

09-16  
④

**Received CFTC  
Records Section**  
10/27/09

# Economists INCORPORATED

Washington DC • San Francisco Bay Area

1200 New Hampshire Avenue, NW  
Suite 400

Washington, DC 20036-6082

*In affiliation with*  
The Allen Consulting Group, Australia

John R. Morris  
Direct Dial: (202) 833-5208  
[morris.j@ei.com](mailto:morris.j@ei.com)

Main (202) 223-4700 Fax (202) 296-7138

October 26, 2009

Mr. David A. Starwick  
Secretary  
Commodity Futures Trading Commission  
Three Lafayette Centre  
1155 21<sup>st</sup> Street, NW  
Washington, DC 20581

COMMENT

2009 OCT 27 PM 2 02  
OFFICE OF THE SECRETARIAT  
C.F.T.C.

VIA E-Mail

Re: Notices of Intent, Pursant to the Authority in Section 2(h)(7) of the Commodity Exchange Act and Commission Rule 36.3(c)(3), To Undertake a Determination Whether 15 Financial Basis Contracts, Offered for Trading on the Intercontinental Exchange, Inc., Perform Significant Price Discovery Functions:

- AECO Financial Basis (AEC) Contract
- Chicago Financial Basis (DGD) Contract
- Dominion-South Financial Basis (DOM) Contract
- HSC Financial Basis (HSC) Contract
- Malin Financial Basis (MLN) Contract
- NGPL TXOK Financial Basis (NTO) Contract
- Northwest Rockies Financial Basis (NWR) Contract
- Permian Financial Basis (PER) Contract
- PG&E Citygate Financial Basis (PGE) Contract
- San Juan Financial Basis (SNJ) Contract
- Socal Border Financial Basis (SCL) Contract
- TCO Financial Basis (TCO) Contract
- TETCO-M3 Financial Basis (TMT) Contract
- Waha Financial Basis (WAH) Contract
- Zone 6-NY Financial Basis (TZS) Contract

Dear Mr. Starwick,

Enclosed are my comments concerning whether the contracts listed above meet the criteria for significant price discovery contracts. The comments discuss and provide data for all 15 contracts.

Respectfully submitted,

*/s/ John R. Morris*

Dr. John R. Morris

Cc: Gregory Price  
Susan Nathan

**Comments to the Commodity Futures Trading Commission**

**Concerning**

**October 9, 20, and 22, 2009 Notices of Intent to Determine Whether 15  
Financial Basis Swap Contracts Related to Natural Gas Prices Offered for  
Trading on the Intercontinental Exchange, Inc., Perform Significant Price  
Discovery Functions**

**By**

**Dr. John R. Morris  
Economists Incorporated**

**October 26, 2009**

On October 9, 2009, the Commodity Futures Trading Commission ("Commission") issued a notice of intent to determine whether 17 contracts offered for trading on the Intercontinental Exchange, Inc. ("ICE") perform significant price discovery functions. Four of the 17 contracts are electric power contracts and 13 of the 17 contracts are financial basis swap contracts based on natural gas prices. On October 20, 2009, the Commission issued a similar notice for the Social Border financial basis contract, and on October 22, 2009, the Commission issued a notice for the Northwest Rockies financial basis contract. This comment concerns the 15 natural gas financial basis swap contracts. The Commission requests comments by October 26, 2009.

## **I. Background, Summary, and Conclusion**

### ***A. Background***

My name is John R. Morris, and I am a Principal at Economists Incorporated, an economic consulting firm located at 1200 New Hampshire Avenue, NW, Washington, DC 20036. I have a bachelor's degree in economics from Georgetown University, and I have a master's degree and a Ph.D. in economics from the University of Washington. I have been studying and consulting in the natural gas industry since joining the Federal Trade Commission in 1985. Since joining Economists Incorporated in 1992, I have consulted on many competition matters involving electric and gas companies, examined competitive issues relating to utility rates, examined issues concerning undue discrimination by operators of natural gas and electric power transmission facilities, provided market power studies for applications for market-rate authority, and studied market power issues in state restructuring proceedings. I have published articles on competition and energy matters and have spoken on numerous occasions concerning competition in natural gas, electric power, and other industries. I have previously has been accepted as an expert witness on energy matters before the Federal Energy Regulatory Commission, state commissions, and in federal court. I have taught economics at the University of Washington, Indiana University, and Stanford University (Washington Campus). A complete listing of my experience, publications, and testimony is contained in the curriculum vitae presented as Attachment 1.

