

Testimony of
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before the
Appropriations Committee
Subcommittee on Energy and Water Development
United States Senate

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Mr. Chairman and Members of the Committee, I appreciate the opportunity to appear before you today to discuss supply and price concerns in the upper Midwest, including North Dakota.

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Before turning specifically to the Midwest and North Dakota, I will briefly discuss the national market situation that was affecting the entire United States. This past year has brought unusually tight market situations both in the upstream (crude production) areas as well as the downstream (refining). As the lowest line in **Figure 1** shows, crude oil prices have climbed steadily throughout the year, pushing prices up to average nearly \$34 per barrel higher in November than they were in January 2007.

Retail petroleum product prices have not only reflected this crude oil price increase, but rose even faster than crude during the spring and early summer, reflecting tightness in the gasoline supply-demand balance. From late January through the middle of May, national average retail gasoline prices rose from \$2.17 to \$3.22 per gallon, an increase of \$1.05. Crude oil, however, only rose about 30 cents per gallon during this same time period.

The main reason for the surge in gasoline price over crude oil seemed to be unusually extensive U.S. refinery outages, which also pushed the limits of gasoline import availability. In the face of rising demand for gasoline and distillate products (e.g., diesel fuel and heating oil), supply was not able to keep up, drawing product inventories down, while the price differential to crude oil increased.

Turning to the Midwest, refinery outages affected this region more than usual. One useful regional breakdown of oil data that is used consistently across weekly, monthly, and annual EIA oil data is the Petroleum Allocation for Defense Districts, often referred to as “PADDs.” PADD 2, which covers the entire Midwest, is served not only by refineries in the Midwest, but also by refineries in the Gulf Coast that move products into the Midwest through pipelines. About 25 percent of the gasoline used in the Midwest comes from the Gulf Coast. For example, one major pipeline, the Explorer, moves product from the Gulf to areas east of the Mississippi. Another pipeline, the Magellan system, serves areas mainly west of the Mississippi, including North Dakota, and is fed mostly by refineries in Oklahoma, Kansas, Minnesota, and Wisconsin rather than by Gulf Coast refineries. The Magellan system runs from Texas and has branches through Oklahoma, Kansas, Missouri, Nebraska, South Dakota, North Dakota, Minnesota, Wisconsin, Iowa, and Illinois. **Figure 2** shows the portion of the Magellan system serving the Midwest. The Magellan system connects to the Explorer Pipeline in Glenpool, Oklahoma, allowing some additional access to refineries on the Gulf Coast.

For the first half of 2007, refining outages on the Gulf Coast and in the Midwest averaged 1.2 million barrels per day, which is 500 thousand barrels per day higher than average for the 5 years from 2001 through 2005. The Gulf Coast (PADD 3) refineries

had outages that were about 50 percent higher than their 5-year average outages, affecting supplies into the Midwest as well as other areas, and PADD 2 refineries ran 30 percent over their 5-year average outages. Outages have continued to affect these areas. In September and October, preliminary information indicates Midwest distillation unit outages averaged about 370 thousand barrels per day, which is more than twice the 5-year historical levels for that time of year.

Midwest gasoline demand typically peaks in the months of June, July, and August, while Midwest distillate demand peaks in September and October, varying somewhat depending on the harvest season. The unusually large refinery outage situation in 2007 resulted in the cutoff of product flow to terminals at the pipeline extremes, which means trucks must travel further to reach terminals with product. Additionally, inventories were drawn down as gasoline and then distillate demand peaked. Towards the end of August, EIA weekly data showed Midwest gasoline inventories had dropped to their lowest level in 7 years. The areas that generally experience the most supply problems are those that are at the ends of the distribution system, such as North Dakota and Michigan. For example, from 2003 through 2006, gasoline prices in those States on average tended to fluctuate a penny or two around the national average. In 2006, both States averaged about 1 cent per gallon below the national average gasoline price. However, from June through early November 2007, they averaged about 16 and 15 cents per gallon over the national average, respectively.

North Dakota receives supplies from the Magellan and the NuStar pipeline systems. In addition, it receives product from a number of northern refineries such as the

Tesoro refinery located in Mandan, North Dakota, and the Cenex refinery in Laurel, Montana, via a proprietary pipeline.

A number of the refineries that provide supplies to North Dakota experienced outages, both planned and unplanned. The Coffeyville refinery in Kansas that flooded this past summer feeds directly into the Magellan system. Outages in other refineries affected the area as well. Any area needing supply will draw on areas that have supply, affecting all prices. Some of the largest Midwest refinery outages were at refineries that serve areas further east, such as the outage at BP's Whiting, Indiana, refinery, which began this past summer and has continued. This has several impacts. First, there will be increased competition for product from refineries in the upper Midwest that can move product into areas served by Whiting. Second, there will be increased competition for supply from pipelines like the Explorer that move product up from the Gulf Coast. This pull on supply competes with volumes that might otherwise move further west.

