



## Special Executive Report

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**DATE:** August 7, 2019

**SER#:** 8427

**SUBJECT: Amendments to the Daily Settlement Procedure Documents for Six (6) Henry Hub Natural Gas Futures Contracts**

Effective Tuesday, September 3, 2019 for trade date Wednesday, September 4, 2019, and pending all relevant CFTC regulatory review periods, New York Mercantile Exchange, Inc. ("NYMEX" or "Exchange") will amend the daily settlement procedure documents for six (6) Henry Hub natural gas futures contracts ("Contracts") as indicated below:

Contract Title	NYMEX Rulebook Chapter	Clearing/ CME ClearPort Code	CME Globex Code
Henry Hub Natural Gas Futures	220	NG	NG
Henry Hub Natural Gas Look-Alike Last Day Financial Futures	823	HH	HH
Henry Hub Natural Gas Look-Alike Penultimate Financial Futures	824	HP	HP
Henry Hub Natural Gas Last Day Financial Futures	508	NN	NN
Henry Hub Natural Gas Penultimate Financial Futures	529	NP	NPG
E-mini Natural Gas Futures	402	QG	QG

The Exchange is amending the daily settlement procedure documents for the Contracts to standardize the methodology and increase transparency and clarity of this process. The amendments will harmonize the manner in which the Contracts are settled. The implementation of a tiered structure to determine settlement prices based upon availability of trade information further demonstrates the Exchange's commitment to transparency and price discovery. In an effort to settle the Contracts using a standardized methodology, the Exchange intends to use:

1. A volume weighted average price ("VWAP") for the active contract month of the Contracts.
2. Volume weighted average calendar spread prices as the Tier 1 settlement criterion and active and actionable calendar spread bid and offers as Tier 2 criterion to derive settlement prices for all other months. Specifically, the Exchange has designated precise volume levels for each futures contract upon which to base the VWAP of calendar spread transactions to reflect appropriate representation of significant trading in the product.

The current and amended daily settlement procedure documents are included in Appendix A and Appendix B below, respectively.

Inquiries regarding the aforementioned may be directed to the CME Group Global Command Center at 312.456.2391. Questions regarding this Special Executive Report may be directed to the CME Global Command Center at 800.438.8616, in Europe at 44.800.898.013, in Asia at 65.6532.5010, or [GCC@cmegroup.com](mailto:GCC@cmegroup.com)

## Appendix A

### Current Daily Settlement Procedure Documents

#### Natural Gas

The first six contract months in NYMEX Natural Gas futures (NG) are settled by CME Group staff based on trading activity on CME Globex between 14:28:00 and 14:30:00 Eastern Time (ET), the settlement period.

#### Normal Daily Settlement Procedure

##### Front Month

The front month settles to the volume-weighted average price (VWAP) of all trades in the outright contract that are executed between 14:28:00 and 14:30:00 ET, the settlement period, rounded to the nearest tradable tick. The procedure changes for the front month's last two days of trading. Please see the end of this document for further details.

##### Second Month

The second month settles to the price implied from the VWAP of all trades executed in the front month second month spread between 14:28:00 and 14:30:00 ET, the settlement period, using the front month settlement as the anchor price. To use the spread VWAP, this spread must satisfy the product's respective minimum volume threshold:

Product	Second Month Minimum Volume Threshold
Natural Gas	100 contracts

In the event that the spread does not satisfy the minimum volume threshold, the second month's settlement price is derived from the price implied from the midpoint of the spread between the front and second months, using the front month settlement as the anchor price.