My experience includes testimony and consulting concerning pricing issues in the natural gas industry and the relationships between the prices of financial instruments such as financial basis swaps and the price of physical gas, including evaluating allegations that El Paso Merchant Energy exercised market power in California in 2000 and 2001, that Energy Transfer Partners manipulated

physical natural gas prices at the Houston Ship Channel, and whether a combination of Exelon Corporation and Public Service Enterprise Group would allow them to manipulate natural gas prices in the Mid-Atlantic region. As part of my work I have spoken with natural gas traders and managers, reviewed testimony by traders, examine price relationships among various natural gas prices and market fundamentals, reviewed industry information and literature, and spoken with industry and academic experts.

The views expressed in these comments are mine alone and do not necessarily reflect the views of Economists Incorporated or any clients. The comments are not being sponsored by past or current clients.

### ***B. Financial Basis Swaps***

The 15 natural gas contracts considered by the Commission are all financial basis swaps. Although the contracts are purely financial, they are not really part of the financial banking system as are credit default swaps. Instead, financial basis swaps are instruments that settle based upon the actual physical prices of natural gas. For example, the Chicago basis swap settles on the difference between the NYMEX futures contract settlement price at the Henry Hub in Louisiana and the *Natural Gas Intelligence* ("NGI") reported index for Chicago. Because the NYMEX futures contract requires physical delivery of gas and the NGI Chicago index is based upon actual physical trades of gas, the financial basis swap derives its value from actual physical trades of gas. Basis swaps are financial because their settlements are based upon index values and no physical delivery of gas is required to settle the contracts.

All of the 15 natural gas basis swaps in the Notices are settled in part on the local published indices. Chicago, Malin, PG&E Citygate, and Socal, are settled based on the NGI index and Dominion-South, HSC, NGPL TexOk,

Northwest Rockies, Permian, San Juan, TCO, TETCO M-3, Transco Zone 6 NY, and Waha are settled based on Platts' *Inside FERC* ("IFERC") index. Both the NGI and IFERC indices are based upon transactions conducted in the last five trading days of a month, known as "bidweek". The AECO index is published by Canadian Enerdata, Ltd.'s *Canadian Gas Price Reporter* ("CGPR"), which publishes the weighted average price of trades over the month prior to the delivery month. Because all three publications report indices based on trades over multiple days, the indices do not represent prices on any one day but an average over several days. Hence, the basis swap prices have limited ability to predict prices on any given day of trading, especially during times of significant price volatility.

### ***C. Summary and Conclusions***

The 15 natural gas financial basis swap contracts proposed by the Commission as Significant Price Discovery Contracts ("SPDCs") do not meet any previously articulated criteria for SPDCs. When the data are viewed properly, it becomes apparent that the contracts do not meet any indicia of material liquidity necessary for an SPDC. Moreover, each of the 15 financial basis swap contracts has a miniscule share of the total NYMEX trading volume, and 11 of the 15 contracts have prices significantly different from the underlying contracts from which the basis swap contracts derive value. Finally, the financial basis swap contracts are not material price references. Other contracts are not indexed to the financial basis swap contracts and the market liquidity of the contracts is not robust enough to produce meaningful information on forward prices without a significant amount of additional information and editorial judgments. Given these facts, I recommend that the Commission determine that the 15 financial basis swap contracts are not SPDCs.

## **II. The CFTC Factors for Determining whether Contracts are Significant Price Discovery Contracts**

Section 2(h)(7) of the Commodity Exchange Act ("CEA") specifies four factors that the CFTC must consider when designating a contract as a SPDC: (1) Material Liquidity; (2) Price Linkage; (3) Arbitrage; and (4) Material Price Reference. I now consider each of these factors in relation to the 15 natural gas basis swap contracts.

