inventories were 15% higher than the previous year.

Initially the market seemed to take support from these pledges to cut production. Petroleum product prices were pushed higher by this speculation and by cold weather in New England, but the statewide average in Maine held steady at \$1.11/gallon for six weeks through all of January and half of February 2002. Ample and growing inventories and shrinking demand were the prevailing conditions in January 2002. Skepticism about the effectiveness of OPEC's production cuts pervaded the marketplace stemming in part from news that Russian ports in the

Baltic and Black Sea were exporting fuel oil. With weather in New England about 17% warmer than normal, soft demand continued to be the dominant market influence as we entered the month of February 2002. Refinery production remained low as a result of lower crude throughput. Regional distillate inventories on the East Coast were 38% higher than the previous year and 19% higher than the five-year average.

By mid-February 2002, the decline in crude oil inputs shifted reliance off of refinery production onto product inventories to supply product demand. Stock levels for both distillate and gasoline were in the normal range and New England distillate inventories were ample. Maine's statewide average for heating oil fluctuated downward a penny to \$1.10/gallon and was still thirty-two cents lower than the previous year. In late February, for the first time in twenty-three weeks, U.S. crude oil, distillate and motor gasoline inventories all fell in unison. While declines in distillate and gasoline stocks are not unusual at this time of the year, the decline in crude oil was somewhat unusual. Mild weather and subsequent low demand on the East Coast contributed to the stability in residential prices here in Maine, which stayed at \$1.10/gallon for another five weeks.

With the onset of March 2002, mild weather and subsequent low demand on the East Coast continued to contribute to the stability in residential prices here in Maine. Total U.S. commercial petroleum inventories (excluding the SPR) fell nearly 16 million barrels in three weeks. Such a steep decline in total petroleum inventories hadn't occurred since 1996, when they dropped 26.4 million barrels over three weeks. OPEC production cuts and reduced Iraqi exports had an impact on available crude supplies resulting in reduced crude exports. With less crude oil available worldwide, inputs to refineries fell, putting increased reliance on product inventories to supply market demand. March 2002 came and went with very little drama concluding one of the mildest winters on record in New England.

On October 8, 2002, the MSPO survey of home heating oil prices found the statewide average price for No.2 heating oil to be up six cents from the previous March at \$1.18 per gallon. Commercial crude oil inventories had been in decline all summer and West Texas Intermediate domestic crude hovered at over \$30.00/barrel. While oil markets were plagued with uncertainty, they were not over-supplied. U.S. crude oil and distillate inventories started fall 2002 at very low levels. National distillate inventories in October were below the five-year average. Heating oil inventories in New England were nearly ten percent higher than 2001 but below the five-year average. Low refinery margins, continuing strong demand for gasoline and low summer distillate production levels were partially responsible for the paucity in distillate stocks but the most significant factor working on distillate stock levels was the scarcity of crude oil supply necessary to make other petroleum products. DOE cast predictions that if winter weather behaved normally this year, that is if it was cold, that mid-winter stock levels for distillate would deteriorate relative to normal thus posing a risk of higher prices for consumers. Meanwhile prices stayed in the range of \$1.18- \$1.20 per gallon through October and November 2002.

By late November 2002, the price of crude had fallen to \$25.00/barrel, which was unusual due to the fact that crude oil inventories were near their lowest level in many years. This inconsistency can be explained with *forward fundamentals*. Prices were reflecting *perceptions* of the supply and demand balance *anticipated sometime in the near future*. With anticipated increased supplies of crude oil expected to enter the U.S. market in early December, the market speculated that oil prices would fall. Speculators sharply increase their net short positions by selling early contracts at a lower price. Interpreting the supply and demand balance and quantifying its impact on prices requires recognition of current conditions but also an accounting of market expectations for that balance several months forward.

Meanwhile, in Maine, prices started to creep upward during December 2002. Impacts from the cessation of oil exports out of Venezuela, as the result of a general strike in that country, were anticipated after Christmas. Demand for heating oil was up in the northeast as temperatures were about 10% colder than normal during November 2002, compared with nearly 19% warmer than usual temperatures the previous year. By December 23, 2002, heating oil prices were eighteen cents higher than 2001 at \$1.28/gallon. In addition to an early onset of winter and the situation in Venezuela, uncertainty about the possibility of war with Iraq and OPEC's decision to increase production quotas while cutting back on actual production all contributed to an upward drift in prices. The price of crude oil inclined \$5.00/barrel by mid-November and by December 23<sup>rd</sup>, was being traded at around \$30.00/barrel. Another impact on this increasingly volatile market was the paucity of crude oil exports from Venezuela to the Hovensa refinery in St. Croix, Virgin Islands, which is partially owned by PdVSA, the Venezuelan oil company and receives half of it's crude oil from them. DOE forecast, at this point, that there would be a reduction in gasoline and distillate imports from the Virgin Islands to U.S. ports, particularly along the east coast, until alternate sources of crude oil could be found to replace the missing Venezuelan crude oil.

SPO's December 30, 2002 heating oil survey, the last of the calendar year, found the statewide average price for heating oil to be up four cents from the previous week and twenty-one cents higher than the previous year at \$1.32/gallon. Crude futures during Christmas week soared to \$32.00/barrel, the highest level in almost two years. OPEC was expected to respond aggressively to a potential supply crisis by increasing flows well above new quota levels with a significant supplement from Middle East producers with excess capacity. Markets continued to be vulnerable to perceptions of military or terrorist threats or damage to Mideast oil fields or production in Iraq. Speculation about the possibility of civil unrest in key Middle East oil producing countries raised the stakes even higher.

All of these market perceptions were fueling a rise in prices. Weekly data from the American Petroleum Institute (API) and the Department of Energy's Energy Information Administration (DOE/EIA) suggested that U.S. crude oil inventories slumped by 9.1 Mbbl. in the last week of the year and would likely be drawn down even further. In order to make up for the reduction in Venezuelan imports, refiners have drawn upon inventories to keep refinery throughputs at relatively high levels. Light, sweet crude oil on the N.Y. Mercantile

Exchange (NYMEX) ended the year at \$33.08/bbl. and Saudi producers became concerned that if prices stay at these levels, world economic growth and oil demand would suffer. Saudi Arabia and other OPEC producers expressed willingness to re-supply a potential shortfall with a collective 500,000 barrels per day, provided the OPEC reference basket remained above the \$22.00-\$28.00 price range.

By January 13, 2003, SPO's survey showed that the statewide average price for heating oil had climbed to \$1.36/gallon, which was twenty-five cents higher than the price last year at the same time. With U.S. crude oil inventories near a two-year low and potential war with Iraq threatening to cause supply disruptions, crude oil futures rose to as high as \$33.21/bbl. on the NYMEX. U.S. crude oil inventories are, at this writing, less than 3 million barrels above the Lower Operation Inventory level of 270 million barrels, which marks a state of national inventories beyond which little discretionary buffer remains. With U.S. oil production relatively flat and unable to make up for lost Venezuelan imports, less supply into the U.S. crude oil market has the effect of less crude oil processing through refineries, crude oil inventories being drawn down to replace the lost supply or a combination of both. From this vantage point, it looks like tight supplies and price volatility are the watchwords for the rest of the heating season.

## **2001-2002 Maine Price Trends for No. 1 Fuel Oil/Kerosene**

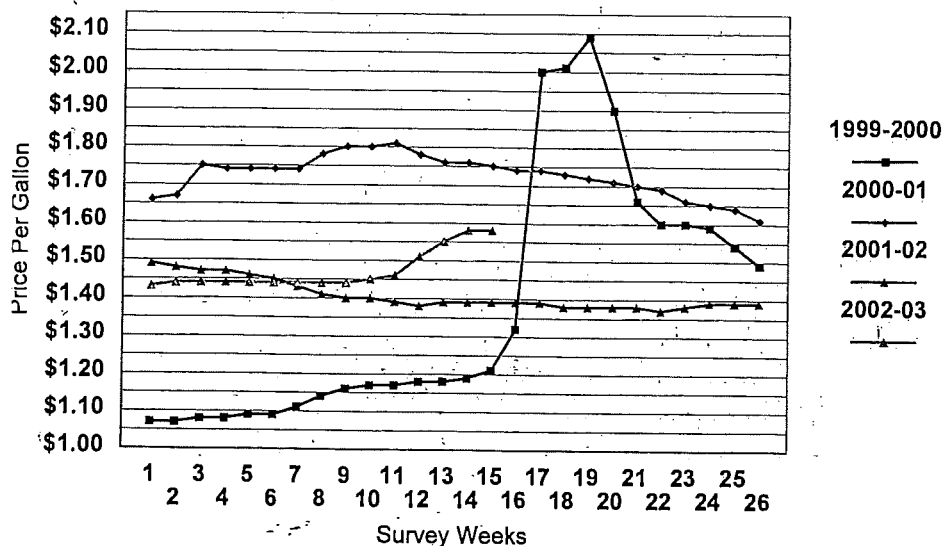
In Maine, kerosene, or No.1 heating oil, is popular for use in space heating applications and monitor heaters. The statewide average price for kerosene in the 2001-2002 heating season was \$1.41 per gallon, which is roughly thirty-two cents lower than the previous year's annual average of \$1.73 per gallon and more comparable to the 1999-2000 season average of \$1.38 per gallon. Kerosene was subject to the same market forces described in the heating oil price summary. Like heating oil, kerosene prices were flatter and lower this year than last. This was good news for the roughly 39,607 households in Maine, which heat primarily with kerosene. This represents 8.3% of the total population in the State. Because the kerosene market has shrunk in Maine, the consumer sector, which relies on kerosene as its primary heating fuel, is the most vulnerable of any Maine heating population. Kerosene users may be well advised to have back-up systems, which are not subject to kerosene supply disruptions.

On October 8, 2002, the MSPO survey of home heating oil prices found the statewide average price for No.1 heating oil or kerosene to be up four cents from the previous March and five cents lower than last year at \$1.43 per gallon. Like heating oil, kerosene prices were stable most of the fall at this level, until December when prices gradually inclined. On December 30, 2002, the statewide average price for kerosene was \$1.55/gallon and currently the statewide average price for kerosene is \$1.60/gallon.

