

This Week in Petroleum: September 17, 2008

The Second Hurricane Punch Softer than Feared

The United States took a one-two punch to the petroleum sector from back-to-back early-September Hurricanes Gustav and Ike, coming just 12 days apart. Hurricane Gustav's center made landfall along the Louisiana coast September 1, just as the petroleum industry was drawing down summer gasoline inventories to replace them with winter-grade volumes. Both crude supplies and refinery production were knocked out, and gasoline inventories fell well below the typical range for this time of year. Before the industry could recover from Gustav, Hurricane Ike swept through the Gulf Coast, making landfall at Galveston, Texas on September 13. At this point, in contrast to the impacts of Hurricanes Katrina and Rita, it appears that the petroleum industry did not experience much damage. Nevertheless, supplies have been affected.

At the peak of preparations for Hurricane Gustav and later for Hurricane Ike, almost all U.S. Gulf of Mexico crude production was shut-in 1.3 million barrels per day. Fifteen refineries were reported closed in Texas and Louisiana, equivalent to 3.9 million barrels per day of capacity 22 percent of total U.S. capacity or 46 percent of Petroleum Administration for Defense District (PADD) 3 capacity. Another nine refineries reduced their crude oil throughput. As of Wednesday morning (September 17), shut-in Gulf of Mexico crude production remained at 1.3 million barrels per day while 12 refineries remained closed and 9 refineries were reducing runs.

As during Gustav, the Federal Government issued fuel waivers to help keep product markets as well supplied as possible, and the U.S. Department of Energy (DOE) reported that the Strategic Petroleum Reserve began delivery of 439,000 barrels of emergency exchange oil to ConocoPhillips Wood River refinery along the Capline pipeline system. The DOE also announced delivery of 239,000 barrels of emergency exchange oil to Placid Oil's Port Allen refinery along a Shell pipeline in Louisiana and 750,000 barrels to Marathon's Midwest refineries along the Capline pipeline system.

The most recent Energy Information Administration data for the week ending September 12, immediately before landfall of Hurricane Ike, show that U.S. crude oil refinery inputs averaged over 13.2 million barrels per day, down about 0.2 million barrels per day from the previous week's average. Gasoline production averaged about 8.3 million barrels per day, 0.1 million barrels per day less than the previous week, while distillate fuel production decreased 0.1 million barrels per day to 3.8 million barrels per day.

Actual refinery recovery dates are still not well established. Recoveries after Gustav generally varied from about 6 to 14 days. To illustrate the issue, assume all refineries out on September 13 remain out through Friday, September 19. In this case, the cumulative loss of refined products since August 31 (the day before Gustav made landfall) would be nearly 53 million barrels. Out of the nearly 53 million barrels in lost production, gasoline would account for about 25 million barrels and distillate 17 million barrels. The lost production would be roughly equivalent to a full week's production from all PADD 3 refineries. However, this estimate does not consider that increased production from other refineries may have contributed to help mitigate the impact.

Wholesale gasoline prices saw a classic run-up before the storm on fears of seriously curtailed supply at the same time that the distribution system was drained from end-of-season gasoline inventory changeovers and Hurricane Gustav. Last Thursday, wholesale gasoline prices in the U.S. Gulf Coast region jumped 44 percent, the biggest daily increase since 1973, as refiners shut down plants in anticipation of Hurricane Ike. Gasoline for sale at Gulf Coast terminals rose \$1.40 to \$4.56 a gallon

midday Thursday and moved even higher Friday to \$4.87 a gallon.

But after the storm, initial infrastructure assessments showed little structural damage, setting the stage for some price recovery in the wholesale markets. Other market factors have also begun to contribute to some softening in soaring wholesale prices. U.S. refinery capacity utilization has been low this year, in large part due to falling petroleum demand. Consequently, refineries not affected by the hurricanes have some room to ramp up and help fill the product gap. The locations of these refineries may limit their ability to get product to where it is most needed. World refining capacity is also available to send extra product imports to the United States, and relative prices are encouraging these imports. Finally crude prices fell substantially on bad news from the financial markets that raised further concerns over the global economy and the potential for further softening in world petroleum demand. West Texas Intermediate (WTI) crude prices reached a seven-month low on Monday. The WTI contract price for October delivery fell even further on Tuesday to \$91.15 a barrel in trading on the New York Mercantile Exchange (NYMEX), \$10.03 (24 cents per gallon) below Friday's close. The spot price of gasoline in New York Harbor fell over 40 cents per gallon during this same period, in part reflecting crude oil declines, but with added downward pressure also reflecting the apparent lack of long term refinery damage, good news on relatively early refinery and distribution system recoveries, potential increases in product imports, and recent evidence of further weakening in gasoline demand.

For consumers, retail prices are already high and could go higher in some areas depending on how long shut-in petroleum infrastructure remains offline. After a shutdown of this magnitude, and with many areas of the distribution system drained of product, it will take some time for flows to resume. Delays in product recovery stem for a variety of factors. Evacuated terminal, pipeline, and refinery employees must be able to return to work, and it may take some time before authorities allow people back into the most severely affected areas. Access to crude oil is delayed as ports reopen and ships wait in line and as crude pipelines restart. The pace of power restoration will determine how quickly affected pipelines and refineries can return to normal operations. Finally, after power and crude access are restored, refineries return to full production slowly, taking a week or longer, absent major problems. Until affected refineries are pumping product into the pipelines, the pipelines cannot deliver products to consuming areas on the East Coast and Midwest.

