

# ONRR Year In Review

## Fiscal Year 2010 in Review

### Overview:

Fiscal Year (FY) 2010, October 2009 through September 2010, saw a return of stability to the domestic oil and gas commodity markets following the last two tumultuous years (FY 2008 and FY 2009). Factors that normally drive commodity volatility such as economic changes, rising and falling supply and demand, financial market technical factors, geopolitical risk, and localized weather events were relatively stable during FY 2010.

Crude oil prices recovered from the dramatic fall that occurred in FY 2009. New York Mercantile Exchange (NYMEX) West Texas Intermediate (WTI) values averaged \$77.30 per barrel in FY 2010, a 33 percent increase from the FY 2009 average of \$57.76 per barrel. The WTI prices were relatively flat in FY 2010, trading in a range from \$68 to \$87. Gone in FY 2010 were the radical price swings that were caused by the economic downturn. The price difference (basis) between the Gulf of Mexico (GOM) and onshore Federal oil production widened in FY 2010 due to variations in supply, demand, quality, and high storage inventories at Cushing, Oklahoma. Federal oil volumes subject to royalty payments were up about 5 percent from FY 2009 as GOM volumes recovered from the FY 2009 hurricanes and onshore volumes reflected growth in shale areas. Additionally, ONRR's Strategic Petroleum Reserve (SPR) program was active for only three months in FY 2010 and ended in December 2009. The allocated SPR volumes were significantly lower than previous SPR programs, representing only 0.5 percent of offshore royalty production.

Natural gas prices also recovered from low prices early in FY 2010, although the average daily price at Henry Hub of \$4.49 was only 1 percent higher than the FY 2009 average of \$4.45. The latter half of FY 2010 showed a slow, steady decline of gas prices as demand remained flat while supply was increasing. Variations in the price basis between the GOM and onshore Federal gas production, and between producing and consuming areas, narrowed significantly in FY 2010. Increases in Mid-continent shale gas production has put downward pressure on GOM prices while pipeline infrastructure improvements have strengthened Rockies prices

### Oil Volume Observations:

Oil Volumes by Sales Year



Onshore and offshore total sales volumes based on sales year (without prior period adjustment)

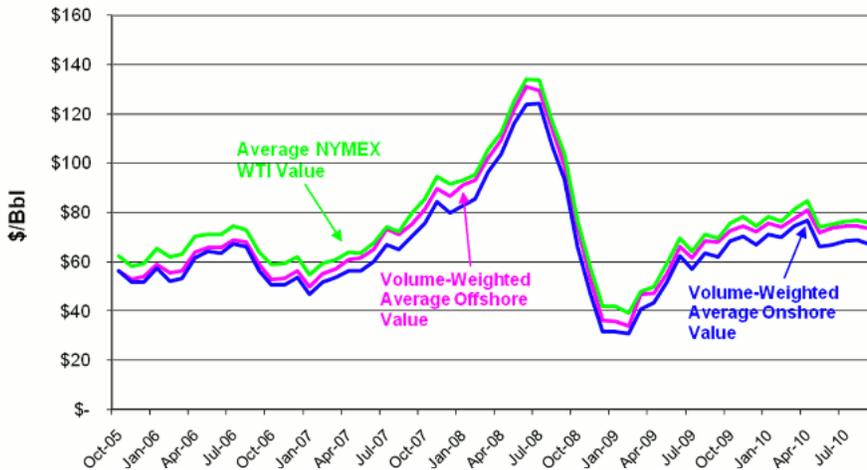
Offshore oil production has been steady since FY 2005, notwithstanding decreases attributable to hurricane outages. Increasing production from larger deep-water fields has offset the declining production rates from many older, smaller (GOM) fields. The 2010 hurricane season was mild and did not significantly threaten Gulf of Mexico oil production. The SPR program completed shipments in December 2009; it represented just 0.5 percent of the total offshore oil royalty production through the three month duration of the contracts. These contracts were issued to help DOE "top off" the SPR at its capacity of 727 billion barrels.

Onshore crude oil production increased about 4 percent in FY 2010 with falling production rates from older onshore fields being more than offset by:

- increasing oil production from North Dakota’s Bakken shale (a 40 percent increase since FY 2008) and other onshore shale plays,
- increasing condensate production from onshore gas fields, and
- Enhanced Oil Recovery projects.

**Oil Value Observations:**

**Oil Unit Values by Sales Year**



Monthly values are calculated by dividing monthly reported sales value by sales volume using sales year data (without prior period adjustments) for both RIV and RIK transactions

