



CME CLEARING ADVISORY NOTICE

11-289

TO: Clearing Member Firms

FROM: CME Clearing

SUBJECT: **Margin and Delivery Processing for Delivered Natural Gas Futures Information Update #2**

DATE: August 18, 2011

This advisory updates and replaces Advisory 11-132, originally published on April 8, 2011.

On Monday, July 25th, 2011, CME Clearing launched clearing services for the Pine Prairie Energy Center Physically Delivered Natural Gas Monthly Basis Future (PPE) contract. This advisory details the margin and delivery processing for this new contract and related updates to the CSV-format datafiles.

The basis future trades and settles at a differential to the Henry Hub Natural Gas (NG) future of the same contract month. For example, assume that the October Henry Hub Natural Gas contract is trading at \$5/MMBtu, a trade price of -\$1/MMBtu in the October Pine Prairie basis represents a delivery price of \$4/MMBtu. Conversely, a trade price of 1 in the basis represents a delivery price of \$6/MMBtu. The basis will also settle (including final settlement) at a differential.

The basis future, in terms of trading hours and delivery schedule, will behave exactly the same as the existing Pine Prairie Monthly (PPM) contract. The key difference, however, is how CME Clearing calculates the invoice amount for delivery obligations. The invoice amount, normally calculated as a function of the contract quantity, the contract value factor and the final settlement price of the maturing futures contract, will instead be calculated by multiplying the contract quantity, the contract value factor and an invoice price, which will be determined by taking the sum of the settlement price of the Henry Hub Natural Gas futures contract and the Basis future's final settlement price.

So, for example, assume that the October basis future contract settles at a differential of \$1/MMBtu and the October Henry Hub monthly contract settles at \$6/MMBtu, the invoice price will be equal \$7/MMBtu (the sum of the basis' and monthly's final settlement prices). Conversely, if the October basis future settles at -\$1/MMBtu and the October

Henry Hub monthly contract settles at \$6/MMBtu, the invoice price will be equal to \$5/MMBtu.

Per the normal delivery procedures, at contract maturity CME Clearing will decompose all final positions in the basis contract into delivery positions for each gas delivery day of the delivery month (one delivery position for each gas delivery day of the contract month). For example, for the October basis contract, which matures on September 30th, CME Clearing would decompose a 31 lot position into one deliverable obligation for each gas delivery day with a separate invoice amount calculated for each day by multiplying the final position, the contract value factor and the invoice price.

To reiterate, aside for the change in how the invoice price is calculated, there will be no change to how margin and delivery processing works for this contract relative to the other Pine Prairie contracts.

Also accompanying these updates will be several additions to the CSV-format datafiles, including:

- **Bus_Date** – simply the business date on which the datafile was generated.
- **Price Offset (Px_Off)** – for basis contracts, this field will provide the corresponding monthly settlement price used to calculate the invoice price. By default, for non-basis contracts, this field will be set to a value of 0.
- **Invoice Price (Invoice_Px)** – for all contracts, this field will provide the price used to calculate the invoice amount. The price will be calculated as the sum of the settlement price and the price offset.

Lastly, CME Clearing will be removing fields from the CSV-format datafiles. For details related to this, please see the updated file specifications detailed at the end of this advisory.

On Monday April 11, 2011, CME Group will re-introduce a new class of Delivered Natural Gas futures, starting with futures on gas delivered at the Pine Prairie Energy Center (PPEC), a gas storage and hub facility. This new class of futures will provide physical gas market participants with a uniquely valuable set of benefits.

These are NYMEX products. They will trade on CME Globex, and privately-negotiated trades will be submitted through CME Clearport. The contract size will be 2,500 MMBtu per day, and the minimum price fluctuation will be 0.0025 USD per MMBtu.

For more information, please see the web page for the new products at:

<http://www.cmegroup.com/trading/energy/delivered-natural-gas-futures.html>

The New Product Advisory Notice 11-13 is at:

<http://www.cmegroup.com/tools-information/lookups/advisories/clearing/files/NPAdv11-13.pdf>

Special Executive Report 5688, published April 6, is at:

<http://www.cmegroup.com/tools-information/lookups/advisories/market-regulation/SER-5688.html>

The value proposition

For many years, the natural gas market has needed an efficient way to clear the molecules into delivery. The benchmark NG contract has filled this role to some extent as well as other models that provided elements of the clearing exercise. But these were incomplete at best.