# Kerosene Price Comparison

## Statewide Average Cash Prices 1999-2003

MSPO B. Elder January 2003



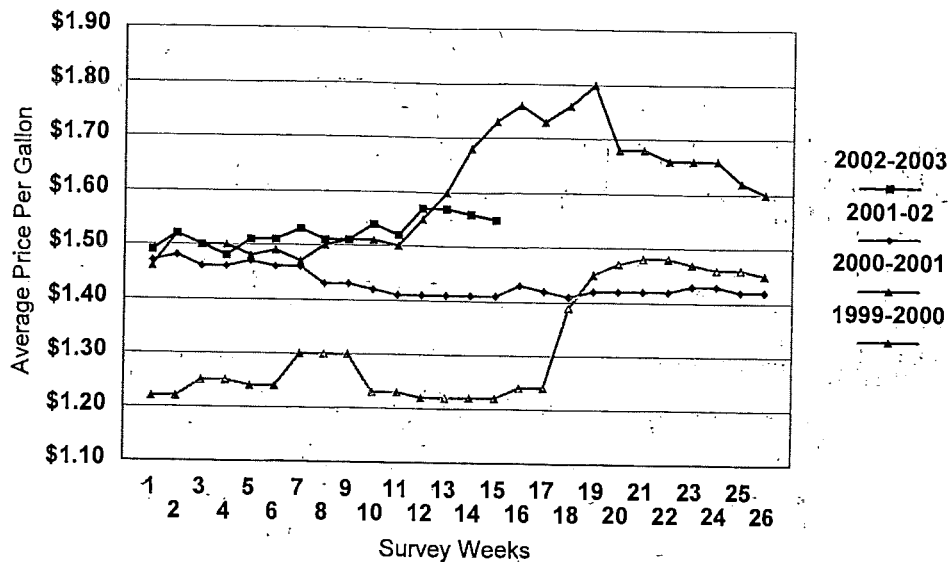
## Propane

Propane is the primary heating fuel for roughly 26,245 Maine households or 5.5% of the population. Propane is comprised of crude oil with natural gas additives so propane price movements correspond with those of crude oil and natural gas. When natural gas prices soared during winter 2000-01, propane prices inclined, tracking the inflated natural gas prices and resulting in an annual statewide average for 2000-01 of \$1.60/gallon. This is twenty-five cents higher than the previous year's average of \$1.35/gallon. During 2001-02, the statewide average price for propane was more in line with the 1999-2000 season at \$1.43/gallon. This average, which is seventeen cents lower than the previous year, corresponds with the market trends already described. Propane was subject to the same market forces as other products described in the analysis of heating oil. It should also be noted that these propane prices represent the price per gallon for a 600-gallon domestic tank used for heating and are not representative of smaller volumes purchased for other applications such as cooking.

The October 2001 season starting price of \$1.47 per gallon for propane was thirteen cents lower than the last report in March 2001 and only a penny higher than the previous year. Like heating oil and kerosene, propane prices were flatter and lower this year than last. As one can see in the graph below, during most of 2001-02, propane prices only fluctuated within a two-cent range of the \$1.43 average. In other words, during most of the season, propane prices were either two cents lower or two cents higher than the average of \$1.43/gallon. Propane ended the 2000-02 season at \$1.42/gallon.

# Maine Propane Prices 1999-2003

Maine State Planning Office Jan. 2003 B. Elder



On October 8, 2002, the MSPO survey of home heating oil prices found the statewide average price for propane to be up seven cents from the previous March price at \$1.49/gallon. In correspondence with crude product price movements during fall 2002, propane prices have been gradually fluctuating upward, especially since December. Currently, the statewide average price for propane is \$1.58/gallon. The SPO doesn't receive bi-weekly reports on propane inventories from terminal operators but we do monitor regional supply levels and East Coast propane inventories have been declining but are within the average range for this time of year.

Propane demand is highly seasonal but fresh supply is not. Forty percent of the natural gas stream is propane, which is extracted during production. It is very expensive to store because it is under pressure. Propane stocks are an important part of the mid-west winter supply and provide a primary means of crop drying often using 8-12% of propane supplies. New England receives propane in three ways. Algerian and Middle Eastern propane comes via *sea-going terminals* in Providence, Rhode Island and Portsmouth, New Hampshire. The TEPPCO (Texas Eastern Products Pipeline Company) pipeline from Texas to Albany, New York provides more supply and outsourced Canadian propane arrives in Maine via railroad. Seventy percent of Maine's propane arrives by rail to a depot in Auburn, Maine. The product comes from refineries in Canada and is provided by an affiliate of Duke Energy Field Services (DEFS). The affiliate of Duke Energy, entitled Duke Energy NGL Services, acquired Gas Supply Resources (GSR) in May 2001 and integrated GSR's propane terminal operation into its existing import facility in Providence, Rhode Island.

Duke Energy is the largest supplier of propane in New England and is a diversified multinational energy company with an integrated network of energy assets and expertise. Duke

Energy manages a dynamic portfolio of natural gas and electric supply, delivery and trading businesses, which generated revenues of more than \$49 billion in year 2000. Duke Energy is a Fortune 100 company. DEFS was formed in a merger of Duke Energy and Phillips Petroleum natural gas gathering and processing operations. It is a premier North American midstream energy company that is among the nation's leaders in gathering, processing, transportation, marketing and storage of natural gas and natural gas liquids (NGLs). The Denver-based company is also a general partner of the TEPPCO pipeline.

In mid-October 2001, DEFS opened its sixth propane New England terminal in Montpelier, Vermont. This additional terminal contributes to New England supply along with Duke's existing northeast network in other locations including, Albany, New York, Westfield, Massachusetts, York, Pennsylvania and two in Maine located in Auburn and Bangor. The Auburn facility has an on-site storage capacity of 120,000 gallons and Duke operates a joint venture with R.H. Foster in Bangor with a storage capacity of 60,000 gallons. At first blush, one might surmise that Auburn provides 2/3's and Bangor 1/3 of Maine's propane supply. However, due to more significant capabilities for rail delivery in Auburn, it actually is the distribution source of 3/4 of Maine's propane supply. Duke Energy Services has a dedicated rail-fleet to bring product to New England. They have firm, guaranteed, long-term contracts with major producers and because Duke is a neutral wholesaler, which distributes broadly across the market, they offer stability, flexibility and reliability.

## **Strategic Petroleum Reserve**

The Strategic Petroleum Reserve (SPR) is the U.S. government's 599 million barrel emergency supply of crude oil, which is stored at four sites near the Texas and Louisiana Gulf Coast in over fifty salt caverns that are 2,000 to 4,000 feet below the earth's surface and have a total capacity of 700 MMB. The artificially created, underground caverns offer advantages over above ground storage tanks including higher security and significantly lower storage costs. Additionally, their location near the Gulf Coast offers the advantage of close proximity to the nation's commercial oil network of pipelines, ships, barges and refineries. The U.S. government is the landowner of the U.S. Outer Continental Shelf and is entitled to one-sixth royalty on all oil and gas production. Producing companies usually pay cash to royalty holders on the value of the wellhead revenues but sometimes pay, "in-kind," rather than in cash. Under the, "royalty-in-kind," (RIK) program, the government would take possession of the physical barrels and store them in the SPR.

Reserves in the SPR have been used on several occasions over the past seven years to address short-term supply situations that have arisen at various points in the chain of distribution. Rather than an outright sale of stock in the SPR, these transactions have been in the form of exchanges. The most significant occurred in the fall of 2000, shortly after President Clinton announced plans to establish the Northeast Home Heating Oil Reserve (NHHOR) in response to a relatively low stock of heating oil. Over 2.8 million barrels of crude oil were exchanged for 2 million barrels of heating oil and the one-year use of storage facilities in the Northeast. Also in

2000, the President authorized the exchange of up to 30 million barrels to help avert the potential for fuel shortages in the winter. This 30 million barrel oil exchange required the companies that received oil from the SPR to return the same quantity, plus an additional amount, to the SPR in the fall of 2001.

As a result of summer 2002's solicitations, the SPR awarded contracts to the same terminals as before. The SPR issued one-year contracts with options to extend the contracts annually for four years. In mid-November 2002 and several times since then, SPR has conducted tests of its on-line heating oil bidding platform. Prior to Christmas, 2002, SPR delayed deliveries into the reserve due to developments in Venezuela. The strike in Venezuela has held world market exports at one-fifth their normal levels and has brought U.S. inventories of crude oil to their lowest levels in 26 years. Shortly after January first 2003 the U.S. DOE extended the delivery date to September 30, 2003 for 3.1 million barrels of crude oil to be returned to the SPR. Oil companies will pay in-kind interest on deferred deliveries and ultimately even more oil will be placed in SPR storage when returns are accomplished.

### **Northeast Home Heating Oil Reserve**

After experiencing extreme price volatility and having the prospect of spot shortages for home heating oil in the Northeast, the NHHOR was established as part of the SPR in the year 2000. While NHHOR was established as a temporary measure to ensure that adequate supplies of heating oil would be available for the winter of 2000-01, it has become a somewhat permanent component of the nation's energy preparedness effort. As its name suggests, the NHHOR stock consists of a refined product stored in the northeast region, which as stated previously, is heavily dependent on imports of home heating oil to meet its winter heating needs. The Energy Policy and Conservation Act of 2000, sets conditions for the release of the Northeast Home Heating Oil Reserve at the discretion of the President who **may** make the requisite finding of a *severe energy supply interruption* for the sale of product under the following two conditions: (1) if there is "a dislocation in the heating oil market," or (2) a circumstance exists (other than the defined dislocation) that is a regional supply shortage of significant scope and duration and the Reserve's release would significantly reduce its adverse impact. The law deems a *dislocation* to have occurred only when, "The price differential between crude oil and No. 2 heating oil increases by over 60% over its five-year rolling average for the months of mid-October through March, and continues for seven consecutive days; and the price differential continues to increase during the most recent week for which price information is available." The stock in the NHHOR is stored at four locations; two in Connecticut, one in New Jersey and one in Rhode Island. Each location holds the stock in privately owned, surface tanks contracted for by the Department of Energy. The two million barrels stock of home heating oil represents a ten-day supply for the 5.3 million households in the Northeast that use the product. It takes ten days to ship home heating from the Gulf of Mexico to New York Harbor.

## **Existing Maine Storage Potential**

The fact that oil prices can rise and fall capriciously has caused wholesale and retail dealers to become increasingly averse to the risks, as well as the costs, associated with maintaining inventories at levels which may have been typical a couple of decades ago. More stringent environmental regulations for oil storage have also influenced their decision to reduce actual storage capacity at the wholesale, retail and end-use levels. Although sufficient capacity appears to be available throughout New England at the terminal level, SPO's 1990 survey of Maine oil dealers revealed that on average, a typical company has gross storage capacity which, if full, would provide only six percent of its yearly sales volumes, far less than an entire heating season's supply. Maine's retail oil industry is unwilling, because of the associated risks, and unable, due to the lack of sufficient storage capacity, to maintain enough inventory cushion to protect Maine consumers from exposure to volatility and disruptions in upstream markets. As the industry has become more competitive, consumers have been forced to bear an increasing share of the risks of competition. Storage is expensive so a growing dependence on *through-put*, (or just-in-time inventory rather than pre-season stockpiling), to meet winter needs leaves both wholesale and retail oil dealers less likely to capture higher than normal profit levels during a widespread price run-up.

