

This Week in Petroleum: December 3, 2008

#### Retrospective Look at Refinery Operations after Hurricanes

Thanksgiving is a time for retrospection. While most of us focus on our families, readers of this commentary may also reflect on industry events. Looking back at Hurricanes Gustav and Ike this past September, we are struck by, and can be thankful for, the contrast between these storms and Hurricanes Rita and Katrina in the fall of 2005. While both pairs of hurricanes wreaked tremendous damage, the refining sector and consumers dodged a bullet in 2008.

The impacts of these hurricanes are evident in the Gulf Coast (PADD 3) refinery outages shown in the figure below. Initially, total outages from both sets of hurricanes were similar, though the September 2008 outage peak in the figure below is higher than the outages shown for 2005. This is because the figure represents monthly averages and the 2005 events spanned two months with Hurricane Katrina reaching the Gulf Coast on August 29 and Rita hitting Louisiana on September 24 while Hurricanes Gustav and Ike created large outages primarily during the single month of September when Gustav hit the Gulf Coast on September 1, followed less than two weeks later by Ike.

Most of the outages in both cases were due to refinery shutdowns as the hurricanes hit the coastal regions. As the figure shows, unplanned outages following Katrina and Rita in 2005 lasted many months while repairs were being made to damaged refineries. In 2008, refineries did not experience nearly as much on-site damage, and many refinery shutdowns lasting from two to three weeks were primarily caused by disruption of their electricity supplies resulting from damage to electricity transmission infrastructure. By October 2008, most refineries were back on line, although not all at full production.

At the end of August 2008, before the hurricanes, retail conventional gasoline prices were averaging \$3.68 nationally. With refineries out of commission after both pairs of hurricanes, gasoline inventories plunged as they were drained to help meet demand. Gasoline inventories actually reached lower levels in 2008 than in 2005. In both cases, retail outages along the pipelines were mainly caused by the loss of refinery supply into the pipelines. Since tight supply often leads to higher prices, a large price jump, as occurred in 2005, might have been expected on top of already high prices. However, while prices did increase temporarily, particularly in areas of the South where retail outages were concentrated, national average gasoline prices did not spike as they did in 2005. Crude oil prices were already declining by this point in 2008, helping to keep retail prices in check. Furthermore, suppliers had learned from the 2005 hurricanes how to better manage supplies under similar conditions.

All in all, implementation of lessons learned combined with good luck to make the impact of this year's hurricane season much less than it might have been something we can all be grateful for.

Figure: PADD 3 Refinery Outages (Monthly Averages) Figure: PADD 3 Refinery Outages (Monthly Averages)

Source: Industrial Info Resources, Inc. Database, November 25, 2008.

#### Residential Heating Fuel Prices Slow Their Decline

Residential heating oil prices applied the brakes to their freefall during the period ending December 1, 2008. The average residential heating oil price fell 3.2 cents last week to reach 268.1 cents per gallon, which was a decrease of 59.3 cents from this time last year. Wholesale heating oil prices decreased by 1.2 cents, reaching 182.4 cents per gallon, which was a drop of 77.9 cents compared to the same period last year.

The average residential propane price decreased 1.5 cents to reach 240.0 cents per gallon. This was a decrease of 6.1 cents from the 246.1 cents per gallon average for this same time last year. Wholesale propane prices gained 4.7 cents per gallon, increasing from 81.2 cents to 85.9 cents per gallon. This was a decrease of 70.1 cents from the December 3, 2007 price of 156.0 cents per gallon.

#### Gasoline and Diesel Prices Continue Downward Descent

The average price of regular gasoline fell in all regions of the country and for the first time since January 31, 2005, the average price slipped below \$2 a gallon in all major regions of the country. The national average dipped 8.1 cents to 181.1 cents per gallon; the price is now 230.3 cents below the all-time high set on July 7 of this year, and 125 cents lower than the price a year ago. The average price on the East Coast fell 9.3 cents to 186 cents per gallon. Although the price slipped only 3.3 cents, at 171.7 cents per gallon, the average price in the Midwest was again the lowest of any region. The average price on the Gulf Coast was 173.2 cents per gallon, reflecting a drop of 7.3 cents. In the Rocky Mountains, the price fell 10.9 cents to 173.8 cents per gallon. The price on the West Coast plunged 14.5 cents, the most of any region, to 197.2 cents per gallon falling below \$2 a gallon for the first time since January 31 of 2005. The price in California tumbled 15.7 cents, hitting 195.5 cents per gallon,

also the first time that price was below \$2 a gallon since January of 2005.