### ***A. Material Liquidity***

Sufficient material liquidity is required so that the trading of the target contract "is sufficient to have a material effect on other agreements, contracts or transactions listed for trading on or subject to the rules of a designated contract market, a derivatives transaction execution facility, or an electronic trading facility."<sup>1</sup> Several concepts of liquidity are discussed in Appendix A to 17 CFR §36 ("Appendix A"). One concept is whether a steady enough stream of trades takes place to have a continuous stream of information on prices that is consistent with other prices in the marketplace. A second concept is whether someone can sell desired quantities at any time without a significant price concession. A third concept is whether the depth and breadth of the market for the target contract is sufficient to have an informational impact on other markets. This third concept is addressed in more detail in the discussions on price linkage, arbitrage, and material price reference.

We can examine data from ICE to determine whether liquidity in the market exists in terms of trades and bids and offers to sell contracts. In liquid natural gas markets, transactions occur on a continuous basis with many trades

---

<sup>1</sup> Appendix A to 17 CFR §36 (2009).

occurring each day, as occurs with the NYMEX futures contract at the Henry Hub.

The Notices specified data that allegedly indicate the potential for material liquidity. These data, however, have serious flaws and more careful inspection is likely to lead one to conclude that the contracts lack material liquidity. The data presented in the Notices are summarized in Table 1. Although all the locations show more than 5 trades per day on average, this number is highly misleading because the average is over every month the contract is offered. Because the contracts can be offered for as long as 120 months, the average per day for an individual contract may be less than 1 per day. For example, the AECO contract is offered for delivery 120 months (10 years) into the future. Even though the AECO contract averages 113.5 trades per day, the average could be less than 1 trade per day for any given delivery month. These contracts are also offered for strips of multiple months, further reducing the average per contract.

**Table 1 — Summary Data from SPDC Notices**

| Hub               | Months | Trades |         | Contracts |          | Open     |
|-------------------|--------|--------|---------|-----------|----------|----------|
|                   |        | Trades | Per Day | Contracts | Per Day  | Interest |
| AECO              | 120    | 7,263  | 113.5   | 806,438   | 12,601.0 | 443,402  |
| Chicago Citygates | 72     | 1,572  | 24.6    | 146,193   | 2,284.3  | 127,744  |
| Dominion South    | 72     | 347    | 5.4     | 38,872    | 607.4    | 97,240   |
| HSC               | 84     | 2,524  | 39.4    | 209,010   | 3,265.8  | 313,594  |
| Malin             | 72     | 664    | 10.4    | 59,564    | 930.7    | 65,804   |
| NGPL-TXOK         | 72     | 1,083  | 16.9    | 84,432    | 1,319.3  | 70,557   |
| Northwest Rockies | 30     | 3,013  | 47.1    | 276,187   | 4,315.4  | 349,931  |
| Permian           | 72     | 727    | 11.4    | 49,200    | 768.8    | 55,940   |
| PG&E Citygate     | 72     | 1,142  | 17.8    | 99,418    | 1,553.4  | 150,299  |
| San Juan          | 72     | 391    | 6.1     | 30,722    | 480.0    | 49,105   |
| Socal Border      | 120    | 8,102  | 126.6   | 612,452   | 9,569.0  | 417,121  |
| TCO               | 72     | 583    | 9.1     | 61,944    | 967.9    | 141,544  |
| Tetco-M3          | 72     | 1,073  | 16.8    | 145,328   | 2,270.8  | 168,963  |
| Transco Z6-NY     | 72     | 522    | 8.6     | 55,371    | 865.2    | 87,520   |
| Waha              | 72     | 1,165  | 18.2    | 100,490   | 1,570.2  | 96,371   |

Another feature of the data is that the number of contracts per trade ranges from 67 to 135. This level of contracts per trade is many times the level that I have observed in trade data available from ICE. One reason is that the contract data used by the Commission includes bilateral over-the-counter (“OTC”) contracts that are traded bilaterally or through brokers and then cleared through ICE for processing. These contracts do not represent trades on the ICE electronic trading platform, but other trades with prices confidential to the transacting parties. These contracts do not serve a price discovery function because their prices are not shown on ICE’s real-time platform or daily reports and are not generally made available to the public. It is also possible that the Commission has misinterpreted the data supplied by ICE.