The CME/NYMEX Henry Hub Contract is the benchmark index for the industry. For many years, it has served both the financial and physical communities for hedging and delivery optionality. The industry has grown to trust the mechanics and the integrity of the contract. As with all industries, natural gas has grown on both importance and complexity. We have seen crises in both natural and economic terms and through both, the exchange contract has been the bellwether instrument providing certainty, liquidity and market stability.

The size of the physical natural gas market is at an extreme multiple to that of the financially-settled market. Currently, there is no reach, other than NG, to bring this massive transaction base into a centrally-cleared model. This new physically-delivered natural gas contract combines all of the elements of a futures contract and facilitates the delivery of molecules on both long and short terms across many points. The very real needs to mitigate credit, counterparty and delivery risks in these markets are addressed within industry standard nomenclature using the most proven derivatives clearing house in the world. This is the genesis and the promise of the Delivered Natural Gas Futures Contract.

In addition, the advent of the accelerated payment structures under a futures model vs the industry standard 25th of the following open a whole new realm of cash management opportunities for buyer and seller alike. Effectively turning a monthly cash flow business into a daily cash flow business will offer better realization opportunities will facilitate a new set of service offerings that will bring value to the chain. Coupling this with the ability to net physical positions through a single account opens up market opportunities for asset managers and fully levers credit capacities in ways not previously available to the trade. The net effect will be a more robust trading spectrum, more capital committed to the CM/FCM community, and more liquidity within the supporting suite of natural gas products.

Limited trading eligibility

Only parties who are physically able to make or take delivery of gas at the storage hub, will be allowed to trade these products.

Clearing firms will register with CME Clearing, each such party for which it will clear, and for each, will provide: (a) its bookkeeping account ID, and (b) its ID number at the storage hub (the "hub contract number".)

The listing cycles

Four futures products will be offered: a **daily** contract (product code **PPD**), a **balance-of-month** ("balmo") contract (product code **PPB**), a prompt-month contract (product code **PPM**) and a **basis** contract (product code **PPE**).

To understand the listing cycle, let's start with the daily contracts, and presume that there are no holidays. At the beginning of each week (Sunday evening), we will list five daily contracts for the upcoming week:

- A contract for Tuesday gas, maturing Monday at 10:30am Central time
- A contract for Wednesday gas, maturing Tuesday at 10:30am Central time
- A contract for Thursday gas, maturing Wednesday at 10:30am Central time
- A contract for Friday gas, maturing Thursday at 10:30am Central time
- A contract for gas from Saturday through Monday, maturing Friday at 10:30am Central time

So the contracts are daily futures, identified by the first day of the gas delivery period, with the last day of trading and final settlement date being the calendar date immediately prior to the first day of the gas delivery period. Trading always ceases for the day at 10:30am Central time, and resumes for the next day at 2pm Central time.

Suppose Wednesday were a holiday. Then the Wednesday contract, maturing at 10:30am Tuesday, would cover gas for Wednesday **and** Thursday. There would be no Thursday contract.

Similarly, suppose Monday were a holiday. Then the immediately preceding Saturday contract would cover the period from Saturday through **Tuesday**, and there would be no Tuesday contract.

For the Balmo contract, there will be exactly one contract available for trading each day, covering the gas delivery period from the next calendar day through the last calendar day of the current month.

For the prompt-month contract, there will be exactly one contract available for trading each day, covering the gas delivery period for the entirety of the next calendar month.

And similarly, for basis contract, there will be exactly one contract available for trading each day, covering the gas delivery period of the entirety of the next calendar month.

