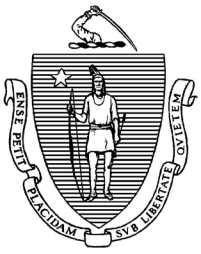

Commonwealth of Massachusetts

Division of Energy Resources

State Heating Oil & Propane Program

Final Report

Winter 2004/2005

May 2005

Mitt Romney
Governor

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INTRODUCTION

During the 2004/05 heating season, the Massachusetts Division of Energy Resources (DOER) continued its annual participation in the US Department of Energy's *State Heating Oil and Propane Program* (SHOPP). SHOPP requires states to collect and monitor retail heating oil and propane prices from October through March. SHOPP augments existing DOER data collection efforts and serves several important purposes. The information provides policy-makers with timely, accurate and consistent data to monitor current heating oil and propane markets and develop, when necessary, appropriate state responses to potential fuel problems. The information also helps the federal and state governments respond to consumer, congressional and media inquiries regarding heating oil and propane.

The following report summarizes the results from the Massachusetts retail heating oil and propane price surveys, including supply and demand events that affected those markets. Also included are a seasonal overview and summary of how the SHOPP program is used to augment DOER functions.

Findings

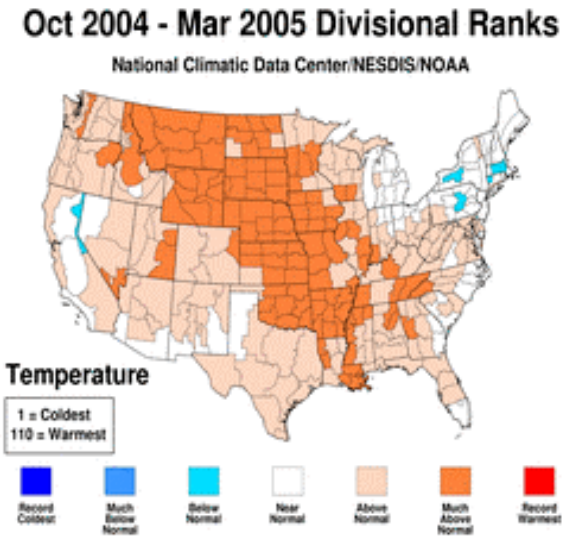
- *Most of Massachusetts Had Normal but Snowy Winter*
- *Record Crude Prices Bracket Heating Season*
- *Heating Oil Prices Hit Historic High Levels*
- *Adequate Inventory Levels Helped Stabilize Prices*
- *SHOPP Data Used To Support DOER Activities*

Most of Massachusetts Had Normal but Snowy Winter

Weather is one of the primary factors effecting heating demand, influencing available supplies and heating fuel prices. Warmer weather usually translates to lower demand and prices while colder weather translates to higher prices. Early season forecasts from the National Oceanic and Atmospheric Association (NOAA), predicted Massachusetts and the rest of New England had an equal chance for normal, above normal, and below normal temperatures.

As it happened, most of New England had normal to slightly warmer winter temperatures. Massachusetts' temperatures were in the normal range for most of the state with parts of Central Massachusetts experiencing colder than normal temperatures. Across the US, most states experienced warmer than normal temperatures. Figure 1 shows winter temperatures across the United States.

Figure 1



While the temperatures were normal for winter, snowfall amounts were not. Boston experienced its snowiest month on record in January with 43.1 inches of snow (including a blizzard). Worcester recorded its second snowiest month and snowiest January with 51.1 inches. February added another 17.7 inches in Boston for a winter total of 68.2 inches.

High Crude Prices Bracket Heating Season

Crude Oil

DOER tracks heating oil and propane prices throughout the year as well as during SHOPP season. During the spring and summer of 2004, DOER noticed that heating oil prices did not decrease as they normally due during the off-season. Heating oil prices in particular rose throughout the summer and reached the beginning of the heating season 57% higher than during the same period in 2003.

Historically high crude oil prices are one of the primary factors pushing heating oil prices. The average spot price per barrel of WTI crude oil in October 2004 was $53, compared to $30 in October 2003 and $29 in October 2002. (This $23 per barrel crude oil increase translates into about a 58 cent per gallon increase in petroleum products.) The 2004-05 WTI crude oil price winter season average was $49 per barrel, up $16 per barrel over last season's $33 average price. This winter season started out with high WTI crude oil prices at an average of $53 per barrel in October. Prices fell slightly in November and December to $48 and $43 per barrel, respectively. However, WTI prices started to climb again

in January throughout the rest of the heating season to reach $55 per barrel by mid-March (end of SHOPP).