To address these issues, I have examined actual transactions data from the ICE electronic trading platform. Data from the second quarter of 2009 could not

be obtained and processed in the short period allowed for comments. Accordingly, I have used the most recent data that I had available, which runs from trades on September 1, 2008 through November 30, 2008. Although these data are from an earlier period, they are close enough in time to illustrate the actual trading activity on ICE for the 15 contracts.

For each of the 15 contracts, Table 2 shows the average number of trades per day, the total number of contract-equivalents per trade, and the average number of trades per day for the December 2008 contracts.<sup>2</sup> Table 2 shows that the number of transactions in the December 2008 contracts, the most commonly traded contract of the available delivery terms, were significantly less than the average number of total trades, as expected. On average, the December 2008 contracts accounted for less than one out of three trades. Only AECO and Socal averaged more than 20 trades per day for the last 90 days of trading a contract. Moreover, the number of contracts per trade averages less than 3. This compares to over 67 contracts per trade in the Notices. This difference (3 is actual trade data versus 67 in the Notices) suggests that the Commission's data are unrelated to the actual trading activity on the ICE electronic trading platform.

---

<sup>2</sup> The number of contract-equivalents is equal to the total mmBtu/d volume transacted divided by the 2,500 mmBtu/d standard contract size.

**Table 2 — Summary of Actual ICE Trading Data, September 1, 2008 through November 30, 2008**

| <b>Hub</b>        | <b>Average Number of Trades Per Day</b> | <b>Number of Contracts Per Trade</b> | <b>Average Number of Trades Per Day for Dec. 2008 Strip</b> |
|-------------------|---|--------------------------------------|---|
| AECO              | 99.5                                    | 2.9                                  | 25.3  |
| Chicago Citygates | 12.3                                    | 2.3                                  | 2.9   |
| Dominion South    | 6.2                                     | 3.0                                  | 3.0   |
| HSC               | 50.6                                    | 2.8                                  | 10.1  |
| Malin             | 7.4                                     | 2.3                                  | 2.3   |
| NGPL-TXOK         | 7.9                                     | 2.6                                  | 2.9   |
| Northwest Rockies | 41.8                                    | 2.0                                  | 7.5   |
| Permian           | 18.6                                    | 1.9                                  | 5.2   |
| PG&E Citygate     | 15.0                                    | 2.3                                  | 3.9   |
| San Juan          | 7.0                                     | 1.8                                  | 1.6   |
| Socal             | 100.8                                   | 2.1                                  | 28.6  |
| TCO               | 3.7                                     | 2.5                                  | 1.5   |
| Tetco-M3          | 13.8                                    | 2.7                                  | 6.2   |
| Transco Z6-NY     | 8.6                                     | 2.0                                  | 6.3   |
| Waha              | 20.5                                    | 2.1                                  | 7.1   |

Table 3 provides additional data on liquidity. It provides a percentage distribution of the number of trades per day in the last 90 days of trading for the prompt-months of October, November, and December 2008. For the most liquid trading point, Socal, it shows that on 3.1 percent of days no contacts were traded. Moreover, only 42.7 percent of days at Socal have more than 30 trades per day, less than one-half the number of trades necessary to have a minimum level of liquidity.

Necessary liquidity must be viewed in relationship to the volatility in the market under consideration. NYMEX future prices can easily change value by 1 percent within a minute, and by 10 percent within a day. Daily natural gas prices can change by over 20 percent from one day to the next. Given this volatility, it would seem that trades would need to occur on average at least every five minutes to give any buyer or seller a reasonable expectation that he could make

trades when desired without a price concession. Trades every five minutes would be twelve trades per hour, or 72 trades over a six-hour trading session. Without at least an average of 72 trades per day for each monthly contract within 90 days of the beginning of the delivery month (or strip), material liquidity appears unlikely to exist in natural gas markets.