For example, suppose today is Monday, November 8, 2010. The following contracts will be available for trading:

- Tuesday Nov. 9 daily contract – for gas on Tuesday – maturing Monday Nov. 8
- Wednesday Nov. 10 daily contract – for gas on Wednesday – maturing Tuesday Nov. 9
- Thursday Nov. 11 daily contract – for gas on Thursday – maturing Wednesday Nov. 10
- Friday Nov. 12 daily contract – for gas on Friday – maturing Thursday Nov. 11
- Saturday Nov. 13 daily contract – for gas from Sat. through Monday – maturing Friday Nov. 12
- Tuesday Nov. 9 **Balmo** contract – for gas from Tuesday Nov. 9 through Tuesday Nov. 30
- December prompt month contract – for gas from December 1 through December 31
- December basis contract – for gas from December 1 through December 31

On the following day, Tuesday November 9:

- The Tuesday contract will be gone. Only the Wednesday through Saturday daily contracts will be available.
- A new Balmo contract will be available – denoted as the Wednesday Nov. 10 Balmo – for gas from Wednesday Nov. 10 through Tuesday Nov. 30
- The December prompt month contract will still be available.
- The December basis contract will still be available.

Normal futures processing

These contracts are normal futures contracts, and trade and position processing in clearing and bookkeeping systems is normal.

The contract value factor (the multiplier used for variation calculations) for each contract is 2,500 for all contracts, regardless of the the number of gas delivery days for that contract. This is similar to that for other “per-day” NYMEX futures contracts. For example:

- The Tuesday November 9 daily contract is for gas for that Tuesday – one day.
- The Saturday November 13 daily contract is for gas for Saturday through Monday – three days.
- The Tuesday November 9 Balmo contract is for gas from Tuesday November 9 through Tuesday November 30 – 22 days inclusive.
- The December prompt month contract is for gas from December 1 through December 31 – 31 days inclusive.
- The December basis contract is for gas from December 1st through December 31st – 31 days inclusive.

The different number of gas delivery days for the different contracts, is taken into account in the cleared trade quantity. For example, for a contract for three gas delivery days, if you wish to achieve a position of 5,000 MMBTU per day, your cleared trade quantity will be **six**: 5,000 MMBTU per day, divided by the fixed multiplier of 2,500 MMBTU per day, times three gas delivery days.

Because of time constraints associated with physical delivery, CME Clearing will keep positions in these contracts **for each individual customer**. In other words, we will maintain a position account for each registered customer.

Also because of these time constraints, these contracts will not be eligible for giveups or average-pricing.

Netting of delivery obligations from daily, Balmo, basis, and monthly contracts

When a contract matures, the ending position on the maturity date is decomposed into individual **delivery positions**, one position for each gas delivery day. For the Pine Prairie storage hub, positions in these **delivery contracts** will be denoted by a product code of **PPZ**. For example:

- A position in a Tuesday daily contract, maturing on a Monday, is decomposed into a single delivery position, for a Tuesday delivery contract.
- A position in a Saturday daily contract, maturing on a Friday and for gas delivery for Saturday, Sunday and Monday, is decomposed into a delivery position for Saturday, a delivery position for Sunday, and a delivery position for Monday.
- A position in a Balmo contract, maturing on a Tuesday, and for gas delivery from Wednesday through the last calendar day of the month, is decomposed into delivery positions for each calendar day from Wednesday through the last calendar day of the month.
- A position in the basis contract is decomposed into delivery positions for each calendar day of the contract month.
- A position in a prompt month contract is decomposed into delivery positions for each calendar day of the prompt month.

The decomposition takes into account the number of gas delivery days for the maturing contract. Each delivery position quantity is determined by taking the actual position in the expiring contract, and dividing by the number of gas delivery days for that expiring contract. We call that number the VVF, short for Variable Value Factor.

For example, suppose your net position in a Saturday contract, covering three gas delivery days, was long 15. You would get three delivery positions – one for Saturday, one for Sunday, and one for Monday. And the quantity for each delivery position would be **five** – the original quantity of fifteen (on the maturing contract), divided by three (the number of gas delivery days of that maturing contract.)

Each delivery position is then processed separately. Best of all from the customer's point of view: in calculating delivery obligations, delivery positions resulting from maturing daily contracts, will be netted together with corresponding delivery positions resulting from decomposition of matured Balmo, basis and prompt-month contracts. We will call the results of this netting the **net deliverable positions**.

For example, suppose on Monday November 15, you have an ending delivery position of long 100 contracts for the November 16 delivery contract resulting from the maturing November 16 daily contract, and an ending position of short 100 contracts in the November 16 delivery contract resulting from the maturing November 16 Balmo contract.

