

**UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION**

**Price Discovery in Natural Gas
and Electric Markets**

Docket No. PL03-3-004

Natural Gas Price Formation

Docket No. AD03-7-004

**REPORT ON NATURAL GAS AND
ELECTRICITY PRICE INDICES**



**Prepared by the Staff of the
Federal Energy Regulatory Commission**

May 5, 2004

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**I.
EXECUTIVE SUMMARY**

Price indices play a pivotal role in energy transactions of all kinds. They are used to price billions of dollars of natural gas and electricity transactions annually in both physical and financial markets. Most price indices are supplied as a commercial service by publishers of daily, weekly or monthly newsletters or other trade journalism. More recently indices have been developed from trade data collected through electronic transactions, such as trading on electronic trading platforms.

Over the past few years serious questions have been raised by a number of parties, including Commission Staff, about the robustness and credibility of price indices. Given the pivotal role of indices in energy transactions, confidence in energy markets has weakened.

On July 24, 2003, the Commission issued its *Policy Statement on Natural Gas and Electric Price Indices*, 104 FERC ¶ 61,121 (2003), where it explained what it expects of both natural gas and electricity price index developers and the companies that report transaction data to index developers. The Commission created a “safe harbor” for reporting in compliance with the Policy Statement, instructed Staff to monitor “both the level of reporting to index developers and the amount of adherence to the standards set forth herein,” and required that “any prospective use of any index in its jurisdictional tariffs meet the criteria set forth above for price index developers and reflect adequate

liquidity at the referenced location to be reliable.” *Id.* ¶¶ 43 & 41. This Staff Report addresses progress to date under the Policy Statement and the use of indices in jurisdictional tariffs.

Findings

The successful conclusion of the natural gas and electricity price index issue will mean confidence in price indices has reached adequate levels. “Confidence” is a perception, however, and “adequate” is an assessment requiring both information and more subjective considerations. Nevertheless, adequate confidence in prices sits at the very core of what permits a competitive market to function.

In its assessment of progress on the price index issue, Staff has held technical conferences, workshops, accepted filings, and issued two voluntary surveys. From these efforts Staff has found:

- Level of Reporting. The amount of transaction data reported to natural gas and electricity price index developers suffered in the past, but has been improving compared with late 2002. Recently nine companies have formally notified the Commission they have begun reporting, and 30 survey respondents state they plan to begin or increase reporting in the future.
- Quality of Reporting. The quality of reporting to price index developers has improved significantly over the past year. All three measures used in both surveys showed marked improvements, including major advances in reporting by a group outside trading, annual independent audits, and public codes of conduct. Anecdotal evidence from the technical conferences and workshops also support this perception of improvement.
- Quality of Indices. Index developers have taken significant steps to conform to the standards of the Policy Statement. With respect to the amount of information provided to indicate the liquidity of specific trading locations, however, many market participants believe that effective understanding of liquidity at these locations requires more volumetric and transaction information.
- Variety of Survey Results. The performance of indices and reporting as indicated by survey respondents varies a great deal across markets, geography, and company activity. For example, day-ahead natural gas markets appear to be reported more frequently than bid-week gas or day-ahead electricity. This kind of variety means it is difficult to make strong general conclusions about index performance.
- Dependence on Indices. Consistent with anecdotal evidence, survey respondents cite a high level of dependence on natural gas indices as price references in

contracts, with less dependence on electricity indices. This appears to be based on market needs and not as a result of less confidence in electricity indices.

- Confidence. Confidence in the price index process could be stronger. Survey respondents' average response was a 7 on a 1 to 10 scale.

The full Report discusses developments over the past year on price indices, including the results of the surveys, and provides a detailed technical appendix with extensive survey data for market participants to consider. Generally, the survey results largely support the comments and statements filed by market participants and price index developers.

Most comments received in this docket indicate that the Commission's Policy Statement has made a positive contribution to the number of market participants reporting trade data, the quality control over the data reported, and increased transparency of information in price indices for natural gas and electricity. At the same time, survey results support the observation that not enough companies report price transaction data in full compliance with the Policy Statement, and comments continue to urge greater transparency of information in price indices, particularly information showing the level of trading activity. In addition, some state that only mandatory reporting will restore their confidence in price indices.