##### Third through sixth contract months

The third through sixth months are settled in chronological order according to the following procedure:

**Tier 1:** Settlement is based on prices implied from the VWAPs of the contract's one-month (e.g. July/August) and two-month (e.g. June/August) spreads, provided that the nearer leg already has a settlement price and that the minimum volume thresholds for the spreads have been met. The minimum volume thresholds for spreads used to settle NYMEX energy futures vary according to the product and month being settled:

Product	Months 3-4 Minimum Volume Threshold	Months 5-6 Minimum Volume Threshold
Natural Gas	50 contracts	One contract

Using the implied prices weighting formula below, an **85%** weighting factor is applied to the price implied from the one-month spread, and a **15%** weighting factor is applied to the price implied from the two-month spread. If either the one-month spread or the two-month spread does not trade during the two-minute window but the volume in the other spread meets the threshold, then the settlement price will be implied by the VWAP of the spread that traded.

#### Implied prices weighting formula

P = implied price

W = Weighting factor

V = Volume

**Tier 2:** If the combined volume of the spreads does not meet the volume threshold, then the midpoint of the best bids/asks in the relevant one-month and two-month spreads at 14:30:00 ET are used to imply prices for the contract.

The settlement price for that contract will be derived using the implied prices weighting formula (below).

#### Settlement price weighted average formula:

P = Implied price

W = Weighting factor

### **Contracts beyond six months**

The far back months are settled by CME Group staff in conjunction with market participants based on relevant spread relationships. The greatest weight is given to spreads executed in large volumes late in the trading day.

In the absence of trading activity, spread bids and asks on Globex late in the trading day are used to determine settlements.

Wherever possible, no settlement price will be established that lies outside of an unfilled bid or ask available for execution during the final 15 minutes of trading if the volume of the spreads is 200 or more for Crude, 100 or more for Natural Gas, and 50 or more for Heating Oil and RBOB Gasoline.

Only bids and asks that remain active through expiration at 14:30:00 ET will be considered in these calculations. In the event there is insufficient activity to make the aforementioned calculations, staff may rely on earlier data or other available market information to determine an appropriate settlement price.

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### **Settlement on Last Two Trading Days of the Front Month**

On the day before the front month contract expires, the front and second months settle to the VWAP of the outright CME Globex trades executed between 14:28:00 and 14:30:00 ET, the settlement period, rounded to the nearest tradable tick. The next five months will settle based on the same procedures mentioned above.

On the day of expiration, the front (expiring) month will settle based on the VWAP of the outright CME Globex trades executed between 14:00:00 and 14:30:00 ET, and the second month will settle based on the VWAP of the outright CME Globex trades executed between 14:28:00 and 14:30:00 ET. The next five months will settle based on the same procedures mentioned above.

In the absence of outright or spread trades during this period, the settlement price will be the best bid or best ask in the expiring contract at 14:30:00 ET, whichever is closer to the last trade price. If there is not a bid/ask pair in the expiring contract at that time, the settlement price will be the best bid or ask implied by the bid/ask in the spread between the front (expiring) and second month contracts at 14:30:00 ET, whichever is closer to the last outright trade price in the front (expiring) contract.

Only bids and asks that remain active through expiration at 14:30:00 ET will be considered in these calculations. In the event there is insufficient activity to make the aforementioned calculations, staff may rely on earlier data or other available market information to determine an appropriate settlement price.

### **Henry Hub Natural Gas Look-A-Likes**

#### **Henry Hub Natural Gas Daily Settlement Procedure**

The settlements in the Henry Hub Natural Gas Look-Alike Last-Day Financial (HH), Henry Hub Natural Gas Look-Alike Penultimate Financial (HP), the Henry Hub Natural Gas Swap (NN), and the Henry Hub Natural Gas Penultimate Financial (NPG) futures contracts are equal to the settlement of the corresponding Natural Gas (NG) contract.

#### **Henry Hub Natural Gas Final Settlement Procedure (HH)**

The final settlement in the expiring Henry Hub Natural Gas Look-Alike Last-Day Financial (HH) futures contract is derived directly from the final settlement in the regular NG futures contract. This procedure can be found below.