For gas for Tuesday November 16, your actual deliverable quantity is zero! No delivery instruction for Tuesday gas will be sent to the storage hub, and you will have no delivery margins for Tuesday gas.

There **will** be some invoice amount consisting of the difference between the 100 contracts for Tuesday that you're buying at the daily contract's final settlement price, and the 100 contracts for Tuesday that you're selling at the Balmo contract's final settlement price.

Note that this position decomposition is solely for delivery and margining processes. The delivery positions will not appear on the daily Trade Register datafile or reports.

Delivery processing for the net deliverable positions

For long net deliverable positions:

By 11:30am Chicago time on the clearing business day immediately prior to the gas delivery day, the delivery instruction will be transmitted to the gas storage hub.

Beginning on that day, the long position will have a margin requirement at the end-of-day settlement cycle equal to the full invoice amount. This is also called "full value margining." (Note: at the intraday settlement cycle on that day, the long will have its normal margin requirement, except that no risk offsets will be recognized against any other positions.)

On the gas delivery day, the long will take delivery of the gas.

At the end-of-day clearing cycle on the second clearing business day following the gas delivery day, the full-value margin requirement will be zero'd out, and a banking instruction will be issued for the long to pay the full invoice amount. The long's settlement bank account will be debited for this cash, first thing in the morning on the immediately following New York banking business day.

For short net deliverable positions:

By 11:30am Chicago time on the clearing business day immediately prior to the gas delivery day, the delivery instruction will be transmitted to the gas storage hub.

Beginning at the intraday settlement cycle on that day, the short position will have its normal margin requirement, except that no risk offsets will be recognized against any other positions.

On the gas delivery day, the short will make delivery of the gas.

Beginning at the intraday settlement cycle on the first clearing business day following the gas delivery day, the short will have no margin requirement.

At the end-of-day clearing cycle on the second clearing business day following the gas delivery day, a banking instruction will be issued for the short to receive the full invoice amount. The short's settlement bank account will be credited for this cash, first thing in the morning on the immediately following New York banking business day.

Delivery fails

All parties taking positions in these products must be authorized and capable of making and taking delivery of gas at Pine Prairie Energy Center, even if they intend to liquidate the position prior to contract maturity.

If a party fails to make or take gas delivery, this fact will be determined by mid-day on the calendar day immediately following the gas delivery day, and by early evening on that day the **penalty price** will be determined. The penalty price will be the highest price of the gas daily average price across the entire US, covering the three-day period from the calendar day prior to gas delivery day, the gas delivery day itself, and the calendar day following the gas delivery day.

If a party with a net short deliverable position fails to make delivery:

- At end of day on the business day immediately following the gas delivery day, the margin requirement will be set to the monetary value of the price difference between the penalty price and the invoice price. This is calculated by multiplying the price difference, by the absolute value of the net short delivery contract quantity, by the 2,500 contract value factor. Note that if the net deliverable position resulted from merging positions from multiple contracts with different invoice prices, a blended invoice price will be used.
- At end of day on the second such subsequent business day, the margin requirement will be zero'd out, and a banking instruction will be issued for this amount. The cash will then move at the bank first thing on the next business day.

If a party with a net long deliverable position fails to take delivery:

- At end of day on the business day immediately following the gas delivery day, the long's margin requirement will be increased from full value at the invoice price, to full value at the penalty price.
- At end of day on the second such subsequent business day, the margin requirement will be zero'd out, and a banking instruction will be issued for the full value at the penalty price.

It is expected that the party will then make arrangements with Pine Prairie Energy Center for subsequent gas delivery.

Datafiles for delivery processing

We will provide participating clearing firms with easy-to-use CSV-format datafiles. These will make it easy to trace back all details of delivery processing, including the decomposition of Balmo and prompt-month contracts into individual daily pieces, and netting of the deliverable positions resulting from daily, Balmo and prompt-month contracts. There will be three such files:

- **Gas_Deliv_Position.csv** – shows individual deliverable pieces, resulting from either daily contracts or the decomposition of Balmo, basis and monthly contracts
- **Gas_Net_Deliv_Position.csv** – shows net deliverable pieces, resulting from the netting together of the individual deliverable pieces
- **Gas_Netted_Position_Breakdown.csv** – breaks your position in the PPZ delivery contract, showing the netting that occurred across daily, balmo, monthly, and basis contracts.
- **Gas_Delivery_Invoice.csv** – shows the invoice amount for the deliverable piece going into delivery the next day.