Options

Further improvements in natural gas and electricity price discovery processes are clearly possible. Staff identified four general Commission options for future involvement in price formation issues:

- Accept Current Progress. The Commission could end active involvement with price formation issues and permit the industry to address issues without any formal structure or further guidance from the Commission. The Commission would continue to monitor in the same sense as it presently monitors energy markets for general purposes, and could return to active engagement in the future depending on what developments take place in energy markets.
- Continue To Focus Attention. The Commission could actively encourage the industry to implement the Policy Statement fully and monitor closely the level of trading activity reported to price index developers as well as compliance with the Policy Statement standards for reporting and index development. Additional Commission scrutiny may continue to provoke improvements.
- Introduce Mandatory Reporting. The Commission could move toward some form of mandatory price reporting of energy trade data, as a number of parties have

urged over the past several months. As noted in the Policy Statement, current law provides broad authority to obtain price information from market participants. Mandatory reporting could take different forms—reporting directly to price index developers, creating some form of intermediary or data repository, or having the Commission collect price information. Any such mandatory reporting would require the Commission to address several significant issues, including jurisdiction and authority, scope of reporting, criteria for reporters, data elements, costs, and confidentiality protections.

- Encouraging Greater Reliance on Platforms for Trading, Confirmation/Settlement and Clearing. Some parties have observed that the most open forum for obtaining accurate price information is trading on an electronic platform. In addition to electronic platforms for trading, platforms set up to facilitate confirmations/settlements and credit clearing have potential to further aggregate transactions for the purpose of forming more robust price indexes at low incremental costs.

Recommendations

The Policy Statement requires Staff to monitor developments in price reporting and price formation generally, and to evaluate the degree to which price index developers adhere to the standards of the Policy Statement. Staff was also instructed to consider whether certain indices used in jurisdictional tariffs reflect adequate liquidity at the referenced locations. Staff makes the following recommendations:

- Public Conference. Staff recommends the Commission convene a public conference to hear responses from the industry on Staff's findings, the options available to the Commission, and Staff's recommendations herein. Staff also notes that the crisis of confidence in price indices stems in part from liquidity problems in energy markets, rather than being the cause of such problems. Staff therefore suggests that the conference also address the fundamental issue of market liquidity. Further contributions to the public record on price indices and market liquidity, along with continuing monitoring of progress in participation and transparency of data over the coming months, can inform the Commission about its future course of action.
- Price Index Developer Compliance. With respect to price index developers' compliance with Policy Statement standards, the developers generally have taken significant steps to implement the Policy Statement standards. Two major concerns remain. One is that price index developers should provide more transaction information related to the price provided in indices. The second is that price index developers must agree to provide the Commission with access to relevant data in the event of an investigation into possible false price reporting or price manipulation. On condition that these two concerns are satisfactorily

resolved, Staff recommends that six price index developers—Argus Media, Energy Intelligence Group, Inc., IntercontinentalExchange Inc., Io Energy, Intelligence Press, Inc., and Platts—be deemed to be in substantial compliance with the standards of the Policy Statement.

- Use of Indices in Jurisdictional Tariffs. With respect to the use of price indices in jurisdictional tariffs, one major defect for understanding the reliability of reported prices at particular location in most published indices is the lack of volumetric and transaction information that would show the activity upon which an index price at that trading point is based. For an index and location to be used in a jurisdictional tariff, Staff recommends:
 - Effective September 1, 2004, any published index used in a jurisdictional tariff must regularly provide the volumes and the number of transactions from which the prices at all referenced locations are derived. If there were no transactions but a price assessment is supplied, the index must so state.
 - For each index location used in a jurisdictional tariff, the published index must report a minimum level of activity at that location, measured by volumes or number of transactions at the relevant location(s). The minimum volume levels are 25,000 MMBtu/day or 4000 MWh/day, and the minimum transaction levels are five trades (daily index), eight trades (weekly index), or ten trades (monthly index).
 - An index should be evaluated under the volume and transaction number criteria for a 90 day period. If an index has not been supplying volume and transaction number information for 90 previous days, the index may continue to be used in the tariff until a 90 day period can be evaluated, so long as the index has begun providing volume and transaction number information by September 1, 2004.
 - Further Commission action in cases in which changes have been made to index references in tariffs be deferred pending comments on the criteria recommended in this Report.
 - Once an index and specific locations have been approved for use in a tariff, the use of the index and locations may continue until an affected party seeks a change in the index being used based on the criteria no longer being met or the pipeline or utility files a change in the index used in the tariff.

