United States Department of the Interior

BUREAU OF OCEAN ENERGY MANAGEMENT
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Annual Price Threshold Determination Technical Documentation

This documentation explains in detail how the Bureau of Ocean Energy Management (BOEM) calculates the annual oil and gas prices and applicable price thresholds used to determine whether royalty relief applies in a calendar year for our various deepwater and deep drilling royalty relief programs. The data and methodology used for making the calculations and determinations, as well as additional information and notes to help understand this document, are included in the discussion below. The prices and applicable price thresholds resulting from this calculation for all years since 1996 are available for download at Historical Price Threshold Determination Data. Visit BOEM's Royalty Relief web page for additional information.

Calculating the Actual Annual Average New York Mercantile Exchange (NYMEX) Nearby Delivery Price

1. **Nearby Delivery Month.** BOEM uses the NYMEX price for the nearby delivery month or front month. This is the price on that exchange for the first contract or earliest month that delivery or inventory is available for buying and selling today's product. The nearby delivery month is not always the next month. The NYMEX trading rules that determine the nearby delivery month differ for oil and natural gas:

    a. *Crude Oil:* Trading terminates 3 business days prior to the 25th calendar day of the month prior to the contract month. If the 25th calendar day is not a business day, trading terminates 4 business days prior to the 25th calendar day of the month prior to the contract month.

    b. *Natural Gas:* Trading terminates on the third business day prior to the end of the month. This means that, on the second business day prior to the end of the month, the nearby delivery month is now 2 months away.

2. **Settle Price.** The daily NYMEX closing price is listed as the settle price at the end of business trading hours for each commodity. These prices are listed at https://www.cmegroup.com/.

3. **Monthly Average.** The daily closing average is used to calculate the monthly average. For holidays and weekends, we use the closing average from the previous business day. Our analysis indicates that inclusion or exclusion of weekends and holidays does not bias the annual average price calculation in either direction. We include the weekends and holidays to avoid the necessity of keeping track of actual trading days each month all year.

4. **Annual Average.** The monthly average is used to calculate the annual average. The dollar amount of the result is rounded to the nearest hundredth decimal point (i.e., cent). We do not weight the average for each month by the number of days in that month, because our analysis indicates that this simplification does not introduce a systematic bias in the calculation.

Calculating the Applicable Oil and Natural Gas Price Thresholds

1. **Price Threshold Lock In.** Price thresholds are estimates until they are "locked in" based on complete calendar-year inflation data, which is not available until several months after the close of the year. In conjunction with the calculation of the annual market prices for oil and gas above, once the price thresholds are locked in, BOEM makes an official determination regarding whether these market prices have exceeded the applicable price thresholds for the calendar year and for a given vintage of lease and royalty relief program. This locked-in price threshold also becomes the base from which we calculate the price threshold for the next year for each vintage of leases. After this official BOEM determination is made, any subsequent revisions in the underlying source of the inflation figures will not affect the locked-in price thresholds nor the determination of eligibility for royalty relief for that calendar year. We lock in the price threshold determination using the best information available before March 31 of the following year because that is the date by which lease documents and regulations stipulate that make up royalty payments are due if prices exceed the threshold. This procedure prevents the royalty payment obligation from being altered by subsequent revisions to inflation data.

2. **Inflation Data.** The source for inflation data is Table 1.1.9 of the [National Income and Products Account (NIPA)](), published by Department of Commerce, Bureau of Economic Analysis (BEA) under the category "GDP [Gross Domestic Product] & Personal Income." To finalize the price thresholds determination, BOEM uses the third estimate of BEA's annual GDP implicit price deflator values from Table 1.1.9 (Line 1). The third estimate is not available from BEA until late March of the subsequent calendar year.

3. **Annual Inflation Rate.** BOEM uses the implicit price deflator for GDP to calculate the applicable annual inflation rate. The Deep Water Royalty Relief Act directs that this inflation measure be used to adjust its price thresholds, and BOEM adopted this measure for use with other price thresholds for consistency. We calculate the inflation rate by dividing the deflator from the applicable year by the deflator from the previous year, then subtracting 1. For example, the inflation rate used to set the 2023 price threshold is calculated as $\{(122.273 / 117.973) - 1 = 3.6\%\}$.

4. **Differences from BEA-Published Rates and Locked-In Rates.** Because BEA periodically updates its estimates of previous years' rates of inflation, the levels of inflation from those years as currently shown on the BEA website may diverge somewhat from the original inflation rates posted by BEA and used by BOEM to lock in the updated price thresholds. For example, the GDP deflator posted on the BEA website in March 2024 shows an inflation rate for 2004 of 2.7 percent. However, in March 2005, the BEA website showed an inflation rate of 2.1 percent, and BOEM locked in the 2004 price threshold to avoid subsequent recalculations that might change the determination of whether certain royalties were due and payable for 2004. BOEM used that level of the inflation rate in making the annual change in the deepwater oil price thresholds. This can be seen in the first row of Table 1 of BOEM's [Historical Price Threshold Determination Data](), in which the threshold price for selected leases increased from $32.81/bbl in 2003 to $33.50/bbl in 2004, equal to 2.1 percent.

In summary, BOEM uses the figures that were originally shown on the BEA website in March of each year to make the adjustments and reach finality in the price thresholds from year to year. Rounding explains any remaining small differences between calculated locked-in inflation rates and those rates depicted on BOEM's website. Therefore, except for minor rounding considerations, BOEM's actual price thresholds for previous years are taken directly from the locked-in inflation rates. The estimated price thresholds depicted on BOEM's website, prior to March of the subsequent year, rely on an estimate of the current inflation rate but do not become official until BEA releases its annual measure of inflation for the entire year at the end of March of the subsequent year.