#### **NYMEX Henry Hub Natural Gas Look-Alike Penultimate Financial Futures Final Settlement Procedure (HP)**

CME Group staff determines the settlement of the expiring Henry Hub Natural Gas Look-Alike Penultimate Financial (HP) futures contract by following the regular daily settlement procedure. This procedure can be found below.

### **~~NYMEX Henry Hub Natural Gas Last Day Financial Futures Final Settlement Procedure (NN/NNE)~~**

~~The final settlement in the expiring Henry Hub Natural Gas Last Day Financial (NN/NNE) futures contract is derived directly from the final settlement in the regular NG futures contract. This procedure can be found below.~~

### **~~NYMEX Henry Hub Natural Gas Penultimate Financial Futures Final Settlement Procedure (NPG)~~**

~~CME Group staff determines the settlement of the expiring Henry Hub Natural Gas Penultimate Financial (NPG) futures contract by following the regular daily settlement procedure. This procedure can be found below.~~

### **~~NYMEX E-Mini Natural Gas Futures~~**

#### **~~Normal Daily Settlement~~**

~~The settlements in the E-Mini Natural Gas (QG) futures contracts are derived directly from the settlements of the regular sized Natural Gas (NG) contracts, rounded to the nearest tradable tick.~~

#### **~~Example~~**

~~If the NGU2 settles 3.052, then the value of the QGU2 would settle 3.050.~~

#### **~~Final Settlement~~**

~~CME Group staff determines the settlement of the expiring E-Mini Natural Gas (QG) contract by following the regular daily settlement procedure.~~

## **Appendix B** **Amended Daily Settlement Price Procedure Documents**

### **Natural Gas (NG) Futures Daily Settlement Procedure**

#### **Normal Daily Settlement Procedure**

NYMEX Natural Gas (NG) futures are settled by CME Group staff based on trading activity on CME Globex during the settlement period. The settlement period is defined as: 14:28:00 to 14:30:00 ET

#### **Active Month**

The active month is the nearest of the contract months listed. The active month becomes a non-active month effective two business days prior to the spot month expiration. For example; if the spot month expires on a Friday the next listed contract will be considered the Active Month on the Wednesday prior to the spot month expiration. The procedure changes for the spot month's last three days of trading. Please see the end of this document for further details.

**Tier 1:** If a trade(s) occurs on Globex between 14:28:00 and 14:30:00 ET, the active month settles to the volume-weighted average price (VWAP), rounded to the nearest tradable tick.

**Tier 2:** If there is no VWAP, then the last trade price is checked against the 14:30 ET bid/ask.

1. If the last trade price is outside of the bid/ask spread, then the contract settles to the nearest bid or ask price.
2. If the last trade price is within the bid/ask spread or if a bid/ask is not available, then the contract settles to the last trade price.

**Tier 3:** If there is no last trade price available, then the prior settle is checked against the current bid/ask.

1. If the prior settle is outside of the bid/ask spread, then the contract settles to the nearest bid or ask price.
2. If the prior settle is within the bid/ask spread or if a bid/ask is not available, then the contract settles to the prior settlement price.

#### **All Remaining Months**

All Remaining Months other than the designated active month will settle per the following guidelines:

**Tier 1:** All Remaining Months other than the designated active month will settle based upon the VWAP of accumulated calendar spread transactions between 14:28:00 to 14:30:00 ET, the calendar spread settlement period. Volume in each spread will be divided by the number of months separating leg 1 and leg 2 of the spread and will be used in conjunction with settlements from any months where a settlement price has been determined to form a VWAP in the contract month to be settled. i.e. a G9-H9 spread would be divided by 1. a F9-H9 spread would be divided by 2 and a H8-H9 spread would be divided by 12. For examples please click [here](#).

**Tier 2:** In the absence of relevant calendar spread trades, bid/asks in those calendar spreads will be used in conjunction with settlements from any months where a settlement price has been determined to form an implied market in the contract month to be settled. These implied markets will be used to derive the best possible bid and the best possible ask. Provided the implied bid/ask spread is consistent with reasonability thresholds as determined by the Global Command Center (GCC), the contract will settle within the implied bid/ask spread. Note- Efforts will be made to honor relevant resting bids and asks, but VWAP trades will take precedence.