II. **BACKGROUND**

A. Function and Credibility of Price Indices

Price indices play a pivotal role in natural gas and electricity markets, both for physical and financial transactions. Recent events, however, have shaken public and industry confidence in price indices. In 2002 the Commission's Western Markets Task Force investigated the role natural gas indices played in the historically high prices charged for electricity in California in 2000-2001. The *Final Report on Price Manipulation in Western Markets (Western Markets Report)*, issued March 2003 in Docket No. PA02-2-000, determined that employees of several companies had reported false information to publishers of price indices in an effort to skew indices in favor of their trading activities positions (short or long) taken in both the physical and financial markets. In addition, the investigation found that other companies had no system in place to ensure the accuracy of the data being reported to the index publishers. The Commission initiated investigations of market irregularities uncovered in the *Western Markets Report*.¹ Subsequently, the Commodity Futures Trading Commission (CFTC) and certain United States Attorneys also initiated investigations into false price reporting, resulting in both significant civil penalties on a number of energy companies and indictments of individuals.²

Energy price indices convey relatively little information compared to, for example, commodity or stock exchanges. Increasingly, customers have expressed concern about a lack of information about transaction liquidity. Users of price index information could be better informed if they knew more about how many actual transactions were used to determine the index price or how active trading is at a given point. That way they could

¹ In addition to the index price manipulation observed, the *Western Markets Report* also found that many of the market participants engaged in gaming activities in violation of applicable tariffs. The Commission issued Orders to Show Cause that resulted in settlements with most companies for the full amount of the revenues those companies received from the gaming activities, totaling over \$26 million. The *Western Markets Report* further found that some suppliers may have engaged in physical withholding of generation as well as economic withholding by submitting high bids. The Commission initiated investigations of both physical withholding and anomalous bidding practices to determine if any tariff violations occurred and, if so, to seek disgorgement of unjust profits. Although certain of those investigations are still pending, settlements with two suppliers have resulted in over \$52 million that in benefits to California and Western consumers.

² Since December 2002, the CFTC has settled 13 administrative actions and imposed almost \$200 million in fines against companies that reported false information on prices and transactions to energy price reporting firms.

make better decisions when they encounter prices that could be influenced by significant exercise of market power at thinly traded locations. The “tier” classification of high, medium, or poor liquidity adopted by some index developers has helped, but the lack of volume and transaction number information contributes to the lack of confidence.

Gas commodity markets appear to have shifted away from primary reliance for spot gas on monthly (bid-week) markets toward next-day and balance-of-month markets. Next-day trading appears to be more robust, with a large number of next-day trades being executed on more transparent electronic exchange platforms. Fixed-price transactions in the month-ahead market appear to have declined significantly. Still, monthly indices remain the most widespread and important reference points for indexed contracts, settlements for swaps, settlements for pipeline imbalances, etc.

Another possible concern is the degree of industry reliance on index-based contracts rather than fixed-price contracts. Natural gas producers, local distribution companies (LDCs), and others tend to buy at index-linked prices in lieu of negotiating fixed prices. LDCs have found index pricing to be a straightforward means of meeting prudence reviews by state regulators through comparison to index benchmarks. If there are not enough fixed price transactions, however, index prices will not reflect market conditions. This is another liquidity concern—improvements in price reporting, data quality, index methodologies, reporting procedures, and the like still will not produce the desired result if there are not enough fixed price trades to form prices.