**Table 3 — Percentage Distribution of the Number of Trades per Day in the Last 90 Days of Trading for Prompt Months October, November, and December 2008**

| Hub               | 0 Trades | 1-5 Trades | 6-10 Trades | 11-20 Trades | 21-30 Trades | More than 30 Trades |
|-------------------|----------|------------|-------------|--------------|--------------|---------------------|
| AECO              | 1.5      | 5.6        | 11.3        | 26.2         | 24.1         | 31.3                |
| Chicago Citygates | 31.9     | 52.9       | 9.9         | 3.1          | 1.0          | 1.0                 |
| Dominion South    | 47.6     | 38.2       | 10.5        | 3.1          | 0.5          | 0.0                 |
| HSC               | 9.4      | 26.2       | 20.9        | 16.8         | 15.2         | 11.5                |
| Malin             | 36.6     | 49.7       | 9.9         | 3.1          | 0.5          | 0.0                 |
| NGPL-TXOK         | 44.0     | 38.2       | 11.0        | 5.8          | 1.0          | 0.0                 |
| Northwest Rockies | 7.9      | 34.6       | 24.1        | 14.7         | 10.5         | 8.4                 |
| Permian           | 17.8     | 41.9       | 14.7        | 19.4         | 3.1          | 3.1                 |
| PG&E Citygate     | 29.8     | 41.9       | 15.7        | 10.5         | 2.1          | 0.0                 |
| San Juan          | 50.3     | 33.0       | 11.0        | 4.7          | 1.0          | 0.0                 |
| Socal             | 3.1      | 7.3        | 12.0        | 19.3         | 15.6         | 42.7                |
| TCO               | 58.1     | 29.8       | 9.4         | 2.1          | 0.0          | 0.5                 |
| Tetco-M3          | 37.2     | 42.4       | 8.9         | 7.3          | 3.1          | 1.0                 |
| Transco Z6-NY     | 43.5     | 41.4       | 6.8         | 6.3          | 1.6          | 0.5                 |
| Waha              | 20.9     | 36.1       | 18.3        | 12.0         | 7.9          | 4.7                 |

Only four locations, AECO, HSC, Northwest Rockies, and Socal had more than 5 trades on 50 percent of days or more. At two of these locations, HSC and Northwest Rockies, over 50 percent of days had 10 or fewer trades. In total, only AECO and Socal had more than 12 percent of days with 30 or more trades. In other words, 13 of 15 locations did not have even one-half of the necessary trading volume to demonstrate sufficient liquidity on over 85 percent of days.

Finally, in liquid markets buyers and sellers continuously seek to buy and sell the product. Although actual transactions may not occur every minute, at

least bids and offers are continuously available. In my experience in reviewing bids and offers for basis swaps on ICE, it is common that there will be no offers to sell and no bids to purchase specific basis swaps. This provides a further indication of a lack of material liquidity for basis swaps on the ICE electronic trading platform.

### ***B. Price Linkage***

On a very superficial level, basis swaps are linked to the NYMEX gas futures contract and the bidweek prices at the basis location. But, as the Commission has stated:

For a linked contract, the mere fact that a contract is linked to another contract will not be sufficient to support a determination that a contract performs a significant price discovery function. To assess whether such a determination is warranted, the Commission will examine the relationship between transaction prices of the linked contract and the prices of the referenced contract(s). The Commission believes that where material liquidity exists, prices for the linked contract would be observed to be substantially the same as or move substantially in conjunction with the prices of the referenced contract(s).<sup>3</sup>

The Commission articulated two criteria that it would consider. First, it would consider whether the volume of the target contract is 5 percent or greater of the volume of the contract to which it is linked.<sup>4</sup> Second, it will consider whether the target contract price is within 2.5 percent of the linked contract price(s) more than 95 percent of the time.<sup>5</sup> If two contracts are truly linked, then the prices should be very close (within 2.5 percent) virtually all the time. Accordingly, I have examined these two conditions.

---

<sup>3</sup> Appendix A, at (B)2.

<sup>4</sup> Appendix A, at (B)3.

<sup>5</sup> Appendix A, at (B)4.