It should be noted that Maine prices often fall faster and farther than the rest of New England, in part because Maine appears to have a more diverse and competitive retail industry. However, many rural regions of Maine do not enjoy this price phenomenon because dealers in those areas depend more on their own expensive bulk storage than dealers in close proximity to the major wholesale terminals in Southern and Central Maine. Maine storage capacities are underutilized. For reference, SPO has researched statewide oil storage capabilities. The Maine Department of Transportation, Maine Emergency Management Agency, Maine Department of Revenue Services and the Maine Fire Marshall's Office have all provided data on storage capacity throughout the State which is available in SPO's Maine Heating Fuels Inventory 2000, Appendices 8-13.

## **Anticipated Reductions, Curtailments or Shortfalls in product deliveries or storage inventories in the coming months**

According to the statute dictating production of this report, if the SPO determines that there may be a significant shortfall in heating oil supply inventories or anticipated deliveries into the State, ( it shall issue) a report including;

- information suggesting a supply shortfall
- SPO recommendations for State action in response to the supply shortfall.

SPO information indicates adequate volumes of Maine heating fuels are in storage this year. Border crossing delays resulting from increased Customs and Immigration security could affect New England heating oil and propane deliveries. Harbor deliveries of LNG in Boston are carefully guarded. Oil and gas companies increased their security measures since the September

11th attacks and this condition persists. The wholesale kerosene market has shrunk in Maine and consumers should be aware of this in winter planning. Maine has only four terminals which distribute kerosene including; Irving, Sprague, Webber Oil and Webber Tanks.

The Maine Emergency Management Agency (MEMA), in conjunction with the SPO and representatives from other departments, conducted a series of meetings during 2000-01 to analyze the logistics and details of how an energy crisis might unfold, including highly unlikely and extreme situations in which the Governor could use his emergency powers. A State of Maine Energy Emergency Plan was developed by MEMA and SPO in coordination with a stakeholder group of Maine State agencies and submitted to DOE in 2002. The State's response to an energy crisis would employ the same emergency systems, which are applied in any other hazard situation. MEMA believes that any fuel supply emergency would be a slowly emerging situation (compared to less predictable disasters such as a flood or hurricane) wherein existing local and county response plans would be utilized before the situation developed into an event requiring state response.

### **State Interagency Energy Planning Team**

Throughout the years 2000-01, oil supply and price issues have been a focus of concern for agencies throughout Maine State Government. In fall 2000 the State initiated a coordinated effort to insure preparedness in the event of an energy supply crisis this winter. The State's initiatives included the creation and coordination of a State Interagency Energy Planning Team. The Team brings together over 25 staff from thirteen State agencies to address contingency plans in the event of heating fuel shortages or other potential energy emergencies. It also serves to inform and educate the public about ways to help themselves and who to contact when seeking LIHEAP or other assistance at the State level. The Energy Team is coordinated by the Governor's Office and the Maine State Planning Office and is designed to respond effectively to public needs as they arise. It offers a wide array of services and expertise, which fall into five categories listed below. (See Appendix 1 for a listing of the agency contacts and their essential information/phone numbers and e:mail addresses)

**Marketing and Education** - Chair: Peter Wintle- MSHA

**Infrastructure / Emergency Planning** - Chair: Gordon Nelson -DAFS

**Regional and Industry Outreach** - Chair: Governor's Office

**Regulations** - Chair: David Maxwell - DEP

**Data Collection and Management** - Chair: Betsy Elder - SPO

Each of these sub-teams is designed to focus on a particular area and to marshal the necessary and available expertise to facilitate service to the public. The agencies bring a host of resources to the table and are participating in the following areas.

Financial Resources - PUC, SPO, MEMA  
Human Resources - MEMA, DEP  
Printed Conservation/Other Educational Materials - DECD, MSHA, PUC, AG, OPA  
Data and Information - SPO, DOT, DEP, PUC, AG  
Information Outlets/Mailing Lists - DEP, PUC, OPA, MSHA  
Physical Resources- DAFS and DOT(storage) MEMA(meeting space, phone banks  
and emergency war room)

The Bundle Me Up Web Site ([www.bundlemeup.org](http://www.bundlemeup.org)) and Program was designed to inform and educate consumers about energy options and conservation tips. A toll free help line, (1-866-HEATTIP), a Maine State Housing Authority hotline (1-800-452 -4668) and Attorney General Consumer Mediation Hotline (207-626-8849) are all available to assist the consumer. These services were made available without expending any tax dollars. Maine State Government has launched its own *in-house* Bundle Me Up campaign to raise awareness and reduce energy consumption in the workplace.

## **Conclusions, Recommendations**

As a matter of State energy policy, there are several ways in which Maine can work to become more self-sufficient and resilient relative to current volatile oil markets. The most important of these is a renewed commitment within the State to conservation and energy efficiency initiatives. In addition, the encouragement of technologies, which reduce our own dependence on combustible fuels, OPEC and non-OPEC produced, is sensible. Practical thinking about renewable and alternative energy technologies could increase Maine's energy independence. Reducing overall energy demand continues to be the most effective hedge against future energy uncertainty. Promoting strategies to consumers, which insulate them from price and supply volatility is a challenge in the open market. Government wants to inform the consumer of supply problems, possible antidotes and options, but it doesn't want to create public anxiety or a panic buy-up of product. Purchasing most of one's oil supplies during the off-season to allow heating oil customers to take advantage of seasonal price swings and increasing personal, residential tank storage are both proactive measures to increase Maine's resiliency against price swings and supply disruptions.

Consumers may benefit from the many budget payment plans currently offered by the industry. Many programs allow customers to pay for their heating season needs using equal monthly payments and avoiding the stress of major cash expenditures during the heating season. Many budget plans are based on the cash price at the time of delivery and therefore place no additional costs or conditions on the consumer. Comparative shopping and reading of the fine print is recommended. While budget plans do not guarantee protection against seasonal price fluctuation, they do minimize the financial shocks, which accompany wholesale price volatility. Many dealers have budget plan arrangements available which facilitate bulk pre- or post-season purchases.

SPO will continue to track inventories during the rest of this heating season and throughout the entire year. We will report again next year and will continue to be in communication with our sister agencies in State government and with energy planning counterparts in the northeast region.

## APPENDICES

**APPENDIX 1**  
**State Interagency Heating Fuel Planning Team**

## INTERAGENCY HEATING FUEL SWAT TEAM

### State Planning Office:

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**Maine Municipal Association:**

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Maine Municipal Association  
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**Public Utilities Commission:**

|                                                                    |                |
|--------------------------------------------------------------------|----------------|
| Tom Welch                                                          | Phone 287-1361 |
| Maine Public Utilities Commission                                  | Fax 287-1039   |
| State House Station 18                                             |                |
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|                                                                  |                |
|------------------------------------------------------------------|----------------|
| Matt Thayer                                                      | Phone 287-1594 |
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|                                                                            |                |
|----------------------------------------------------------------------------|----------------|
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**Office of Public Advocate:**

|                                                                        |                |
|------------------------------------------------------------------------|----------------|
| Steve Ward                                                             | Phone 287-4312 |
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**Department of Human Services:**

|                                                                |                |
|----------------------------------------------------------------|----------------|
| Cindy Boyd                                                     | Phone 287-3097 |
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|                                                                |                |
|----------------------------------------------------------------|----------------|
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**Department of Economic and Community Development:**

|                            |                |
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**Legislative Branch – For their information**

**Office of Fiscal and Program Review:**

|                                     |                |
|-------------------------------------|----------------|
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**Office of Policy and Legal Analysis:**

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|-------------------------------------|----------------|
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Last Update: 2-7-03

**APPENDIX 2**  
**Active Primary Terminal Listings, Maine DEP**

## ACTIVE TERMINAL FACILITIES

| LICENSE |       | COMPANY                                                        | LOCATION       | ST | CONTACT                     | CONTACT      |
|---------|-------|----------------------------------------------------------------|----------------|----|-----------------------------|--------------|
| STATUS  | LIC # | NAME                                                           |                |    |                             | TELEPHONE    |
| Active  | 324   | COLDBROOK ENERGY, INC.                                         | HAMPDEN        | ME | PAUL GERALD                 | 207-945-9465 |
|         |       | Coldbrook has not brought in any product by vessel since 1/98. |                |    |                             |              |
| Active  | 308   | FPL ENERGY INC                                                 | YARMOUTH       | ME | SANDRA LINDENBERG           | 207-846-8101 |
| Active  | 341   | FPL ENERGY INC                                                 | WISCASSET      | ME | SANDRA LINDENBERG           | 207-846-8101 |
| Active  | 310   | GLOBAL COMPANIES, LLC                                          | SOUTH PORTLAND | ME | MARCUS B. THOMPSON          | 781-398-4348 |
| Active  | 300   | GULF OIL LIMITED PARTNERSHIP                                   | SOUTH PORTLAND | ME | STEPHEN R SOMERS            | 617-889-9079 |
| Active  | 322   | IRVING OIL TERMINAL INC                                        | SEARSPORT      | ME | TAMMY SMITH                 | 207-941-7316 |
| Active  | 304   | MOBIL OIL CORP.                                                | SOUTH PORTLAND | ME | KIRT MATHEWS (DALLAS)       | 214-658-3631 |
| Active  | 307   | MOTIVA                                                         | SOUTH PORTLAND | ME | KEVIN ERRINGTON (TERM OP)   | 207-799-3394 |
| Active  | 299   | NAVAL COMMUNICATIONS UNIT                                      | CUTLER         | ME | NORMAN LABEGE               | 207-259-8211 |
|         |       | NCU has not transferred any product into the state since 11/95 |                |    |                             |              |
| Active  | 306   | PORTLAND PIPE LINE CORP PIERII                                 | SOUTH PORTLAND | ME | DAVID CYR                   | 207-767-0450 |
| Active  | 317   | SPRAGUE ENERGY CORP                                            | BUCKSPORT      | ME | NATALIE HEBERT              | 603-430-7244 |
| Active  | 319   | SPRAGUE ENERGY CORP                                            | SEARSPORT      | ME | NATALIE HEBERT              | 603-430-7244 |
| Active  | 302   | SPRAGUE ENERGY CORP.                                           | SOUTH PORTLAND | ME | NATALIE HEBERT/MARY O'BRYAN | 603-430-7244 |
| Active  | 325   | WEBBER OIL CO.                                                 | BANGOR         | ME | CANDICE MORRILL             | 207-942-5501 |
| Active  | 326   | WEBBER TANKS, INC.                                             | BUCKSPORT      | ME | JEFFERY MURDY               | 207-469-3165 |
| Active  | 327   | WEBBER TANKS, INC.                                             | BREWER         | ME | DEBORAH DORR                | 207-469-3165 |
|         |       |                                                                |                |    |                             |              |