B. Commission Role and Interest in Price Formation

The Commission has a statutory obligation to ensure the justness and reasonableness of rates for energy transactions within its jurisdiction. That jurisdiction extends to certain sales of electricity and natural gas for resale in interstate commerce, interstate transmission of electricity and natural gas, and the related pricing mechanisms in jurisdictional tariffs. 15 U.S.C. § 717(b); 16 U.S.C. § 824(b). Through a series of measured steps taken with respect to both the natural gas and electricity industries, the Commission has endeavored to ensure the delivery of dependable, affordable energy through reliance on sustained competitive markets rather than through rigid regulatory mechanisms and adherence to strict-cost-of service principles.³

Under section 4 of the Natural Gas Act (NGA), 15 U.S.C. § 717e, and section 205 of the Federal Power Act (FPA), 16 U.S.C. § 824d, the Commission must ensure that all rates for jurisdictional sales or transmission of natural gas or electric energy are just and

³ See, e.g., *KN Interstate Gas Transmission Co.*, 68 FERC ¶ 61,401 (1994); *Entergy Services, Inc.*, 58 FERC ¶ 61,234 at 61,752-53 (1992); *Enron Power Enterprise Corp.*, 52 FERC ¶ 61,193 at 61,709-10 (1990); *Commonwealth Atlantic LP*, 51 FERC ¶ 61,368 at 62,246-47 (1990); *Doswell LP*, 50 FERC ¶ 61,251 at 61,756 (1990).

reasonable.⁴ Section 5 of the NGA and section 206 of the FPA authorize the Commission, after a hearing, to fix by order a rate determined to be just and reasonable. However, neither the NGA, the FPA nor their legislative histories define “just and reasonable.”⁵ Although the Commission historically has accepted rates based on a supplier’s cost of service, neither statute limits the Commission to using cost-based, or any particular, methodology. Courts of Appeals and the Supreme Court have held that “there is no single cost-recovering rate, but a zone of reasonableness: ‘Statutory reasonableness is an abstract quality represented by an area rather than a pinpoint. It allows a substantial spread between what is unreasonable because too low and what is unreasonable because too high.’”⁶ The zone is “bounded at one end by the investor interest against confiscation and at the other by the consumer interest against exorbitant rates.”⁷

In discussing the just and reasonable standard of the Natural Gas Act, the Supreme Court stated that:

Under the statutory standard of ‘just and reasonable’ it is the result reached and not the method employed which is controlling It is not the theory but the impact of the rate order which counts. If the total effect of the rate order cannot be said to be unjust and unreasonable, judicial inquiry . . . is at an end.⁸

The Commission has developed reasoned ratemaking methods, and courts have deferred to the Commission in this regard.⁹ In short, the Commission has “substantial discretion in its ratemaking determinations.”¹⁰

⁴ See, e.g., *Entergy Services, Inc.*, 58 FERC ¶ 61,234 at 61,752 (1992); *Enron Power Enterprise Corp.*, 52 FERC ¶ 61,193 at 61,709 (1990); *Commonwealth Atlantic LP*, 51 FERC ¶ 61,368, at 62,246-47 (1990).

⁵ *Entergy Services, Inc.*, 58 FERC 61,234 at 61,752 (1992).

⁶ *FPC v. Conway Corp.*, 426 U.S. 271, 278 (1976), quoting *Montana-Dakota Utilities. Co. v. Northwestern Public Service Co.*, 341 U.S. 246, 251 (1951).

⁷ *Jersey Central Power & Light Co. v. FERC*, 810 F.2d 1168, 1177 (D.C. Cir. 1987).

⁸ *FPC v. Hope Natural Gas Co.*, 320 U.S. 591, 602 (1944), *reaff’d* by *Duquesne Light Co. v. Barasch*, 488 U.S. 299, 310 (1989).

⁹ See, e.g., *Entergy Services, Inc.*, 58 FERC ¶ 61,234 at 61,752 (1992); *Enron Power Enterprise Corp.*, 52 FERC ¶ 61,193 at 61,709 (1990); *Commonwealth Atlantic LP*, 51 FERC ¶ 61,368 at 62,246-47 (1990).