EIA's weekly report of average U.S. retail gasoline prices rose for the first time in two months on Monday, moving up 18.7 cents to \$3.84 per gallon, but still not fully reflecting the fly up in wholesale prices. Different areas are experiencing widely different prices, depending on local supply conditions. But the current spike in gasoline prices may be short-lived as refineries are placed back on-line and pipelines increase flows over the next few weeks.

More up-to-date information on Hurricane Ike's impact on U.S. oil infrastructure is available on the [Department of Energy Emergency Situation Reports](#) and the [EIA Report on Hurricane Impacts on U.S. Energy](#) websites.

Gasoline Prices Surge in Wake of Hurricane Ike

Propelled by temporary refinery outages resulting from Hurricanes Gustav and Ike, the U.S. average retail price for regular gasoline increased for the first time in ten weeks, shooting up 18.7 cents to hit 383.5 cents per gallon. Despite the storm-related price surge, the price was still 27.9 cents below the all-time high set on July 7. Regional price changes were mixed, going up east of the Rocky Mountains and dropping slightly in the West. The average price in the East Coast jumped 20 cents to 380.9 cents per gallon. In the Midwest, the price soared 31 cents to 394.6 cents per gallon, the highest price among the five regions. The price in the Gulf Coast shot up by 20.6 cents to 375.7 cents per gallon. In contrast,

the price in the Rocky Mountains fell for the eighth consecutive week, moving down 1.3 cents to 375.4 cents per gallon, now the lowest average price of any region. The price on the West Coast dropped another 4.3 cents, marking the twelfth consecutive drop in that region. At 377.0 cents per gallon, the West Coast price fell below the national average price for the first time since September 10, 2007. The price in California dropped 5.5 cents to 380.4 cents per gallon.

The average U.S. retail diesel price continued its downward slide, dropping another 3.6 cents to 402.3 cents per gallon, reaching its lowest point since April 7. During the past nine weeks, diesel prices have fallen 74.1 cents from the all-time high set on July 14. Prices fell throughout the nation with the exception of the Lower Atlantic section of the East Coast where the price inched up 1.3 cents. The average price on the East Coast, however, dipped 1.8 cents to 408.2 cents per gallon. The Midwest continued to have the lowest price in the Nation, dropping another 4.2 cents to reach 397.3 cents per gallon. This was the first time the diesel price for any region slipped below \$4 a gallon since April 7. The average price in the Gulf Coast slipped just 4-tenths of a cent to 401.1 cents per gallon. The price in the Rocky Mountains dropped 6.4 cents to 404.1 cents per gallon. The West Coast price went down more than any other region, slumping 10 cents to 405.6 cents per gallon. In California, the average price plunged 13.2 cents to hit 405.3 cents per gallon.

Propane Inventories Show Moderate Build

For the second week, primary inventories of propane defied hurricane disruptions and showed a moderate 1.1 million-barrel build last week. As of September 12, the Nation's supply of propane stood at an estimated 55.5 million barrels, a level that continues on a path below the normal range for this time of year. Regional activity showed mixed results last week, with Midwest inventories down by 0.4 million barrels while Gulf Coast inventories showed an increase of 1.3 million barrels. Inventories in the East Coast and the combined Rocky Mountain/West Coast regions remained relatively unchanged during this same time. Propylene non-fuel inventories also remained relatively flat last week, although its share to total propane/propylene inched lower to 5.8 percent from 5.9 percent from the prior week.

Summary of Weekly Petroleum Data for the Week Ending September 12, 2008

U.S. crude oil refinery inputs averaged 13.2 million barrels per day during the week ending September 12, down 246 thousand barrels per day from the previous week's average. Refineries operated at 77.4 percent of their operable capacity last week. Gasoline production fell last week, averaging 8.3 million barrels per day. Distillate fuel production decreased last week, averaging 3.8 million barrels per day.

U.S. crude oil imports averaged 8.5 million barrels per day last week, down 71 thousand barrels per day from the previous week. Over the last four weeks, crude oil imports have averaged 9.2 million barrels per day, 1.1 million 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 nearly 1.0 million barrels per day. Distillate fuel imports averaged 131 thousand barrels per day last week.

U.S. commercial crude oil inventories (excluding those in the Strategic Petroleum Reserve) decreased by 6.3 million barrels from the previous week. At 291.7 million barrels, U.S. crude oil inventories are in the lower half of the average range for this time of year. Total motor gasoline inventories decreased

by 3.3 million barrels last week, and are below the lower boundary of the average range. Both finished gasoline inventories and gasoline blending components inventories decreased last week. Distillate fuel inventories decreased by 0.9 million barrels, and are in the middle of the average range for this time of year. Propane/propylene inventories increased by 1.0 million barrels last week but remain below the lower limit of the average range. Total commercial petroleum inventories decreased by 11.9 million barrels last week, and are at the lower boundary of the average range for this time of year.

Total products supplied over the last four-week period has averaged about 19.9 million barrels per day, down by 4.4 percent compared to the similar period last year. Over the last four weeks, motor gasoline demand has averaged 9.2 million barrels per day, down by 2.6 percent from the same period last year. Distillate fuel demand has averaged 4.0 million barrels per day over the last four weeks, down by 2.7 percent from the same period last year. Jet fuel demand is 7.6 percent lower over the last four weeks compared to the same four-week period last year.