

Further, various questions have arisen about the timing of application of index prices. Published spot prices for specific months generally represent the market's assessment of prices for crude oil delivered during that month, but determined between the 26th day of the month 2 months prior to the delivery month and the 25th day of the month immediately preceding the delivery month. This is not true for California, where all the days in the calendar month preceding the month of delivery are used to assess spot prices applicable to the month of delivery.

MMS has studied the correlation between several public indicia of crude oil prices (*e.g.*, trading month spot prices, NYMEX prices, etc.) and the values actually used in paying royalties to MMS on crude oil sold at arm's length. These studies demonstrate that calendar-month NYMEX prices (applying the "roll", as discussed below, to Gulf of Mexico, mid-continent, and Permian Basin production) have the highest correlation to reported arm's-length sales values of any publicly-available indices. We have examined both onshore and Gulf of Mexico crude oil types, and this conclusion applies to both.

Under the proposed rule, the "initial" or "base" NYMEX price that would be used to value production in a given production month is calculated by averaging the daily NYMEX settlement prices for each trading day in that month for deliveries in the first future month (known as the "prompt month"), excluding weekends and holidays. The prompt month changes during the production month so that in the beginning of the month the prompt month is the first month after the month of production. According to the NYMEX rules, trading ends at the close of business on the third business day prior to the 25th calendar day of the month (or the first business day prior to the 25th) preceding the delivery month. After that date the prompt month becomes the second month after the production month. See the NYMEX Web site for the specifications: http://www.nymex.com/jsp/markets/lsc_fut_specif.jsp.

We are proposing to exclude weekends and holidays for two reasons. First, if we include weekends and holidays, we would need to assign a price from other days on which trades actually take place. The normal way to do this is to use the preceding day's price (usually Friday's) on the assumption that that is the most accurate reflection of the price for deliveries that take place on the weekend. However, that results in

weighting Fridays three times as much as other days. MMS does not believe there is a justification for overweighting Friday prices. The second reason that MMS is proposing to exclude weekends and holidays is that it is MMS's understanding that it is more common industry practice to exclude them in calculating monthly average prices on the NYMEX.

For example, to value production from Federal leases in March 2003 using NYMEX prices, you would average the NYMEX settlement prices published each business day in March, between March 1 and March 22, for April 2003, and between March 23 and 31 for May 2003. Importantly, this calculation is based on "trading days during the calendar month." This is different from "trading month," which is a term of art defined in these rules, as discussed below.

The 2000 rule uses prices assessed for the trading period that is as close to concurrent with the production month as possible. However, we've received comments that this period this is not consistent with the way industry does business. Under this proposal, the daily NYMEX prices used correspond more closely to the production month than under the existing rule.

MMS is proposing to apply a "roll" to the initial NYMEX oil prices from leases in the Gulf of Mexico and the mid-continent, including the Permian Basin. The "roll" is a commonly used measure of the trend of NYMEX prices for future deliveries in those areas. Proposing use of the roll necessitates proposing to change the definition of "trading month." In section 206.101 of the current rule, "trading month" is defined in terms of spot market sales. Because the NYMEX price is the measure of value under the proposed rule, and because MMS proposes to use the roll, MMS proposes to change the definition of "trading month" to conform with NYMEX definitions and practice.

MMS proposes to define trading month to mean the period extending from the second business day before the 25th day of the second calendar month preceding the delivery month (or, if the 25th day of that month is a non-business day, the second business day before the last business day preceding the 25th day of that month) through the third business day before the 25th day of the calendar month preceding the delivery month (or, if the 25th day of that month is a non-business day, the third business day before the last business day preceding the 25th day of that month), unless the NYMEX publishes a different definition or different dates on its official Web site, <http://>

www.nymex.com, in which case the NYMEX definition will apply.

Prices reported for futures contracts on the NYMEX are not limited to deliveries in the prompt month. Rather, trades could be made in March 2003 for deliveries in April 2003 or in several subsequent months. Due to the fact that the NYMEX prices are future price estimates, and therefore inherently reflect increases or decreases in prices based upon expected trends, an adjustment to such estimates is necessary in order to extrapolate back to current price estimates, upon which royalty calculations are based. This adjustment factor is the "roll," which is added to the initial NYMEX price when the market is falling (to correct for the fact that the current price should be higher than the future price in a falling market) and subtracted from the initial NYMEX prices when the market is rising (to correct for the fact that the current price should be lower than the future price if the market is rising). We are proposing to use the roll because we believe it represents current market practice in establishing the sales price for crude oil production in certain regions of the country.

The roll formula includes the future prices for the two months beyond the prompt month, which is not the same as the prompt month used to determine the initial NYMEX price and assigns a progressively smaller weight to the second and third months. This is consistent with MMS's understanding of the common industry practice, including the weights and basis for the prices in the formula below. Specifically, the roll is calculated as follows:

Roll = $.6667 \times (P_0 - P_1) + .3333 \times (P_0 - P_2)$,
where

- P_0 = the average of the daily NYMEX settlement prices for deliveries during the prompt month that is the same as the month of production, as published for each day during the trading month for which the month of production is the prompt month.

- P_1 = the average of the daily NYMEX settlement prices for deliveries during the month following the month of production, as published for each day during the trading month for which the month of production is the prompt month.

- P_2 = the average of the daily NYMEX settlement prices for deliveries during the second month following the month of production, as published for each day during the trading month for which the month of production is the prompt month.