APPENDIX 3

MDEP Raw Data Table for Barrels of Petroleum Products Transferred into Maine  
1995 -October 2002

# BARRELS OF PETROLEUM PRODUCTS TRANSFERRED INTO MAINE FROM JANUARY 1995 TO OCTOBER 2002

| KEROSENE # 1FUEL OIL |            |            |            |           |           |           |           |           |           |           |           |            |             | TOTAL BY |
|----------------------|------------|------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|-------------|----------|
|                      |            |            |            | CODE 01   |           |           |           |           |           |           |           |            |             |          |
|                      | JAN        | FEB        | MAR        | APR       | MAY       | JUN       | JUL       | AUG       | SEP       | OCT       | NOV       | DEC        | YEAR        |          |
| 2002                 | 220,159    | 32,731     | 98,430     | 99,089    | 1,334     | 26,714    | 35,327    | 46,712    | 123,101   | 64,375    |           |            | 747,972     |          |
| 2001                 | 256,581    | 10,059     | 74,456     | 2,608     | 15,415    | 79,584    | 177,577   | 112,354   | 76,672    | 45,192    | 74,854    | 72,161     | 997,513     |          |
| 2000                 | 145,744    | 200,685    | 83,526     | 12,263    | 31,811    | 12,376    | 27,804    | 132,927   | 26,589    | 64,034    | 136,836   | 277,242    | 1,151,837   |          |
| 1999                 | 231,592    | 109,672    | 29,218     | 28,441    | 192,711   | 140,790   | 2,153     | 849       | 432       | 18,714    | 75,050    | 193,036    | 1,022,658   |          |
| 1998                 | 92,893     | 148,598    | 53,862     | 521       | 6,973     | 246,087   | 106,074   | 65,139    | 87,170    | 66,370    | 185,640   | 100,961    | 1,160,288   |          |
| 1997                 | 104,295    | 130,714    | 148,834    | 24,941    | 269,640   | 6,461     | 169,328   | 6,818     | 159,817   | 82,193    | 56,695    | 414,839    | 1,574,575   |          |
| 1996                 | 344,510    | 123,683    | 65,866     | 120,810   | 40,376    | 22,082    | 5,836     | 164,299   | 250,009   | 384,308   | 225,671   | 174,881    | 1,922,331   |          |
| 1995                 | 335,740    | 152,149    | 42,560     | 1,016     | 34,253    | 6,364     | 13,092    | 59,966    | 27,283    | 250,560   | 160,208   | 291,267    | 1,374,458   |          |
| TOTALS               | 1,511,355  | 875,560    | 498,322    | 190,600   | 591,179   | 513,744   | 501,864   | 542,352   | 627,972   | 911,371   | 914,954   | 1,524,387  | 9,203,660   |          |
| DIESEL FUEL OIL #2   |            |            |            |           |           |           |           |           |           |           |           |            |             | TOTAL BY |
|                      |            |            |            | CODE 02   |           |           |           |           |           |           |           |            |             |          |
|                      | JAN        | FEB        | MAR        | APR       | MAY       | JUN       | JUL       | AUG       | SEP       | OCT       | NOV       | DEC        | YEAR        |          |
| 2002                 | 2,060,921  | 2,045,078  | 1,303,910  | 1,031,973 | 1,639,388 | 723,684   | 1,025,118 | 918,334   | 934,766   | 969,340   |           |            | 12,652,512  |          |
| 2001                 | 2,181,267  | 1,861,215  | 1,400,189  | 1,224,066 | 1,190,857 | 1,211,125 | 1,087,527 | 998,437   | 1,255,205 | 1,230,980 | 1,578,168 | 1,513,092  | 16,732,128  |          |
| 2000                 | 1,551,329  | 1,797,347  | 1,412,866  | 959,420   | 1,088,971 | 1,008,113 | 915,934   | 1,353,014 | 1,013,911 | 1,497,617 | 1,501,367 | 1,820,043  | 15,919,932  |          |
| 1999                 | 2,129,155  | 1,833,978  | 1,476,505  | 1,310,261 | 668,621   | 1,339,274 | 981,713   | 877,592   | 677,156   | 1,304,114 | 1,252,722 | 1,055,264  | 14,906,355  |          |
| 1998                 | 1,537,883  | 1,516,543  | 1,762,564  | 1,130,530 | 1,381,618 | 1,025,603 | 669,537   | 832,148   | 1,181,664 | 966,794   | 1,147,478 | 1,794,952  | 14,947,314  |          |
| 1997                 | 1,814,240  | 1,737,803  | 1,488,201  | 1,291,253 | 1,101,445 | 1,124,311 | 928,033   | 1,072,717 | 1,116,793 | 1,080,464 | 1,418,141 | 1,947,005  | 16,120,406  |          |
| 1996                 | 1,996,845  | 1,290,458  | 1,188,863  | 1,148,338 | 1,158,512 | 835,030   | 544,806   | 922,849   | 885,870   | 1,574,031 | 1,408,299 | 1,628,494  | 14,582,395  |          |
| 1995                 | 2,011,276  | 1,759,648  | 1,395,592  | 1,174,954 | 1,201,872 | 602,394   | 1,148,280 | 815,797   | 952,223   | 730,029   | 1,676,850 | 2,260,685  | 15,729,600  |          |
| TOTALS               | 13,221,995 | 11,796,992 | 10,124,780 | 8,238,822 | 7,791,896 | 7,145,850 | 6,275,830 | 6,872,554 | 7,082,822 | 8,384,029 | 9,983,025 | 12,019,535 | 108,938,130 |          |
| FUEL OIL - RAILROAD  |            |            |            |           |           |           |           |           |           |           |           |            |             | TOTAL BY |
|                      |            |            |            | CODE 03   |           |           |           |           |           |           |           |            |             |          |
|                      | JAN        | FEB        | MAR        | APR       | MAY       | JUN       | JUL       | AUG       | SEP       | OCT       | NOV       | DEC        | YEAR        |          |
| 2002                 | 0          | 0          | 0          | 0         | 0         | 0         | 0         | 0         | 0         | 0         |           |            | 0           |          |
| 2001                 | 0          | 0          | 343        | 219       | 0         | 0         | 0         | 57        | 0         | 0         | 0         | 0          | 619         |          |
| 2000                 | 0          | 0          | 0          | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0          | 0           |          |
| 1999                 | 0          | 0          | 0          | 0         | 0         | 0         | 0         | 0         | 0         | 4,283     | 0         | 0          | 4,283       |          |
| 1998                 | 0          | 0          | 0          | 0         | 0         | 0         | 0         | 0         | 26,267    | 0         | 0         | 0          | 26,267      |          |
| 1997                 | 0          | 0          | 0          | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0          | 0           |          |
| 1996                 | 0          | 0          | 0          | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0          | 0           |          |
| 1995                 | 0          | 0          | 0          | 0         | 0         | 0         | 0         | 0         | 0         | 11,587    | 0         | 0          | 11,587      |          |
| TOTALS               | 0          | 0          | 343        | 219       | 0         | 0         | 0         | 57        | 26,267    | 15,870    | 0         | 0          | 42,756      |          |