Here are the details:

Gas_Deliv_Position.csv

Bus_Date	Business Date
Exch	Exchange Acronym – X(5)
CVF	Contract Value Factor
Period	Period Code – X(8)
VVF	Variable Value Factor (# of gas delivery days)
Setl_Date	Clearing Settlement Date
FDD	First Delivery Date – first date of the logical period
LDD	Last Delivery Date – last date of the logical period
Invoice_Date	Invoice Date – the date the invoice amount hits the register.
Mgn_Rel_Date	Margin Release Date. The date on which the margin is released.
Und_PF_Code	Product code of the underlying actual product
Und_Period	Period code of the underlying actual contract
Setl_Px	Final Settlement Price – 9(8)V9(8)
Px_Off	Invoice Price Offset
Invoice_Px	Invoice Price
CO	Clearing Organization acronym – X(5)
CMF	Clearing Member Firm ID – X(5)
PA	Position Account ID – X(15)
Seg	Position SegType – X(5) – CUST or HOUS
End_Long	Final Long Position
End_Short	Final Short Position
Net_Posn	Final Net Position
Invoice_Amt	Invoice Amount

Gas_Net_Deliv_Position.csv

Bus_Date	Business Date
Exch	Exchange Acronym – X(5)
PF_Code	Product Family Code – X(10)
Prod_Type	Product Type Code – X(5) – will be FUT
CVF	Contract Value Factor
Period	Period Code – X(8)
VVF	Variable Value Factor (# of gas delivery days)
Setl_Date	Clearing Settlement Date
FDD	First Delivery Date – first date of the logical period
LDD	Last Delivery Date – last date of the logical period
Invoice_Date	Invoice Date – the date the invoice amount hits the register.
Mgn_Rel_Date	Margin Release Date. The date on which the margin is released.
CO	Clearing Organization acronym – X(5)
CMF	Clearing Member Firm ID – X(5)
PA	Position Account ID – X(15)
Seg	Position SegType – X(5) – CUST or HOUS
Net_Posn	Net Position
Invoice_Amt	Net Invoice Amount
Margin_Amt	Margin Amount
Fail_Flag	Fail Flag
Penalty_Amt	Penalty Amount

Gas_Netted_Position_Breakdown.csv

Bus_Date	Business Date
Contract	Product and Period Code of the applicable Pine Prairie contract
Delivery_Point	Gas Delivery Point
CMF	Clearing Member Firm ID – X(5)
TMF	Trading Member Firm ID – X(5)
PA	Position Account ID – X(15)
Seg	Position SegType – X(5) – CUST or HOUS
FDD	First Delivery Date – first date of the logical period
Payment_Date	Value date for the invoice payment
End_Long	Final Long Position
End_Short	Final Short Position

Gas_Delivery_Invoice.csv

Bus_Date	Business Date
Contract	Product and Period Code of the applicable Pine Prairie contract
Delivery_Point	Gas Delivery Point
CMF	Clearing Member Firm ID – X(5)
TMF	Trading Member Firm ID – X(5)
PA	Position Account ID – X(15)
Seg	Position SegType – X(5) – CUST or HOUS
Contract_Number	Customer's storage hub account number
Buy_Sell	Buy or Sell
Quantity	Number of contracts being delivered
Setl_Px	Final Settlement Price – 9(8)V9(8)
Px_Off	Invoice Price Offset
Invoice_Px	Invoice Price

Net_NG_mmBTUs Total gas delivery amount
Invoice_Amt Invoice Amount
NG_DeliveryDate Gas delivery date
Payment_Date Value date for invoice amount

Testing

Contracts continue to be available in CME's "New Release" testing environment.

CME Clearing is happy to support Clearing Member testing efforts for this product. Any questions can be referred to CME Clearing's Client Services team at onboarding@cmegroup.com or 312-338-7112.