This season's high crude prices resulted from several factors including: political instability in some oil exporting countries and fears over future oil supply; growing worldwide demand (e.g. China and India); recovering global economy thus rising petroleum demand; lack of refineries to process crude oil and meet world demand for petroleum products (US refineries were running at maximum); and hurricanes in the U.S. Gulf Coast which interrupted petroleum production and transportation. As for the hurricane impact, by mid-December shut-in oil production was equivalent to 8.93% of daily production of oil in the Gulf of Mexico, which was approximately 1.7 million BOPD[1]. The 151,777 barrels per day that was shut-in was approximately 0.77% of the 19.7 million barrels consumed in the U.S. each day. The cumulative shut-in oil production for the period 9/11/04-12/16/04 was 35,347,237 barrels, which was the equivalent to 5.843% of the yearly production of oil in the Gulf of Mexico which is approximately 605 million barrels.

Although Saudi Arabia announced in December plans to increase its production capacity, it takes time, and for the next few months at least, spare global oil production capacity remained minimal. While U.S. refinery utilization routinely exceeded 90 percent, utilization rates in Europe and Asia grew to around 90 percent or more. Additionally, increases in oil production were seen mostly in heavier and sour crude oils. Conversely product demand growth was concentrated in light products causing a growing mismatch between the incremental supply of crude oil and increasing product requirements adding strain to the refinery system. Finally, tight global tanker capacity also put increased pressure on prices as tanker rates increased.

Natural Gas

The October 2004 Henry Hub spot price of natural gas averaged $6.31 per million BTU compared to $5.17 per million BTU October 2003. New England spot natural gas prices spiked in mid-January 2005, when the average price hit $25 per million BTU due to severe, cold weather and tight transportation capacity. The New England seasonal average was **$7.73** per million BTU compared to last season's $5.42 per million BTU average.

Inventories Levels Helped Stabilize Prices

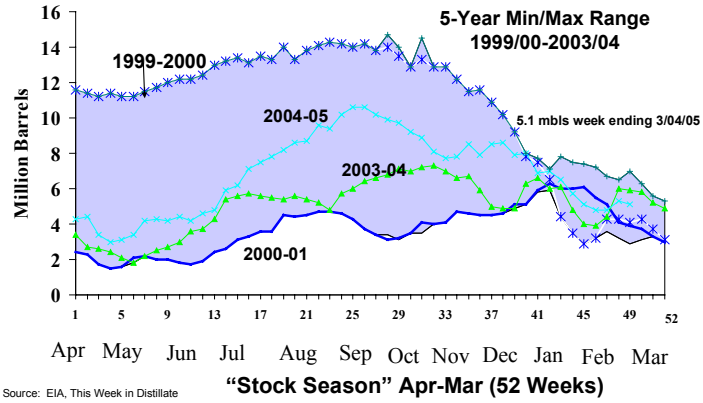
Heating Oil

One piece of good news this winter season was heating oil inventory levels. Despite high crude prices, heating oil inventories in New England remained well within the 5-year average range for most of the season. Heating oil stocks started the heating season at 54% above last year's level. Only in

[1] Barrels of Oil Produced Daily

March did stocks dip below last year's levels, finishing the season 17% below the previous year. Figure 2 illustrates heating oil stock movement over the past year.

Figure 2:
Weekly New England Heating Oil Stocks



Source: EIA, This Week in Distillate

Sales of No. 2 fuel oil (heating oil) in New England account for approximately 31% of total East Coast sales, with sales in Massachusetts accounting for 36% of total New England sales. Approximately 40% percent of homes in Massachusetts heat with fuel oil.

Propane

In the Northeast, propane demand is highly seasonal and its price is influenced by several factors including weather, inventory levels, and the price of crude oil and natural gas.

As the season began, propane stocks on the East Coast were 106% above last year's level, largely due to natural gas companies hitting their storage targets. Propane inventory levels fluctuate throughout the winter. Only a few New England terminals store propane brought in by ships; the rest of the supply comes in by trucks. Caverns in New York and terminals in New Hampshire and Rhode Island are the primary sources of New England's propane.