¹⁰ *Farmers Union Central Exchange, Inc. v. FERC*, 734 F.2d 1486 (D.C. Cir.), *cert. denied sub nom. Williams Pipeline Co. v. Farmers Union Central Exchange*, 469 U.S. 1034 (1984).

The Commission supports competitive gas and electricity markets, and it therefore has an interest in price formation in those markets to assure that the markets are competitive and transparent. As to gas, the Commission stated in Order No. 636 that:

efficiency in the now national gas market can be realized only when the purchasers of a commodity know, in a timely manner, the prices of the distinct elements associated with the full range of services needed to purchase and then deliver gas from the wellhead to the burnertip. Only then will gas purchasers be able to purchase, based upon their needs, the exact services they want with full recognition of the prices that they would have to pay. And only then will the Commission be assured that all gas is transported to the market place on fair terms.¹¹

Order No. 888 expressed the benefits of competitive electricity markets as follows:

Market-based rates helped to develop competitive bulk power markets. A generating utility allowed to sell its power at market-based rates could move more quickly to take advantage of short-term or even long-term market opportunities than those laboring under traditional cost-of-service tariffs, which entail procedural delays in achieving tariff approvals and changes.¹²

Discussing the scope of Order No. 888, the Commission said the non-discriminatory open access transmission service is “part of a broader picture of evolving issues affecting the electricity industry and that other Commission policies will play an important role in ensuring the full development of competitive markets.”¹³ Order No. 888 and its progeny represent “the foundation necessary to

¹¹ *Pipeline Service Obligations and Revisions to Regulations Governing Self-Implementing Transportation; and Regulation of Natural Gas Pipelines After Partial Wellhead Decontrol*, Order No. 636, FERC Stats. & Regs. ¶ 30,939 at 30,393 (1992); *order on reh’g*, Order No. 636-A, FERC Stats. & Regs. ¶ 30,950 (1992); *order on reh’g*, Order No. 636-B, 61 FERC ¶ 61,272 (1992); *reh’g denied*, 62 FERC ¶ 61,007 (1993); *aff’d in part and remanded in part*, *United Distribution Companies v. FERC*, 88 F.3d 1105 (D.C. Cir. 1996); *order on remand*, Order No. 636-C, 78 FERC ¶ 61,186 (1997).

¹² *Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities*, Order No. 888, FERC Stats. & Regs. ¶ 31,036 at 31,643 (1996), *order on reh’g*, Order No. 888-A, FERC Stats. & Regs. ¶ 31,048 (1997), *order on reh’g*, Order No. 888-B, 81 FERC ¶ 61,248 (1997), *order on reh’g*, Order No. 888-C, 82 FERC ¶ 61,046 (1998), *aff’d in relevant part sub nom. Transmission Access Policy Study Group, et al. v. FERC*, 225 F.3d 667 (D.C. Cir. 2002), *aff’d sub nom. New York v. FERC*, 535 U.S. 1 (2002).

¹³ *Id.* at 31,652.

develop competitive bulk power markets”¹⁴

There are many elements of the energy marketplace that undergird the Commission’s reliance upon competitive markets to assure just and reasonable rates. Accurate indices reflecting a robust market (or indicating where liquidity is lacking) play an important role in providing market participants and the Commission the information and price signals needed to track and effectively manage risk in competitive markets.

C. Commission and Industry Actions To Improve Confidence in Price Formation

Early in 2003 the Commission addressed price formation problems resulting from the fraudulent reporting of price data and reduced energy trading activity. Noting fundamental flaws in the means by which prices from natural gas trading were reported to price index developers—including wide-spread lack of reporting conventions and internal controls—the Commission directed eleven companies that participated significantly in wholesale energy markets to demonstrate they had investigated and disciplined any employees who reported false prices, fixed their internal processes to separate trading and reporting functions, and embraced a clear code of conduct.¹⁵

The Commission also opened Docket No. AD03-7 and held technical conferences, with participation by the CFTC and the National Association of Regulatory Utility Commissioners, on April 24 and June 24, 2003.¹⁶ The Commission’s Staff also issued discussion papers and, based on comments received from the technical conferences, held a follow-up workshop on July 2, 2003, to explore the desirability of a “safe harbor” for good faith reporting of prices to price index developers.