**Tier 3:** In the absence of an implied bid/ask that meets reasonability thresholds, the net change of the previous contract month will be applied to determine the contract month's settlement price.

#### *Spot (expiring) Month Settlements on the Last Three Trading Days*

On the two days before the spot month contract expires, the spot and second months settle to the VWAP of the outright CME Globex trades executed between 14:28:00 and 14:30:00 ET, the settlement period, rounded to the nearest tradable tick. The remainder of the curve will settle based on the same procedures mentioned above.

On the day of expiration, the spot (expiring) month will settle based on the VWAP of the outright CME Globex trades executed between 14:00:00 and 14:30:00 ET, and the second month will settle based on the VWAP of the outright CME Globex trades executed between 14:28:00 and 14:30:00 ET. The remainder of the curve will settle based on the same procedures mentioned above.

In the absence of outright or spread trades during this period, the settlement price will be the best bid or best ask in the expiring contract at 14:30:00 ET, whichever is closer to the last trade price. If there is not a bid/ask pair in the expiring contract at that time, the settlement price will be the best bid or ask implied by the bid/ask in the spread between the front (expiring) and second month contracts at 14:30:00 ET, whichever is closer to the last outright trade price in the front (expiring) contract.

Only bids and asks that remain active through expiration at 14:30:00 ET will be considered in these calculations. In the event there is insufficient activity to make the aforementioned calculations, staff may rely on earlier data or other available market information to determine an appropriate settlement price.

## **Henry Hub Natural Gas Look-A-Likes**

### **Henry Hub Natural Gas Daily Settlement Procedure**

The settlements in the Henry Hub Natural Gas Look-Alike Last-Day Financial (HH), Henry Hub Natural Gas Look-Alike Penultimate Financial (HP), the Henry Hub Natural Gas Swap (NN), and the Henry Hub Natural Gas Penultimate Financial (NPG) futures contracts are equal to the settlement of the corresponding Natural Gas (NG) contract.

### **Henry Hub Natural Gas Final Settlement Procedure (HH)**

The final settlement in the expiring Henry Hub Natural Gas Look-Alike Last Day Financial (HH) futures contract is derived directly from the final settlement in the regular NG futures contract. This procedure can be found below.

### **NYMEX Henry Hub Natural Gas Look-Alike Penultimate Financial Futures Final Settlement Procedure (HP)**

CME Group staff determines the settlement of the expiring Henry Hub Natural Gas Look-Alike Penultimate Financial (HP) futures contract by following the regular daily settlement procedure. This procedure can be found below.

### **NYMEX Henry Hub Natural Gas Last Day Financial Futures Final Settlement Procedure (NN/NNE)**

The final settlement in the expiring Henry Hub Natural Gas Last Day Financial (NN/NNE) futures contract is derived directly from the final settlement in the regular NG futures contract. This procedure can be found below.

## **NYMEX Henry Hub Natural Gas Penultimate Financial Futures Final Settlement Procedure (NPG)**

CME Group staff determines the settlement of the expiring Henry Hub Natural Gas Penultimate Financial (NPG) futures contract by following the regular daily settlement procedure. This procedure can be found below.

## **NYMEX E-Mini Natural Gas Futures**

### **Normal Daily Settlement**

The settlements in the E-Mini Natural Gas (QG) futures contracts are derived directly from the settlements of the regular sized Natural Gas (NG) contracts, rounded to the nearest tradable tick.

### **Example**

If the NGU2 settles 3.052, then the value of the QGU2 would settle 3.050.

### **Final Settlement**

CME Group staff determines the settlement of the expiring E-Mini Natural Gas (QG) contract by following the regular daily settlement procedure.