Sales of propane in New England account for approximately 9% of total East Coast sales, with sales in Massachusetts accounting for 16% of total New England sales. Nearly 3% of homes in Massachusetts heat with propane.

For the second consecutive winter, natural gas supplies remained with-in the five-year average, helping to prevent prices from spiking.

Heating Fuel Prices Reach Record Levels

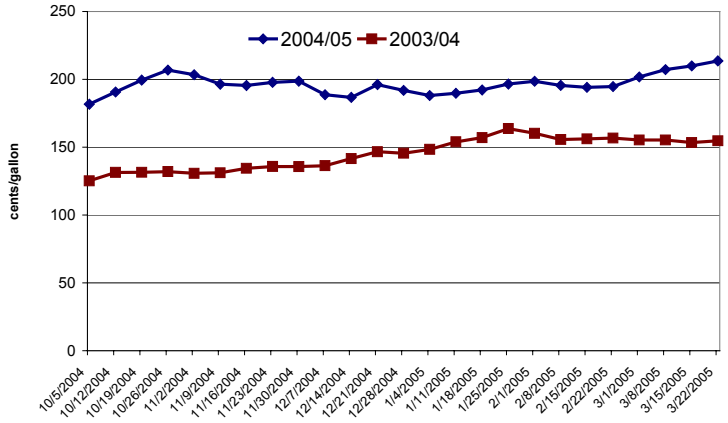
Heating Oil

As previously mentioned Massachusetts finished the winter season with temperatures right around normal and heating fuel supplies well with-in the five-year average. Despite these positive factors, high crude prices drove heating oil prices to hit record highs at the beginning and end of the heating season.

Heating oil prices began the season in October 2004 45% higher than October 2003 at $1.81. Prices rose throughout October tying a record high of $2.07 for the week of October 26th.[2] Prices last hit $2.07 in February of 2000. Prices started to drop after this peak as crude prices stabilized but never reached 2003/04 levels the rest of the winter. Prices fluctuated for most of the season between the high $1.80's and the high $1.90's. However, at the beginning of March, crude prices started rising again and heating oil prices followed. The last week of the SHOPP surveys, prices hit a record $2.10. Prices peaked at $2.21 during the first week of April.

The high and low price, respectively, of the 2004/05 winter was $2.14 per gallon compared to $1.64 the previous year and $1.82 compared to $1.25. Figure 3 illustrates the price comparison for the past two winters.

Figure 3: Weekly MA Heating Oil Prices



Overall, this winter's prices averaged 36% more than last year. ***The average price of $1.97 is 52 cents higher than last year's average of $1.45.***

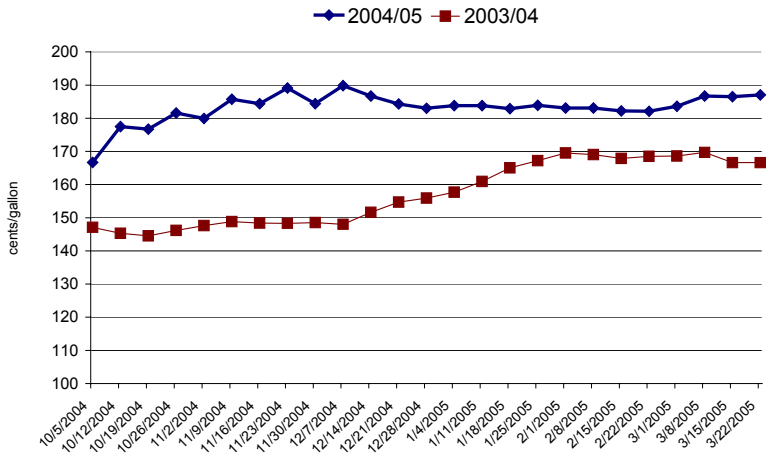
Propane

Propane prices also started the season higher than the previous year. In October 2004, the average retail price per gallon of propane was $1.67 compared to $1.47 in October 2003. While propane did not experience supply issues along the pipelines as in 2003/04, natural gas prices remained high, helping to maintain higher propane prices.

[2] Also known as "the Week the Red Sox Won the World Series."

This winter's propane price averaged 17% higher than last season. The high price of the winter was $1.90 per gallon compared to $1.70 last winter and the low was $1.67 compared to $1.45. The high price of the winter was $1.70 per gallon compared to $1.84 last winter and the low was $1.45 compared to $1.36. Figure 4 compares the prices over that last 2 years.