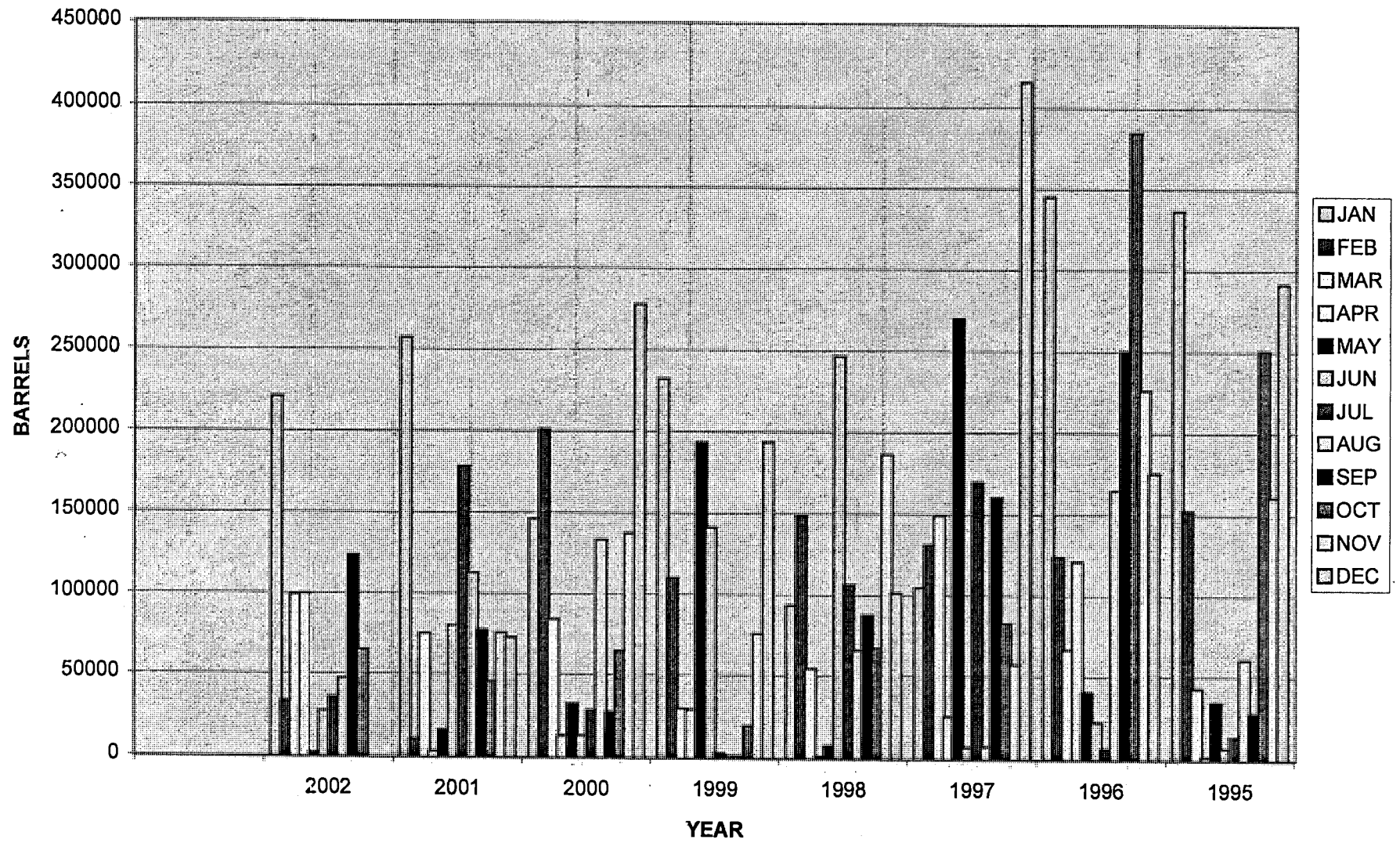
| FUEL OIL #5             |           |           |           | CODE 04   |           |           |           |           |           |           |           |           |            |  |  | TOTAL BY |
|-------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|--|--|----------|
|                         | JAN       | FEB       | MAR       | APR       | MAY       | JUN       | JUL       | AUG       | SEP       | OCT       | NOV       | DEC       | YEAR       |  |  |          |
| 2002                    | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         |           |           | 0          |  |  |          |
| 2001                    | 500       | 333       | 500       | 333       | 333       | 167       | 167       | 167       | 167       | 167       | 0         | 0         | 2,834      |  |  |          |
| 2000                    | 0         | 0         | 0         | 190       | 0         | 321       | 0         | 0         | 0         | 833       | 333       | 500       | 2,177      |  |  |          |
| 1999                    | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0          |  |  |          |
| 1998                    | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0          |  |  |          |
| 1997                    | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0          |  |  |          |
| 1996                    | 0         | 146       | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 146        |  |  |          |
| 1995                    | 240       | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 240        |  |  |          |
| TOTALS                  | 740       | 479       | 500       | 523       | 333       | 488       | 167       | 167       | 167       | 1,000     | 333       | 500       | 5,397      |  |  |          |
| FUEL OIL #6             |           |           |           | CODE 05   |           |           |           |           |           |           |           |           |            |  |  |          |
|                         | JAN       | FEB       | MAR       | APR       | MAY       | JUN       | JUL       | AUG       | SEP       | OCT       | NOV       | DEC       |            |  |  |          |
| 2002                    | 561,322   | 424,359   | 678,848   | 234,151   | 540,592   | 73,291    | 420,564   | 357,518   | 596,345   | 467,590   |           |           | 4,354,580  |  |  |          |
| 2001                    | 1,853,572 | 709,998   | 688,633   | 781,018   | 488,088   | 665,149   | 454,605   | 554,199   | 416,191   | 761,052   | 459,394   | 381,096   | 8,212,995  |  |  |          |
| 2000                    | 865,565   | 1,064,545 | 872,104   | 595,002   | 777,595   | 849,898   | 590,784   | 732,732   | 609,163   | 869,457   | 973,809   | 904,945   | 9,705,599  |  |  |          |
| 1999                    | 1,316,998 | 1,075,360 | 798,256   | 1,023,423 | 1,818,732 | 843,627   | 1,109,485 | 997,080   | 725,458   | 930,134   | 768,702   | 772,675   | 12,179,930 |  |  |          |
| 1998                    | 1,249,707 | 1,137,952 | 706,162   | 854,666   | 1,179,586 | 812,953   | 1,163,204 | 815,988   | 864,476   | 813,788   | 936,763   | 1,389,390 | 11,924,635 |  |  |          |
| 1997                    | 701,747   | 807,270   | 994,203   | 990,930   | 637,830   | 1,129,538 | 959,757   | 650,544   | 680,767   | 960,186   | 1,129,839 | 1,273,588 | 10,916,199 |  |  |          |
| 1996                    | 1,085,792 | 1,230,600 | 659,869   | 561,974   | 938,742   | 882,291   | 583,699   | 780,106   | 401,183   | 863,964   | 612,189   | 1,328,493 | 9,928,902  |  |  |          |
| 1995                    | 1,114,317 | 743,628   | 1,130,197 | 1,015,242 | 724,441   | 791,854   | 868,282   | 761,969   | 740,390   | 867,829   | 783,856   | 1,091,945 | 10,633,950 |  |  |          |
| TOTALS                  | 8,187,698 | 6,769,353 | 5,849,424 | 5,822,255 | 6,565,014 | 5,975,310 | 5,729,816 | 5,292,618 | 4,437,628 | 6,066,410 | 5,664,552 | 7,142,132 | 73,502,210 |  |  |          |
| LEADED REGULAR GASOLINE |           |           |           | CODE 21   |           |           |           |           |           |           |           |           |            |  |  | TOTAL BY |
|                         | JAN       | FEB       | MAR       | APR       | MAY       | JUN       | JUL       | AUG       | SEP       | OCT       | NOV       | DEC       | YEAR       |  |  |          |
| 2002                    | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         |           |           | 0          |  |  |          |
| 2001                    | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0          |  |  |          |
| 2000                    | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 1,283     | 0         | 0         | 1,283      |  |  |          |
| 1999                    | 0         | 0         | 1,044     | 451       | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 1,495      |  |  |          |
| 1998                    | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0          |  |  |          |
| 1997                    | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0          |  |  |          |
| 1996                    | 152,817   | 76,617    | 103,070   | 70,738    | 1,717     | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 404,959    |  |  |          |
| 1995                    | 56,478    | 77,116    | 97,226    | 113,031   | 113,576   | 113,709   | 240,172   | 150,897   | 135,065   | 93,848    | 140,376   | 222,606   | 1,554,100  |  |  |          |
| TOTALS                  | 209,295   | 153,733   | 201,340   | 184,220   | 115,293   | 113,709   | 240,172   | 150,897   | 135,065   | 95,131    | 140,376   | 222,606   | 1,961,837  |  |  |          |

| LEADED PREMIUM GASOLINE       |            |            |            | CODE 22    |            |            |            |            |            |            |            |            | TOTAL BY    |
|-------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|
|                               | JAN        | FEB        | MAR        | APR        | MAY        | JUN        | JUL        | AUG        | SEP        | OCT        | NOV        | DEC        | YEAR        |
| 2002                          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          |            |            | 0           |
| 2001                          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0           |
| 2000                          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 129        | 0          | 0          | 129         |
| 1999                          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0           |
| 1998                          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0           |
| 1997                          | 0          | 0          | 0          | 0          | 0          | 33,349     | 0          | 0          | 0          | 0          | 0          | 0          | 33,349      |
| 1996                          | 46,437     | 21,158     | 0          | 1,717      | 46,127     | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 115,439     |
| 1995                          | 2,012      | 31,124     | 57,157     | 5,708      | 45,855     | 24,544     | 3,140      | 76,421     | 37,262     | 31,485     | 1,784      | 23,971     | 340,463     |
| TOTALS                        | 48,449     | 52,282     | 57,157     | 7,425      | 91,982     | 57,893     | 3,140      | 76,421     | 37,262     | 31,614     | 1,784      | 23,971     | 489,380     |
| UNLEADED GASOLINE (REG & SUPE |            |            |            | CODE 23    |            |            |            |            |            |            |            |            | TOTAL BY    |
|                               | JAN        | FEB        | MAR        | APR        | MAY        | JUN        | JUL        | AUG        | SEP        | OCT        | NOV        | DEC        | YEAR        |
| 2002                          | 1,514,664  | 1,497,451  | 1,363,001  | 1,511,555  | 1,740,291  | 1,748,090  | 1,955,280  | 2,080,240  | 1,992,924  | 1,702,844  |            |            | 17,106,340  |
| 2001                          | 1,787,386  | 1,399,102  | 1,349,104  | 1,785,844  | 1,861,408  | 1,473,969  | 2,276,213  | 1,679,808  | 1,993,294  | 1,502,992  | 1,231,203  | 1,686,825  | 20,027,148  |
| 2000                          | 1,395,082  | 1,548,238  | 1,755,580  | 1,283,303  | 1,815,460  | 1,581,295  | 1,935,527  | 1,686,559  | 1,339,096  | 1,751,848  | 1,866,538  | 1,319,764  | 19,278,290  |
| 1999                          | 1,916,828  | 1,972,722  | 1,209,419  | 1,497,951  | 1,489,033  | 1,806,547  | 1,742,579  | 2,016,255  | 1,497,275  | 1,863,747  | 1,546,261  | 1,512,427  | 20,071,044  |
| 1998                          | 1,664,068  | 1,566,163  | 1,732,871  | 1,580,320  | 2,303,254  | 1,591,683  | 2,027,791  | 2,244,267  | 2,029,811  | 1,759,643  | 1,688,757  | 1,293,650  | 21,482,278  |
| 1997                          | 1,823,312  | 1,378,965  | 1,869,550  | 1,665,044  | 1,895,978  | 2,030,352  | 1,878,268  | 2,026,039  | 2,016,811  | 2,119,723  | 1,963,260  | 1,607,125  | 22,274,427  |
| 1996                          | 1,557,428  | 1,574,849  | 1,554,676  | 1,448,144  | 1,870,256  | 1,920,986  | 1,913,841  | 2,330,118  | 1,663,769  | 1,920,828  | 1,801,378  | 1,618,596  | 21,174,869  |
| 1995                          | 1,643,804  | 1,778,853  | 1,433,309  | 1,681,322  | 1,567,849  | 1,759,187  | 1,971,520  | 1,942,232  | 1,340,400  | 1,903,718  | 1,067,035  | 1,751,484  | 19,840,713  |
| TOTALS                        | 11,787,908 | 11,218,892 | 10,904,509 | 10,941,928 | 12,803,238 | 12,164,019 | 13,745,739 | 13,925,278 | 11,880,456 | 12,822,499 | 11,164,432 | 10,789,871 | 144,148,769 |
| AVIATION GASOLINE             |            |            |            | CODE 24    |            |            |            |            |            |            |            |            | TOTAL BY    |
|                               | JAN        | FEB        | MAR        | APR        | MAY        | JUN        | JUL        | AUG        | SEP        | OCT        | NOV        | DEC        | YEAR        |
| 2002                          | 1,143      | 207        | 803        | 2,091      | 2,123      | 1,143      | 40,563     | 2,320      | 3,494      | 1,675      |            |            | 55,562      |
| 2001                          | 1,125      | 588        | 37,566     | 1,752      | 2,527      | 2,136      | 1,920      | 3,106      | 1,387      | 32,028     | 374        | 827        | 85,336      |
| 2000                          | 900        | 1,036      | 1,185      | 1,098      | 2,961      | 2,313      | 2,239      | 3,110      | 2,641      | 1,853      | 1,208      | 1,197      | 21,741      |
| 1999                          | 1,567      | 1,416      | 1,201      | 1,363      | 2,524      | 3,005      | 3,196      | 3,248      | 2,594      | 1,621      | 1,996      | 1,054      | 24,785      |
| 1998                          | 985        | 1,320      | 1,373      | 2,012      | 2,844      | 1,863      | 4,286      | 4,006      | 2,686      | 1,980      | 1,535      | 1,125      | 26,015      |
| 1997                          | 1,613      | 1,269      | 1,682      | 2,291      | 3,183      | 3,355      | 5,020      | 4,363      | 3,070      | 2,908      | 1,691      | 1,745      | 32,190      |
| 1996                          | 1,652      | 1,390      | 2,315      | 2,079      | 2,756      | 3,589      | 4,355      | 4,814      | 2,752      | 4,032      | 2,027      | 1,410      | 33,171      |
| 1995                          | 1,541      | 1,869      | 1,965      | 2,378      | 4,126      | 4,102      | 5,162      | 5,169      | 3,862      | 3,740      | 1,734      | 1,963      | 37,611      |
| TOTALS                        | 9,383      | 8,888      | 47,287     | 12,973     | 20,921     | 20,363     | 26,178     | 27,816     | 18,992     | 48,162     | 10,565     | 9,321      | 260,849     |