The Commission focused both on the short term and longer term solutions to price index issues. For the short term, the Commission considered ways to promote more reporting of trade data to existing price index developers and steps to raise the level of

¹⁴ *Transmission Access, supra*, 225 F.3d at 681 (quoting Order No. 2000).

¹⁵ “Order Directing Submission of Information with Respect to Internal Processes for Reporting Trading Data,” *America Electric Power Co., et al.*, 103 FERC ¶ 61,089 (2003). Subsequently, in the “Order Accepting Submission of Information with Respect to Internal Processes for Reporting Trading Data,” the Commission accepted the submissions of the eleven companies and noted that the steps taken by those companies was a step “in the process of restoring the credibility of the published indices.” 104 FERC ¶ 61,153 at P 18 (2003).

¹⁶ In the *Western Markets Report*, Staff had recommended that, in light of the importance of price indices to commercial transactions, the Commission begin a process for establishing standards for price reporting with input from the industry, price reporting firms, and the CFTC. *Western Markets Report*, Section III-39.

quality both on the part of the index developers and those reporting trade data to index developers. This included considering the criteria for index production and price reporting, the scope of data to be reported, whether price reporting should be mandatory for jurisdictional entities, and what kinds of reviews or audits of price reporting and price indices should be conducted.

The Commission also expressed interest in changes for the longer term. Several parties urged the Commission to either centralize the price collection process or to encourage creation of price reporting entities, either through a single or multiple self-regulating organizations (SROs). Here it was argued that, depending on the scope of regulatory functions deemed appropriate to oversee price discovery mechanisms, the Commission could delegate many such functions to a SRO, such as standards of conduct, compliance, surveillance, auditing, enforcement, rulemaking, standardization of formats, dispute resolution, adjudication, and membership requirements.

Comments and testimony at the April and June conferences pointed out that SROs are well-established in certain financial industries, often operating under supervision from agencies that have been granted specific legislative authority.¹⁷ Structural changes in price reporting raised many questions, including whether the Commission would need additional specific legislative authority to sponsor or validate a SRO-type entity for price formation in the energy industry, whether SROs raise significant questions of cost, governance and oversight, whether the Commission could mandate use of a SRO and/or subject the SRO to government oversight, and whether the Commission could delegate price surveillance to a SRO.¹⁸

¹⁷ For instance, the National Futures Association registers and monitoring futures brokers under the oversight of the CFTC and pursuant to legislative provisions. GovPX, Inc., is a private company which benchmarks U.S. Treasury market prices without legislative provisions, but with the approval of the United States Treasury and Federal Reserve.

¹⁸ Staff notes that at the April 24 conference, the University of Houston Global Energy Management Institute (UH-GEMI) proposed to serve as a single energy price data hub, stating that it would be an independent entity offering open access to data while protecting confidentiality of individual transactions. Under the UH-GEMI proposal, data would be submitted on a transaction-level basis and would be matched and confirmed, consolidated, sanitized, and packaged for distribution to publishers, regulators, academics, or industry participants. Purchasers of the data could then develop indices, adding value enhancements as appropriate.