Planned outages can be less disruptive than unplanned outages, but still can contribute to tighter supplies. Refiners generally try to schedule planned outages during off-peak demand seasons in late winter and again in the fall. Refiners usually line up alternative supplies to meet their contractual needs in advance of a planned outage, but this still can leave less supply in an area than might otherwise be the case because many refineries also provide opportunistic or non-contractual volumes to wholesalers that rely at least partially on spot purchases. A refiner planning an outage generally would not arrange alternative supplies for potential spot buyers. In addition, sometimes the duration of a planned outage will be longer than originally expected. One reason is that unanticipated problems may be discovered when maintenance begins. When a planned

outage goes into overtime, the supply that had been arranged may not be adequate to cover the additional time out of operation, causing the refiner to buy more product on the spot market, adding to short-term price pressure. Also, when unplanned outages and/or unusual demand overlap with planned outages, the planned outages cannot always be postponed. The outage may be necessary for safety reasons, and tight supply of the skilled labor required to perform the maintenance may preclude rescheduling.

During times such as were seen this past summer, the Federal and State governments look at options to relieve the situation. At the end of August, the Federal government granted North Dakota's request for a waiver to use some gasoline supplies from Canada that were thought to be slightly "off-spec" from U.S. summer gasoline requirements. Still, gasoline supplies remained tight. Meanwhile, diesel prices were also rising with growing harvest demand. I understand that State and Federal government staff discussed the distillate supply and determined that a waiver would not provide any relief since distillate supplies were not available to respond to a waiver. In addition, refinery supply from some of the outage loss was returning. Terminal outages this past summer and early fall required truck drivers to travel long distances to find product. As a result, North Dakota and other affected States issued executive orders extending service hours for truck drivers delivering fuel supplies (also approved by the Federal Motor Carrier Safety Administration) to help make this situation more practical.

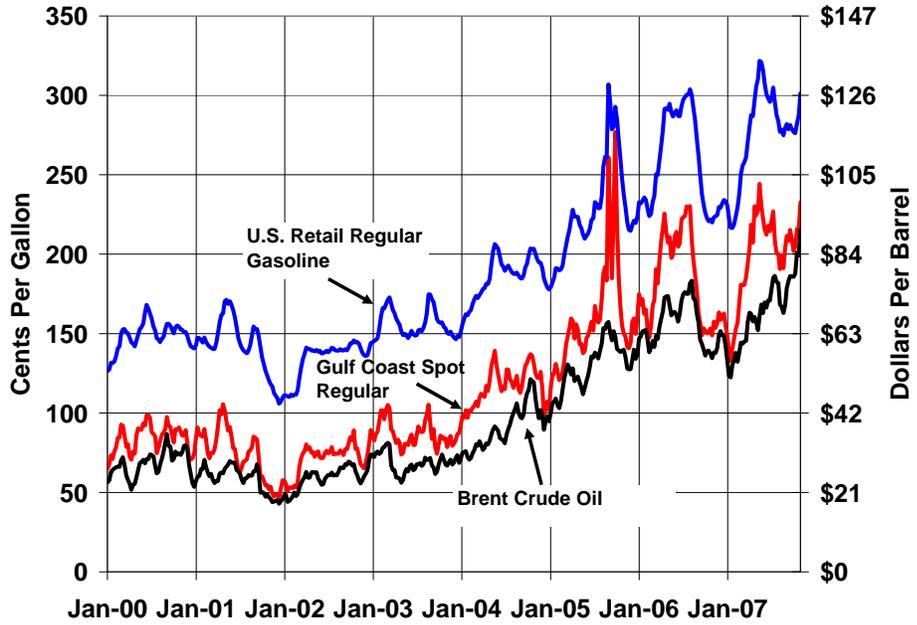
While demand will be winding down in the Midwest, we understand it still is relatively strong, particularly in North Dakota. Early-November PADD 2 outages were high in the Midwest and, while the situation is now starting to improve, we are aware that North Dakota is still experiencing terminal and retail shortages. Refineries are returning

to more normal operation, which will ease the tight balance in North Dakota, but we cannot predict exactly when the problems will cease. Prices in North Dakota have backed down somewhat, relative to the national average, indicating an improvement in the balance, but with crude prices pushing up all prices, gasoline and diesel prices remain high in the State.

Looking ahead into 2008, both crude prices and refinery constraints should ease somewhat. Today's very high crude prices are expected to fall back to average close to \$80 per barrel in 2008. At the same time, refinery availability should improve. Both BP's Whiting and Texas City refineries may return to more normal operations, adding as much as 325 thousand barrels per day of capacity to PADDs 2 and 3 next summer over this past summer. In addition, the U.S. could see another 100 thousand barrels per day of capacity from more normal reliability and some small expansions. Increased use of ethanol in gasoline should also add to U.S. gasoline supply in 2008. EIA is projecting that overall regular gasoline prices may average \$2.97 per gallon in 2008, which is 18 cents per gallon higher than the 2007 average mainly due to higher crude prices, but lower than the \$3.11 seen on November 12. Similarly, 2008 diesel prices are projected to average \$3.09 per gallon, which is 23 cents per gallon higher than in 2007, but lower than the \$3.42 reported by EIA on November 12.

This concludes my statement, Mr. Chairman, and I will be happy to answer any questions you and the other Members may have.

Figure 1. Gasoline and Crude Oil Prices



Source: Reuters Weekly Average Brent crude oil spot price and Gulf Coast regular gasoline spot price; EIA U.S. regular gasoline retail price.