| JET FUEL JP-3         |         |         |         | CODE 25 |         |         |         |         |         |         |         |         |      | TOTAL BY  |
|-----------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------|-----------|
|                       | JAN     | FEB     | MAR     | APR     | MAY     | JUN     | JUL     | AUG     | SEP     | OCT     | NOV     | DEC     | YEAR |           |
| 2002                  | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       |         |         |      | 0         |
| 2001                  | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       |      | 0         |
| 2000                  | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       |      | 0         |
| 1999                  | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       |      | 0         |
| 1998                  | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       |      | 0         |
| 1997                  | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       |      | 0         |
| 1996                  | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       |      | 0         |
| 1995                  | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       |      | 0         |
| TOTALS                | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       |      | 0         |
| JET FUEL JP-4         |         |         |         | CODE 26 |         |         |         |         |         |         |         |         |      | TOTAL BY  |
|                       | JAN     | FEB     | MAR     | APR     | MAY     | JUN     | JUL     | AUG     | SEP     | OCT     | NOV     | DEC     | YEAR |           |
| 2002                  | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       |         |         |      | 0         |
| 2001                  | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       |      | 0         |
| 2000                  | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       |      | 0         |
| 1999                  | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       |      | 0         |
| 1998                  | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       |      | 0         |
| 1997                  | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       |      | 0         |
| 1996                  | 0       | 0       | 0       | 0       | 48,135  | 0       | 0       | 0       | 0       | 0       | 0       | 0       |      | 48,135    |
| 1995                  | 201,060 | 240,720 | 0       | 0       | 54,918  | 0       | 73,219  | 0       | 75,019  | 75,978  | 0       | 0       |      | 720,914   |
| TOTALS                | 201,060 | 240,720 | 0       | 0       | 103,053 | 0       | 73,219  | 0       | 75,019  | 75,978  | 0       | 0       |      | 769,049   |
| JET FUEL JP-1 & JET-A |         |         |         | CODE 27 |         |         |         |         |         |         |         |         |      | TOTAL BY  |
|                       | JAN     | FEB     | MAR     | APR     | MAY     | JUN     | JUL     | AUG     | SEP     | OCT     | NOV     | DEC     | YEAR |           |
| 2002                  | 167,271 | 40,375  | 191,734 | 141,310 | 37,939  | 103,504 | 136,427 | 117,790 | 110,679 | 36,991  |         |         |      | 1,084,020 |
| 2001                  | 161,977 | 66,578  | 93,883  | 93,177  | 135,374 | 65,470  | 185,117 | 127,699 | 172,446 | 312,837 | 198,260 | 86,614  |      | 1,699,432 |
| 2000                  | 103,601 | 45,412  | 121,023 | 20,788  | 207,635 | 158,585 | 113,013 | 125,981 | 166,132 | 47,975  | 73,237  | 237,505 |      | 1,420,887 |
| 1999                  | 188,326 | 98,587  | 70,709  | 117,183 | 27,858  | 187,885 | 206,122 | 108,439 | 138,273 | 72,880  | 157,390 | 72,492  |      | 1,446,144 |
| 1998                  | 90,654  | 15,566  | 86,221  | 21,494  | 22,125  | 157,865 | 37,319  | 194,857 | 95,802  | 96,512  | 110,579 | 167,356 |      | 1,096,350 |
| 1997                  | 4,043   | 55,469  | 57,320  | 4,396   | 106,887 | 25,300  | 44,706  | 111,331 | 97,236  | 21,371  | 103,290 | 22,353  |      | 653,702   |
| 1996                  | 104,142 | 40,015  | 21,230  | 96,031  | 58,127  | 88,263  | 94,434  | 67,746  | 88,795  | 82,688  | 3,597   | 83,634  |      | 828,702   |
| 1995                  | 52,039  | 65,561  | 18,899  | 1,709   | 66,023  | 2,020   | 84,513  | 36,617  | 70,121  | 83,508  | 86,888  | 1,289   |      | 569,187   |
| TOTALS                | 704,782 | 387,188 | 469,285 | 354,778 | 624,029 | 685,388 | 765,224 | 772,670 | 828,805 | 717,771 | 733,241 | 671,243 |      | 7,714,404 |

| ASPHALT                  |  |            |            |            |                                  |            |            |            |            |            |            |            |            | CODE 41     |          |  |  |  |  |  |  |  |  |  |  |  | TOTAL BY |
|--------------------------|--|------------|------------|------------|----------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|----------|--|--|--|--|--|--|--|--|--|--|--|----------|
|                          |  | JAN        | FEB        | MAR        | APR                              | MAY        | JUN        | JUL        | AUG        | SEP        | OCT        | NOV        | DEC        | YEAR        |          |  |  |  |  |  |  |  |  |  |  |  |          |
| 2002                     |  | 0          | 0          | 0          | 226,540                          | 128,342    | 90,043     | 183,813    | 79,285     | 181,080    | 46,740     |            |            |             |          |  |  |  |  |  |  |  |  |  |  |  |          |
| 2001                     |  | 151,675    | 0          | 345        | 47,699                           | 86,747     | 92,591     | 109,561    | 107,176    | 131,070    | 115,828    | 0          | 0          | 935,843     |          |  |  |  |  |  |  |  |  |  |  |  |          |
| 2000                     |  | 0          | 0          | 0          | 134,170                          | 163,722    | 79,809     | 268,561    | 225,233    | 69,462     | 123,954    | 14,477     | 48,107     | 842,692     |          |  |  |  |  |  |  |  |  |  |  |  |          |
| 1999                     |  | 0          | 109,941    | 519        | 51,604                           | 231,603    | 80,271     | 149,301    | 112,946    | 97,072     | 52,500     | 20,874     | 686        | 1,127,495   |          |  |  |  |  |  |  |  |  |  |  |  |          |
| 1998                     |  | 0          | 85,208     | 60,504     | 5,578                            | 32,664     | 177,357    | 162,571    | 107,301    | 180,654    | 171,752    | 35,432     | 2,751      | 907,317     |          |  |  |  |  |  |  |  |  |  |  |  |          |
| 1997                     |  | 57,977     | 62,686     | 0          | 4,057                            | 99,501     | 182,487    | 104,849    | 227,583    | 84,372     | 109,706    | 33,567     | 34,203     | 1,021,772   |          |  |  |  |  |  |  |  |  |  |  |  |          |
| 1996                     |  | 38,914     | 0          | 256        | 6,062                            | 41,164     | 33,709     | 133,593    | 79,941     | 60,327     | 45,822     | 35,207     | 0          | 1,000,988   |          |  |  |  |  |  |  |  |  |  |  |  |          |
| 1995                     |  | 0          | 0          | 184        | 115,854                          | 115,867    | 128,506    | 273,714    | 232,494    | 190,566    | 152,994    | 42,898     | 64,754     | 474,995     |          |  |  |  |  |  |  |  |  |  |  |  |          |
| TOTALS                   |  | 248,566    | 257,835    | 61,808     | 365,024                          | 771,268    | 774,730    | 1,202,150  | 1,092,674  | 813,523    | 772,556    | 182,455    | 150,501    | 1,317,831   |          |  |  |  |  |  |  |  |  |  |  |  |          |
|                          |  |            |            |            |                                  |            |            |            |            |            |            |            |            | 6,693,090   |          |  |  |  |  |  |  |  |  |  |  |  |          |
| OTHER PETROLEUM PRODUCTS |  |            |            | CODE 81    | EX: MINERAL OIL, HYDRAULIC FLUID |            |            |            |            |            |            |            |            |             | TOTAL BY |  |  |  |  |  |  |  |  |  |  |  |          |
|                          |  | JAN        | FEB        | MAR        | APR                              | MAY        | JUN        | JUL        | AUG        | SEP        | OCT        | NOV        | DEC        | YEAR        |          |  |  |  |  |  |  |  |  |  |  |  |          |
| 2002                     |  | 3,648      | 4,399      | 4,629      | 4,637                            | 5,719      | 4,823      | 3,824      | 5,136      | 2,152      | 2,491      |            |            |             |          |  |  |  |  |  |  |  |  |  |  |  |          |
| 2001                     |  | 406        | 380        | 4,523      | 5,388                            | 5,138      | 5,492      | 3,864      | 5,290      | 3,062      | 4,200      | 5,026      | 4,837      | 41,458      |          |  |  |  |  |  |  |  |  |  |  |  |          |
| 2000                     |  | 1,944      | 2,097      | 2,759      | 2,206                            | 2,350      | 1,905      | 2,635      | 2,983      | 1,946      | 3,603      | 407        | 604        | 47,606      |          |  |  |  |  |  |  |  |  |  |  |  |          |
| 1999                     |  | 1,103      | 315        | 470        | 947                              | 954        | 791        | 1,573      | 1,417      | 786        | 1,270      | 1,414      | 2,469      | 25,439      |          |  |  |  |  |  |  |  |  |  |  |  |          |
| 1998                     |  | 0          | 321        | 103        | 746                              | 1,666      | 1,430      | 1,898      | 1,398      | 1,422      | 1,105      | 793        | 1,266      | 13,509      |          |  |  |  |  |  |  |  |  |  |  |  |          |
| 1997                     |  | 503        | 660        | 160        | 771                              | 593        | 1,312      | 473        | 1,240      | 314        | 4          | 160        | 665        | 12,148      |          |  |  |  |  |  |  |  |  |  |  |  |          |
| 1996                     |  | 326        | 244        | 553        | 667                              | 610        | 278        | 870        | 885        | 520        | 512        | 681        | 395        | 6,855       |          |  |  |  |  |  |  |  |  |  |  |  |          |
| 1995                     |  | 346        | 905        | 531        | 637                              | 577        | 796        | 734        | 594        | 616        | 408        | 477        | 390        | 6,541       |          |  |  |  |  |  |  |  |  |  |  |  |          |
| TOTALS                   |  | 4,628      | 4,922      | 9,099      | 11,362                           | 11,888     | 12,004     | 12,047     | 13,807     | 8,666      | 11,102     | 8,958      | 10,626     | 7,011       |          |  |  |  |  |  |  |  |  |  |  |  |          |
|                          |  |            |            |            |                                  |            |            |            |            |            |            |            |            | 119,109     |          |  |  |  |  |  |  |  |  |  |  |  |          |
|                          |  |            |            |            |                                  |            |            |            |            |            |            |            |            |             |          |  |  |  |  |  |  |  |  |  |  |  |          |
|                          |  |            |            |            |                                  |            |            |            |            |            |            |            |            |             |          |  |  |  |  |  |  |  |  |  |  |  |          |
| CRUDE                    |  |            |            | CODE 61    | PIPELINE THRU-PUT TO CANADA      |            |            |            |            |            |            |            |            |             | TOTAL BY |  |  |  |  |  |  |  |  |  |  |  |          |
|                          |  | JAN        | FEB        | MAR        | APR                              | MAY        | JUN        | JUL        | AUG        | SEP        | OCT        | NOV        | DEC        | YEAR        |          |  |  |  |  |  |  |  |  |  |  |  |          |
| 2002                     |  | 13,630,468 | 10,426,795 | 11,463,709 | 11,862,012                       | 11,228,970 | 12,862,589 | 13,496,241 | 15,309,473 | 14,253,897 | 12,599,475 |            |            |             |          |  |  |  |  |  |  |  |  |  |  |  |          |
| 2001                     |  | 13,373,676 | 13,333,578 | 15,415,801 | 11,158,371                       | 16,423,318 | 12,086,637 | 12,823,708 | 11,960,189 | 13,303,409 | 14,648,533 | 10,161,458 | 10,818,366 | 127,133,629 |          |  |  |  |  |  |  |  |  |  |  |  |          |
| 2000                     |  | 11,829,142 | 11,409,266 | 13,684,268 | 10,401,886                       | 14,573,183 | 13,334,249 | 13,533,000 | 13,507,010 | 13,795,933 | 13,646,190 | 14,825,581 | 13,352,947 | 155,537,044 |          |  |  |  |  |  |  |  |  |  |  |  |          |
| 1999                     |  | 7,996,559  | 5,309,500  | 6,582,461  | 7,717,109                        | 9,089,730  | 9,181,055  | 10,865,274 | 9,499,576  | 8,363,895  | 10,812,360 | 11,269,562 | 10,585,049 | 157,892,655 |          |  |  |  |  |  |  |  |  |  |  |  |          |
| 1998                     |  | 5,991,091  | 5,221,411  | 6,666,280  | 7,699,630                        | 5,908,574  | 4,606,358  | 8,257,096  | 6,985,353  | 5,929,910  | 7,560,714  | 5,317,122  | 6,631,645  | 107,272,130 |          |  |  |  |  |  |  |  |  |  |  |  |          |
| 1997                     |  | 7,681,131  | 5,672,832  | 5,993,909  | 4,917,603                        | 5,939,245  | 5,600,136  | 6,873,751  | 6,712,070  | 4,763,434  | 8,184,223  | 5,873,311  | 7,163,487  | 76,775,184  |          |  |  |  |  |  |  |  |  |  |  |  |          |
| 1996                     |  | 6,573,397  | 6,208,532  | 7,488,549  | 4,358,709                        | 5,033,631  | 6,080,937  | 6,787,223  | 5,452,013  | 5,529,962  | 5,627,988  | 6,568,774  | 4,477,644  | 75,375,132  |          |  |  |  |  |  |  |  |  |  |  |  |          |
| 1995                     |  | 5,059,005  | 4,044,813  | 6,174,478  | 3,241,233                        | 4,962,913  | 4,463,751  | 5,631,592  | 6,017,187  | 6,618,864  | 5,100,081  | 6,433,673  | 3,620,761  | 70,137,359  |          |  |  |  |  |  |  |  |  |  |  |  |          |
| TOTALS                   |  | 58,504,001 | 51,199,932 | 62,005,746 | 49,494,541                       | 61,930,594 | 55,353,123 | 64,771,644 | 60,133,398 | 58,305,407 | 65,580,089 | 60,449,481 | 56,649,899 | 61,368,351  |          |  |  |  |  |  |  |  |  |  |  |  |          |
|                          |  |            |            |            |                                  |            |            |            |            |            |            |            |            | 704,377,855 |          |  |  |  |  |  |  |  |  |  |  |  |          |