The U.S. average diesel price slipped 4.9 cents to 261.5 cents per gallon, 80.1 cents below the price a year ago and the lowest since February 26, 2007. Once again, prices fell throughout the country. On the East Coast, the average price dipped 5.3 cents to 273.5 cents per gallon, 70.9 cents lower than the price a year ago. The price in the Midwest dropped 4.6 cents to reach 257.8 cents per gallon. The average price in the Gulf Coast slipped 4.2 cents to 255.6 cents per gallon. For the second week in a row, prices in the Rocky Mountains fell the most of any region, dropping 6.7 cents to hit 257.7 cents per gallon. On the West Coast, the average price fell 5.5 cents to 255.3 cents per gallon, the lowest of any region, and the lowest for the West Coast since January 2, 2006. In California, the average price shrank 6.7 cents to 253.8 cents per gallon.

#### November Draw on Propane Inventories Nearly Flat

Preliminary estimates show the November draw on primary inventories of propane totaled less than 0.1 million barrels, the lowest for this month since a stockbuild in 2005. In comparison, the most recent 5-year average stockdraw during November totaled about 1.9 million barrels. Moreover, propane inventories remained relatively flat at an estimated 60.3 million barrels as of November 28, 2008, a level that remains only slightly below the average range for this time of year.

Regional inventories fell in the East Coast and Midwest with similar 0.3 million-barrel declines, while on the Gulf Coast, inventories soared higher by 0.7 million barrels. The combined Rocky Mountain/West Coast region reported relatively flat inventories during this same time. Propylene non-fuel use inventories moved up by 0.2 million barrels to account for a higher 5.8 percent share of total propane/propylene inventories, up from the prior week's 5.5 percent share.

#### Summary of Weekly Petroleum Data for the Week Ending November 28, 2008

U.S. crude oil refinery inputs averaged nearly 14.6 million barrels per day during the week ending November 28, down 258 thousand barrels per day from the previous week's average. Refineries operated at 84.3 percent of their operable capacity last week. Gasoline production fell last week, averaging 8.7 million barrels per day. Distillate fuel production decreased last week, averaging 4.3 million barrels per day.

U.S. crude oil imports averaged 9.5 million barrels per day last week, down nearly 1.5 million barrels per day from the previous week. Over the last four weeks, crude oil imports have averaged nearly 10.0 million barrels per day, 17 thousand barrels per day below the same four-week period last year. Total motor gasoline imports (including both finished gasoline and gasoline blending components) last week averaged 884 thousand barrels per day. Distillate fuel imports averaged 116 thousand barrels per day last week.

U.S. commercial crude oil inventories (excluding those in the Strategic Petroleum Reserve) decreased 0.4 million barrels from the previous week. At 320.4 million barrels, U.S. crude oil inventories are in the upper half of the average range for this time of year. Total motor gasoline inventories decreased by 1.6 million barrels last week, and are below the lower boundary of the average range. Finished gasoline inventories fell last week while gasoline blending components inventories increased during this same time. Distillate fuel inventories declined by 1.7 million barrels, and are below the lower boundary of the average range for this time of year. Propane/propylene inventories remained flat last week and are slightly below the lower limit of the average range. Total commercial petroleum inventories decreased by 0.4 million barrels last week, and are in the middle of average range for this time of year.

Total products supplied over the last four-week period has averaged nearly 19.3 million barrels per day, down by 6.2 percent compared to the similar period last year. Over the last four weeks, motor gasoline demand has averaged 8.9 million barrels per day, down by 3.2 percent from the same period last year. Distillate fuel demand has averaged nearly 4.0 million barrels per day over the last four weeks, down by 2.2 percent from the same period last year. Jet fuel demand is 16.7 percent lower over the last four weeks compared to the same four-week period last year.