Skipping Stone submitted a comprehensive proposal for creation of an Independent Data Aggregator that would collect, process, and validate data to be stored in a comprehensive Energy Transaction Repository. The Independent Data Aggregator would be non-profit and governed by an independent board drawn from all industry segments. Validated data in the Energy Transaction Repository would be available for purchase by any index developer for use in published indices. In addition, other parties could obtain transaction data, such as government

At the same time, and with the encouragement of the Commission, numerous industry representatives were working towards greater consensus on improved price formation within the existing system of voluntary price reporting. The industry process began with steps such as the issuance of “Best Practices for Energy Price Indices,” guidelines published by the Committee of Chief Risk Officers on February 27, 2003.¹⁹ Price index publishers urged market participants to engage in more fixed-price trading and to report their trades in order to strengthen price indices.²⁰ Several industry stakeholders worked together to develop consensus recommendations on price indices. This consensus effort resulted in the “Joint Recommendation from Industry Stakeholders To Reform Gas Price Reporting and Index Publication,” filed in Docket No. AD03-7 on June 23, 2003.²¹

The conferences and workshops, along with the industry consensus on key steps, led the Commission to issue the Policy Statement in Docket No. PL03-3 on July 24, 2003.²² In the Policy Statement, the Commission explained what it expects of both

agencies for enforcement purposes or academic institutions for research.

Other parties also proposed to act as data aggregators for industry trade price information. The InterContinental Exchange (ICE) suggested that its existing eConfirm system operates as a central processing hub, independent of ICE’s trading platform, and could be part of a price index solution. Similarly, the New York Merchantile Exchange and the Merchant’s Exchange in Chicago, both SROs under the jurisdiction of the CFTC, offered to create a natural gas price information database for industry use in price discovery.

¹⁹ The CCRO document is available on the CCRO website at <http://www.ccro.org/pdf/energy.pdf>.

²⁰ See, e.g., www.intelligencepress.com/features/ngistatement.html.

²¹ The joint recommendation was sponsored by the American Gas Association, the Coalition for Energy Market Integrity and Transparency (EMIT is made up of over 200 organizations and individuals, including the American Public Gas Association, the American Public Power Association, Apache Corporation, the Louisiana Independent Oil and Gas Association, the National Association of Royalty Owners, the National Association of State Utility Consumer Advocates, the National Rural Electric Cooperative Association, the Oklahoma Independent Producers Association, and the Public Energy Authority of Kentucky), the Committee of Chief Risk Officers, the Independent Petroleum Association of America, the Interstate Natural Gas Association of America, the Natural Gas Supply Association, the National Energy Marketers Association, and the Process Gas Consumers Group.

²² See the Policy Statement, ¶¶ 6-32, for a detailed discussion of the role of price indices in energy markets, concerns with price index quality and reliability, industry efforts to improve index quality, and the steps leading to the Commission’s issuance of the Policy Statement. Subsequently the Commission also issued an *Order on Clarification of Policy Statement on Natural Gas and Electric Price Indices*, 105 FERC ¶ 61,282 (2003).

natural gas and electricity price index developers and the companies that report transaction data to index developers.²³ The Commission also created the “safe harbor” for reporting, a rebuttable presumption that companies that report trade data in accordance with the standards of the Policy Statement are doing so in good faith and will not be subject to administrative penalties for inadvertent errors in reporting.

In the Policy Statement, the Commission took two related steps concerning the use of price indices. First, the Commission required that “any prospective use of any index in its jurisdictional tariffs meet the criteria set forth above for price index developers and reflect adequate liquidity at the referenced location to be reliable.” Policy Statement ¶ 41. Second, the Commission instructed Staff to monitor “both the level of reporting to index developers and the amount of adherence to the standards set forth herein.” *Id.* ¶ 43. Here Staff was instructed, among other things, to “review the quality of reported indices (i.e., adherence to the above standards by index developers); and communicate with index developers to insure appropriate Commission data access when needed.” *Id.*

On July 31, 2003, consistent with the requirement that indices in tariffs meet the Policy Statement criteria, the Commission issued orders conditionally accepting tariff sheets filed to change index references in *Transcontinental Gas Pipe Line Corporation*, 104 FERC ¶ 61,181 (2003), and *Northern Natural Gas Company*, 104 FERC ¶ 61,182 (2003). In these orders, the Commission noted the requirements of the Policy Statement that indices used in tariffs meet the Policy Statement standards and reflect adequate liquidity. The Commission then directed Staff to file a report within 180 days “regarding whether the [referenced index points] meets the mandated standards and reflects adequate liquidity at the referenced locations to be reliable.” *Transco* P 11; *Northern Natural* P 8. The Commission issued a similar order on August 8, 2003, in *Natural Gas Pipeline Company of America*, 104 FERC ¶ 61,190 (2003). By notices issued January 27, February 6, and April 19, 2004, the Commission extended the date for these reports to May 5, 2004.