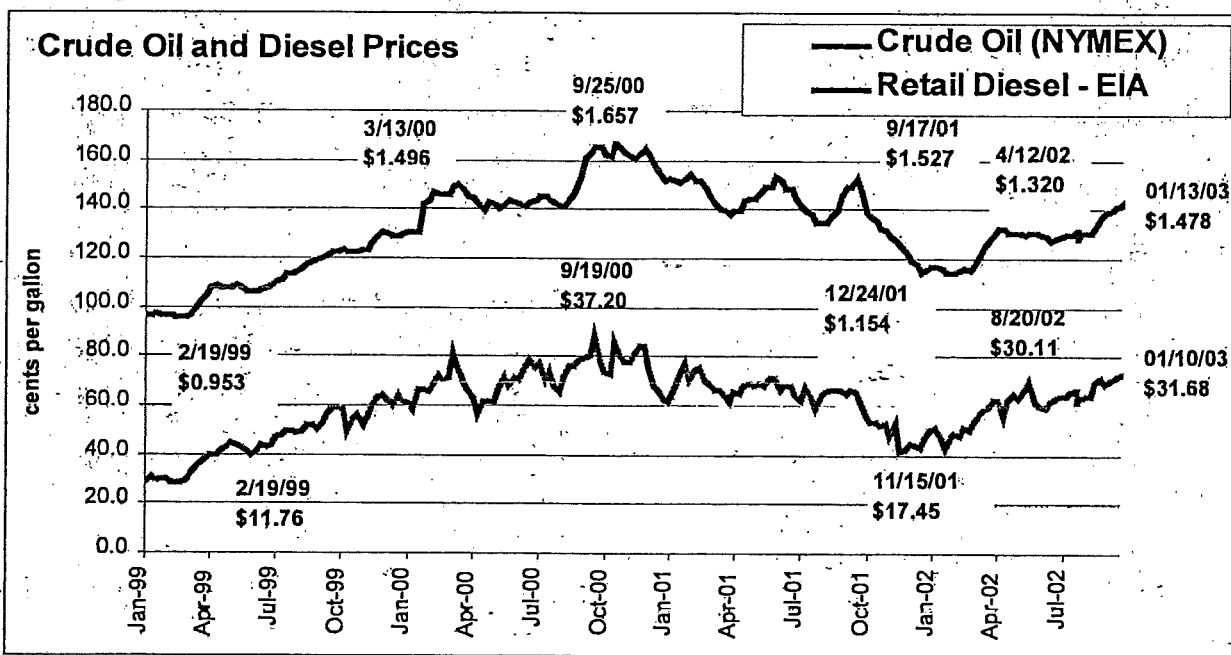
# KEROSENE #1 FUEL OIL



**APPENDIX 4**  
**Distillate Inventory Update -API, January 15, 2003**

## Distillate Inventory Update – January 15, 2003

Distillate fuel oil is used primarily for heating oil and diesel fuel. For the first time in three straight weeks, the national average retail price for diesel showed a slight decrease against the previous week. The national average price of retail diesel fuel for January 13 was \$1.478 per gallon, 2.3 cent lower than last week's average price of \$1.501 per gallon. However, this was 32 cents higher than the national average price at this time last year of \$1.159 per gallon. All regions posted small decreases against week-ago prices, except in the Central Atlantic where prices rose by nearly 3 cents against the previous week. The national residential heating oil price for January 13 was \$1.431 per gallon, which nearly equaled last week's price of \$1.428 per gallon but was 27 cents higher than last year's price of \$1.166 per gallon. As shown in the chart below, diesel fuel prices generally track those of crude oil in the long run. The price of crude oil is the main factor in the price of diesel fuel, and fluctuations in the crude oil market greatly influence changes in diesel prices. Short-run factors that can cause divergences from this correlation include supply shortages resulting from refinery outages, transportation issues, adverse weather conditions, or pipeline problems. During the most recent week, crude oil closed trading at \$31.68 per barrel, \$1.40 lower than last week's price of \$33.08 per barrel. However, this was about two-thirds higher than the price at this time last year of \$19.68 per barrel.



National distillate inventories for the week ending January 10 were 134.3 million barrels, versus last year's level of 143.9 million barrels and the 1998-2002 average level of 134.4 million barrels. The current level is 49 million barrels greater than the National Petroleum Council's estimate of minimum operational inventories of 85 million barrels.

Regional inventories on the East Coast for the week ending January 10 were 53.6 million barrels, 12 percent lower than last year's level of 61.3 million barrels and 4 percent lower than the 5-year average level of 55.7 million barrels. Furthermore, regional stocks in the Midwest for the week ending January 10 were slightly lower than a year ago but were 5 percent higher compared to the 1998-2002 average level. Regional distillate inventories in the Midwest were 34.1 million barrels, versus last year's level of 34.5 million barrels and the 5-year average level of 32.6 million barrels.

For the week ending January 10, national distillate production was 3.71 million barrels per day, 5 percent lower than last week's level of 3.87 million barrels per day. However, this was about 100 thousand barrels per day higher compared to last year's production of 3.62 million barrels per day. Likewise, national high-sulfur distillate production for the week ending January 10 dropped from last week's level of 1.16 million barrels per day to 1.06 million barrels per day. This was about 80 thousand barrels per day higher than last year's level of 0.98 million barrels per day.