Figure 4: Weekly MA Propane Prices



The average price per gallon for the winter 2004/05 was $1.83 compared to $1.57 last year.

Natural Gas

Natural gas wholesale prices for New England started at $5.23/mmbtu for the 2004/05 winter season. During 2003/04, prices started at $4.84/mmbtu for New England. Natural gas ended the winter at $7.66/mmbtu compared with $6.14/mmbtu at the end of 2003/04. Despite storage levels above the 5-year average, natural gas demand across the country continues to increases translating to higher prices for consumers.

SHOPP Data Used to Support DOER Activities

One of DOER's most important functions is to provide accurate and timely information on energy prices and supplies to the government, media and consumers of the Commonwealth. SHOPP is a valuable asset to the data collection and price monitoring activities involved in this function. It enables DOER to provide information to policy makers who must act quickly in the event of an emergency. This winter's high prices made this function even more crucial. As heating oil prices rose in the early part of September, DOER issued a press release through our parent agency, the Office of Consumer Affairs and Business Regulation advising consumers to lock-in contract prices early for heating oil.

The release also highlighted the weekly SHOPP surveys and pointed consumers to follow prices through our website.

DOER also uses the SHOPP information during the New England States' and Energy Industry Conference Calls. From October through March, DOER staff participates in weekly calls regarding the winter fuels situation. The calls are hosted by the New England Governors' Conference (NEGC) and participants include energy offices in New England and New York; energy industry representatives including the Northeast Gas Association, ISO-New England; the U.S. Coast Guard, Massachusetts Petroleum Council and the U.S. DOE. Participants exchange data about heating oil, natural gas and electricity winter supplies and prices. These discussions also include status reports on the Northeast Heating Oil Reserve. This winter, states shared information on consumer information being provided to combat the high prices.

As in every winter, DOER uses information from its SHOPP surveys and the NEGC calls to advise the Massachusetts Emergency Management Agency (MEMA) on whether it should issue driver hour waivers for truck drivers of heating fuels. During this snowy January, MEMA called several times about waivers. DOER was able to advise MEMA on supply and transportation issues such as, inventory levels, icing in key harbors and pipeline problems. Using this information, MEMA granted waivers for drivers for several weeks in January.

Other meetings attended by DOER that utilize SHOPP data include the Massachusetts Department of Housing and Community Development's (DHCD) Energy Advisory Meetings. As part of its duties under its management of the Commonwealth's Weatherization Assistance Program (WAP), DHCD holds quarterly meetings on its weatherization and Low-Income Home Energy Assistance Program (LIHEAP), also known as fuel assistance. As a member of this group, DOER provides information on prices and supplies. DHCD briefs group members on the status of these federal programs including funds, allocations, and number of recipients.

DOER also continued its monitoring of the **Energy Benefits Task Force**. This task force meets throughout the year to develop marketing strategies for energy programs including fuel assistance, energy efficiency and utility discounts programs. Members of this group include gas and electric utilities, consumer advocates, state agencies (mainly DOER and DHCD), and community action agencies. This past year, the task force continued its "Energy Bucks" campaign raising public awareness about the aforementioned benefit programs. The utilities plan to continue this campaign through 2006.

SHOPP data is also important to DOER's role providing consumer information. DOER collects and posts pricing information from the SHOPP surveys for heating oil and propane on our website, www.mass.gov/doer. This information is updated weekly during the winter and monthly during the off-season. Numerous groups and consumers use these surveys to measure their

prices. DOER's website also contains consumer tip sheets for fuel assistance, oil heat contracts, oil heat maintenance, and natural gas.

In addition to our own website, DOER maintains the Commonwealth's **Winterheating.com** website. Started in late 2001, Winterheating.com is part of the state's effort to coordinate information on the Commonwealth's Energy Services. Besides DOER, other agencies linked to the Winterheating.com include DHCD, the Department of Telecommunications and Energy (DTE), and the Division of Standards.

The SHOPP program is a critical component in DOER's mission to provide accurate energy price information to the Commonwealth and its citizens. Massachusetts residents traditionally endure long and cold winters and knowing what prices are as well as where they are headed is extremely important. For these reasons, DOER looks forward to its continued participation in SHOPP.