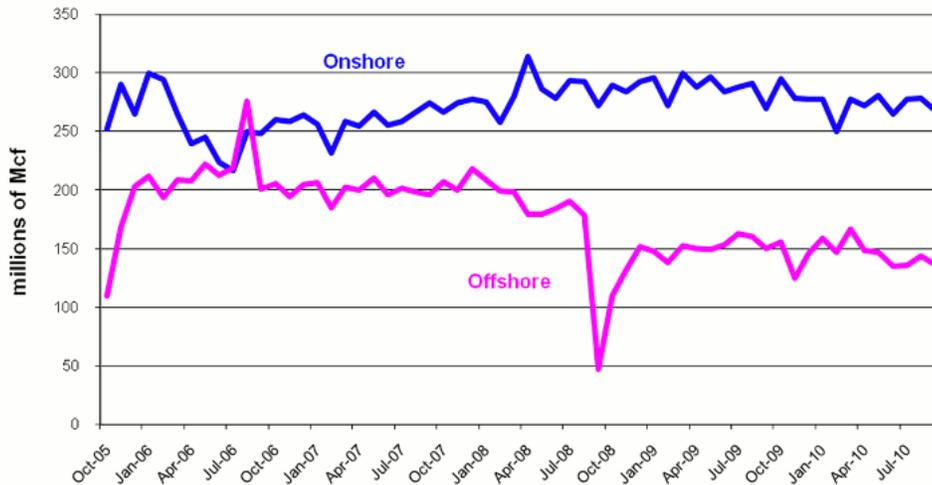
FY 2010 oil prices remained relatively flat for the year after experiencing tremendous volatility during FY’s 2008 and FY 2009. When the oil sales value per unit reported to ONRR is compared to the NYMEX WTI value, a slight divergence is seen. This is due to the fact that much of the Federal production is heavy sour which receives a significant discount from WTI in the marketplace due to low API gravity and high sulfur content. The discount relates to the limited product yield and/or additional sulfur removal refinery considerations for these barrels versus the light sweet composition of WTI.

Onshore discounts to WTI have historically been deep, as this production can be very heavy. Heavy crude is suitable for limited use in applications such as asphalt or roofing-material production. In FY 2010, there has been a significant narrowing of GOM crude type differentials to WTI. This narrowing was due to rapidly filling storage at Cushing resulting from an increase in supply of Canadian crude and U.S. unconventional production and from bottlenecks in mid-continent regional infrastructure.

Both onshore and offshore values reported to ONRR may also include deductions for transportation and pipeline quality considerations resulting in a reduction in unit value. Royalty regulations allow these deductions and they typically range from \$1 to \$2 per barrel offshore and under \$1per barrel onshore.

**Natural Gas Volume Observations:**

**Natural Gas Volumes by Sales Year**



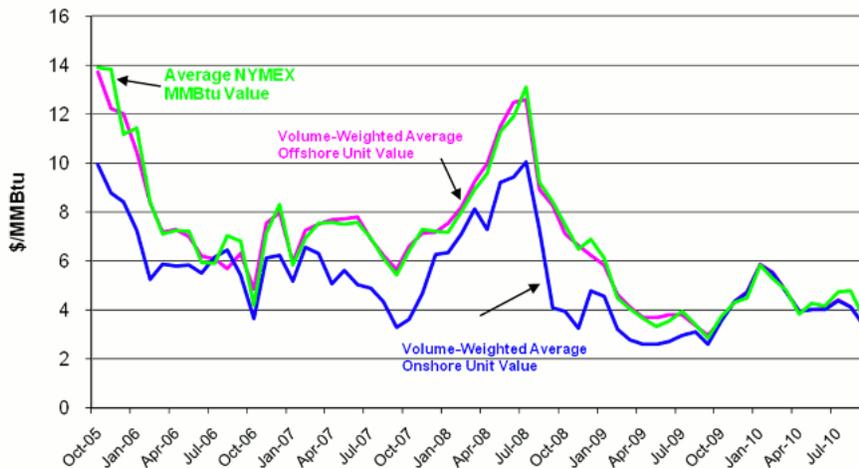
Onshore and offshore total sales volumes based on sales year (without prior period adjustment)

Overall, offshore gas production is steadily declining, especially on the shelf portion of the Gulf of Mexico, although FY 2010 volumes were down only 1 percent from FY 2009 much less than the 12.5 percent decline from FY 2008 to FY 2009. This decline is due primarily to an absence of hurricane activity in FY 2010.

Onshore gas production in FY 2010 decreased 4 percent from FY 2009. Some of this decline may be attributable to the weakness in the natural gas price. Whether this lower production trend continues into FY 2010 depends on the extent the lower prices dampen drilling and further expansion of pipeline infrastructure projects.

**Natural Gas Value Observations:**

**Natural Gas Unit Values by Sales Year**



Monthly values are calculated by dividing monthly reported sales value by sales volume using sales year data (without prior period adjustments) for both RIV and RIK transactions

FY 2010 natural gas values recovered slightly from the decline experienced in FY 2009. Gas prices increased through early January 2010 due to unexpected storage withdrawals resulting from cold weather in the consuming regions. Increased gas supply from unconventional sources kept downward pressure on prices in FY 2010.

Offshore Gulf of Mexico values closely follow the average NYMEX Henry Hub value with some slight variance due to differences in local price indices and allowances for transportation and processing costs.

Onshore values typically trend lower than the NYMEX value because of limited onshore pipeline infrastructure and the remote locations of many onshore fields. Local onshore pricing indices show this differential when compared against the NYMEX Henry Hub value. This spread narrowed significantly in FY 2010 due to: (1) increased shale supply putting downward pressure on Henry Hub and (2) construction of several significant pipeline projects designed to move more gas from these discounted markets to more populated demand centers with stronger index values. Completion of the REX pipeline greatly improved the price basis between the Rockies, the Mid-Continent, and the Consuming East. The 310-mile TransCanada Bison pipeline is under construction and will run from Gillette, Wyoming, through southeastern Montana and North Dakota feeding other pipelines serving the Midwest. El Paso Corporation's Ruby pipeline is also under construction and will run from Opal, Wyoming to Malin, Oregon serving the West Coast. These pipeline projects will move more natural gas out of the Rockies and should continue to maintain or improve the Rockies basis with the consuming regions. Barring any construction delays, both pipelines are scheduled to be completed in FY 2011.