| <b>Total Distillate Inventories (heating oil and diesel fuel)</b> |                                                          |                                                          |                                         |                                        |                                                      |                                      |
|-------------------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------|-----------------------------------------|----------------------------------------|------------------------------------------------------|--------------------------------------|
|                                                                   | <b>Week<br/>ended Jan<br/>10<br/>Million<br/>Barrels</b> | <b>Week<br/>ended Jan<br/>03<br/>Million<br/>Barrels</b> | <b>Year Ago<br/>Million<br/>Barrels</b> | <b>% Change<br/>from<br/>Last Year</b> | <b>Average<br/>1998-2002<br/>Million<br/>Barrels</b> | <b>% Change<br/>from<br/>Average</b> |
| <b>National</b>                                                   | 134.3                                                    | 134.4                                                    | 143.9                                   | -7                                     | 134.4                                                | 0                                    |
| <b>East Coast</b>                                                 | 53.6                                                     | 53.1                                                     | 61.3                                    | -12                                    | 55.7                                                 | -4                                   |
| <b>New<br/>England</b>                                            | 8.7                                                      | 8.5                                                      | 11.4                                    | -24                                    | 10.9                                                 | -20                                  |
| <b>Mid-<br/>Atlantic</b>                                          | 29.8                                                     | 29.9                                                     | 35.6                                    | -16                                    | 32.1                                                 | -7                                   |
| <b>South<br/>Atlantic</b>                                         | 15.2                                                     | 14.8                                                     | 14.3                                    | 6                                      | 12.8                                                 | 19                                   |
| <b>Midwest</b>                                                    | 34.1                                                     | 33.3                                                     | 34.5                                    | -1                                     | 32.6                                                 | 5                                    |
| <b>Gulf Coast</b>                                                 | 30.4                                                     | 32.3                                                     | 33.5                                    | -9                                     | 30.7                                                 | -1                                   |
| <b>Mountain</b>                                                   | 3.8                                                      | 3.8                                                      | 3.1                                     | 21                                     | 3.3                                                  | 16                                   |
| <b>West Coast</b>                                                 | 12.4                                                     | 11.9                                                     | 11.6                                    | 7                                      | 12.1                                                 | 2                                    |
| <b>High Sulfur Distillate Inventories (heating oil)</b>           |                                                          |                                                          |                                         |                                        |                                                      |                                      |
|                                                                   | <b>Week<br/>ended Jan<br/>10<br/>Million<br/>Barrels</b> | <b>Week<br/>ended Jan<br/>03<br/>Million<br/>Barrels</b> | <b>Year Ago<br/>Million<br/>Barrels</b> | <b>% Change<br/>from<br/>Last Year</b> | <b>Average<br/>1998-2002<br/>Million<br/>Barrels</b> | <b>% Change<br/>from<br/>Average</b> |
| <b>National</b>                                                   | 53.5                                                     | 53.7                                                     | 60.9                                    | -12                                    | 61.1                                                 | -12                                  |
| <b>East Coast</b>                                                 | 31.9                                                     | 32.5                                                     | 38.9                                    | -18                                    | 36.9                                                 | -14                                  |
| <b>New<br/>England</b>                                            | 6.3                                                      | 6.2                                                      | 8.7                                     | -28                                    | 8.7                                                  | -28                                  |
| <b>Mid-<br/>Atlantic</b>                                          | 19.9                                                     | 20.6                                                     | 25.1                                    | -21                                    | 23.1                                                 | -14                                  |
| <b>South<br/>Atlantic</b>                                         | 5.7                                                      | 5.7                                                      | 5.0                                     | 12                                     | 5.1                                                  | 12                                   |
| <b>Midwest</b>                                                    | 8.3                                                      | 8.1                                                      | 8.7                                     | -5                                     | 9.1                                                  | -9                                   |
| <b>Gulf Coast</b>                                                 | 10.7                                                     | 10.5                                                     | 10.7                                    | 0                                      | 11.9                                                 | -10                                  |
| <b>Mountain</b>                                                   | 0.59                                                     | 0.59                                                     | 0.42                                    | 38                                     | 0.51                                                 | 16                                   |
| <b>West Coast</b>                                                 | 2.1                                                      | 2.0                                                      | 2.2                                     | -4                                     | 2.7                                                  | -24                                  |

Note: Data do not include 2 million barrels transferred from late September through mid-October of 2000 from commercially available inventories to the federal government's Heating Oil Reserve in the Northeast.

For more information, contact Maria Coronado, Statistical Analyst; Ron Planting, Manager, Information and Analysis; or John Felmy, Director, Policy Analysis and Statistics, American Petroleum Institute, (202) 682-8000.

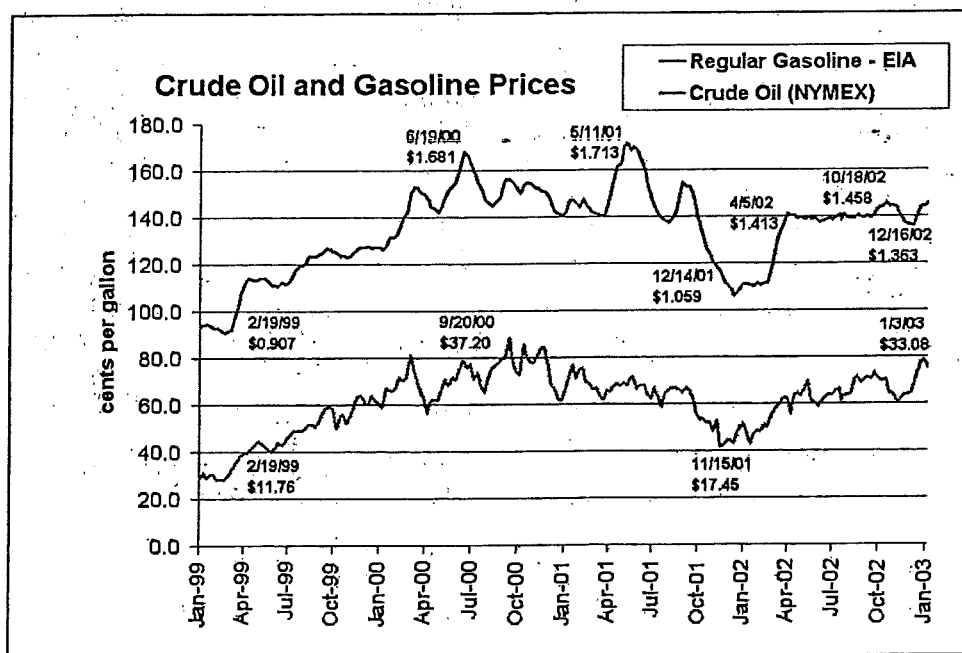
**APPENDIX 5**  
**Gasoline Situation - API, January 16, 2003**

## Gasoline Situation – January 16, 2002

Gasoline prices rose for the fifth straight week, according to the most recent data from the U.S. Energy Information Administration. As of January 13, the price of a gallon of regular grade gasoline (including taxes) averaged \$1.454, an increase of 1 cent from the previous week. Prices are up more than 9 cents since the beginning of December and are some 34 cents above their level of one year ago.

As the chart below shows, gasoline prices generally track those of crude oil, which are subject to worldwide supply and demand conditions. In 2002, the United States imported almost 60 percent of its petroleum needs and is dependent upon world oil markets. Since crude oil costs represent the largest component of the price of gasoline, fluctuations in crude oil prices are the most important cause of gasoline price swings over the long term.

Though retreating slightly in the most recent week (closing trading at \$31.68 on January 10), crude oil prices are almost \$5 per barrel higher than in early December. That level is \$12 (or about 29 cents per gallon) higher than it was one year ago.



In addition to the impact of the world crude oil market, gasoline prices are affected by other factors in the short term. These include: unplanned refinery and pipeline outages and the preponderance of "boutique" fuel specifications across the country that reduce the flexibility of refiners and distributors to respond to supply disruptions. These factors have led to price spikes in the past and remain relevant in 2003.

Gasoline demand continued to grow last year, rising nearly 2.7 percent on an annual basis. At the same time, refiners supplied significant volumes of fuel to U.S. consumers and gasoline production reached a record high. Strong rates of production have carried into the new year. API's statistics for the week ended 1/10 reported that gasoline output averaged more than 8.6

million barrels per day, up more than 5 percent from the same period last year. At the same time, nationwide inventories exceeded their year-ago mark and their average for this time of year. Inventories of reformulated gasoline (RFG), though, were slightly below both their year-ago and their time-of-year average levels.

Also during the latest week: total inputs into the nation's 150 refineries were up 4 percent compared to the corresponding period last year, with refinery utilization running at 92.3 percent of capacity. Production of distillate fuel oil – used primarily as diesel fuel and heating oil – averaged almost 3.7 million barrels per day, up almost 3 percent on a year-over-year basis.

| <b>Total Gasoline Inventories</b>              |                                          |                                         |                             |                               |                                         |                             |
|------------------------------------------------|------------------------------------------|-----------------------------------------|-----------------------------|-------------------------------|-----------------------------------------|-----------------------------|
|                                                | Week ended<br>Jan. 10<br>Million Barrels | Week ended<br>Jan. 3<br>Million Barrels | Year Ago<br>Million Barrels | % Change<br>from<br>Last Year | Average<br>1998-2002<br>Million Barrels | % Change<br>from<br>Average |
| National                                       | 215.0                                    | 210.6                                   | 211.2                       | 2                             | 209.3                                   | 3                           |
| East Coast                                     | 59.7                                     | 56.4                                    | 58.5                        | 2                             | 58.1                                    | 3                           |
| New<br>England                                 | 4.6                                      | 4.4                                     | 4.2                         | 10                            | 4.9                                     | -5                          |
| Mid-<br>Atlantic                               | 31.5                                     | 30.0                                    | 30.6                        | 3                             | 29.4                                    | 7                           |
| South<br>Atlantic                              | 23.6                                     | 22.0                                    | 23.8                        | -1                            | 23.7                                    | -1                          |
| Midwest                                        | 51.6                                     | 49.9                                    | 53.0                        | -3                            | 52.4                                    | -2                          |
| Gulf Coast                                     | 63.8                                     | 63.8                                    | 60.0                        | 7                             | 60.5                                    | 6                           |
| Mountain                                       | 7.4                                      | 7.4                                     | 8.2                         | -9                            | 7.3                                     | 2                           |
| West Coast                                     | 32.5                                     | 33.2                                    | 31.6                        | 3                             | 30.9                                    | 5                           |
| <b>Reformulated Gasoline (RFG) Inventories</b> |                                          |                                         |                             |                               |                                         |                             |
|                                                | Week ended<br>Jan. 10<br>Million Barrels | Week ended<br>Jan. 3<br>Million Barrels | Year Ago<br>Million Barrels | % Change<br>from<br>Last Year | Average<br>1998-2002<br>Million Barrels | % Change<br>from<br>Average |
| National                                       | 40.8                                     | 41.9                                    | 44.2                        | -8                            | 44.1                                    | -7                          |
| East Coast                                     | 20.0                                     | 20.3                                    | 19.0                        | 5                             | 20.0                                    | 0                           |
| New<br>England                                 | 3.7                                      | 3.4                                     | 3.4                         | 10                            | 4.0                                     | -7                          |
| Mid-<br>Atlantic                               | 12.6                                     | 11.9                                    | 12.4                        | 2                             | 11.8                                    | 7                           |
| South<br>Atlantic                              | 3.7                                      | 5.0                                     | 3.2                         | 15                            | 4.2                                     | -11                         |
| Midwest                                        | 0.9                                      | 0.6                                     | 1.9                         | -53                           | 1.5                                     | -41                         |
| Gulf Coast                                     | 9.4                                      | 9.1                                     | 11.0                        | -15                           | 10.3                                    | -8                          |
| Mountain                                       | -                                        | -                                       | -                           | -                             | -                                       | -                           |
| West Coast                                     | 10.5                                     | 11.8                                    | 12.3                        | -15                           | 12.4                                    | -15                         |

For more information contact: Timothy Gill, Senior Analyst, Policy Analysis and Statistics, American Petroleum Institute, (202) 682-8398, [gillt@api.org](mailto:gillt@api.org).

**APPENDIX 6**  
**DOE/EIA Map of New England Energy Infrastructure**