The Commission’s Staff immediately began monitoring industry response to the Policy Statement. In September 2003 Staff sent a survey to selected companies seeking information on their price reporting practices before and after issuance of the Policy Statement. The survey indicated that many respondents did not report trade information and, in some cases, were discontinuing reporting due to perceived risks in reporting inaccurate information. Other respondents indicated that they planned to begin or resume trade data reporting after establishing procedures to ensure accuracy in reporting.

In order to address the issue of adequate liquidity at referenced index points as required by the Policy Statement, Staff held a workshop on liquidity issues on November

²³ Policy Statement ¶¶ 33 & 34.

4, 2003, gathering useful input from a wide range of market participants. The workshop explored various questions about adequacy, including measures taken by some index publishers to provide indications of the levels of activity behind quoted indices.

Also in furtherance of the Commission's direction to monitor adherence to the standards of the Policy Statement, Staff informally requested several price index developers to submit statements to the Commission explaining whether they have adopted, or will adopt, the standards of the Policy Statement and describing their practices in each of the five areas identified by the Commission in Policy Statement ¶ 33. Several such statements were filed in Docket No. PL03-3-000 in January 2004.

Meanwhile, on November 17, 2003, the Commission issued two orders adopting behavior rules for market participants, that is, holders of market-based rate authority (electricity) and sellers using blanket certificate sales authority (natural gas). In Docket Nos. EL01-118-000 and -001 the Commission issued its "Order Amending Market-Based Rate Tariffs and Authorizations," 105 FERC ¶ 61,218, and in Docket No. RM03-10-000 the Commission issued Order No. 644, "Amendment to Blanket Sales Certificates," FERC Stats. & Regs. ¶ 31,153 (2003). Among other things, the rules bar false statements and require market participants, to the extent they choose to report transaction data to index developers, to report such data in accordance with the Policy Statement.

The behavior rules orders also directed all market-based rate sellers and holders of blanket certificate authority to notify the Commission whether or not they report prices to index developers in accordance with the Policy Statement. The Commission has received notices covering 756 companies. The majority of companies filing notices stated that they are not reporting prices in accordance with the Policy Statement standards, although many of the companies that are reporting are among the industry's larger and more active participants.

In order to gather more information about current price reporting practices, on March 5, 2004, the Commission issued a Notice asking both index developers and market participants to comment on a number of questions related to price indices. The Notice specifically invited price index developers to submit data (or supplement prior data) showing the extent to which they are in compliance with the Policy Statement standards. It also invited any interested party to comment on progress under the Policy Statement, including changes in transparency, adequacy of information provided, clarity in what an index represents, and the level of confidence in price indices today. Thirty-three comments were filed in response to the Notice.

On March 11, 2004, Staff sent a second survey to selected companies that buy and/or sell natural gas and electricity in wholesale markets. This survey was a follow-up to the survey conducted in September 2003, but sought more specific information from market participants on their trading activity in an effort to establish the level of adherence

to the Policy Statement standards, the amount of different kinds of transactions taking place, and the portion of those transactions being reported to index developers. Among other things, the questions solicited information to identify the relative size of buying and selling activity by each company, the portion of transactions that are fixed price versus index-based, and the portion of such fixed price transactions that are reported to index developers. The Commission received responses from 189 companies.

Industry efforts to improve price indices also have continued. Recently many of the companies and associations involved in the consensus effort, along with several price index developers, formed the Market Price Reporting Action Committee (MPRAC). On March 10, 2004, MPRAC announced data showing the change in the number and volume of energy transactions from the low point of November 2002 to March 2004.²⁴ MPRAC states that the volume and number of reported transactions, and the number of parties involved in reported trades, has increased significantly since November 2002, and that there is increased transparency in natural gas markets.

III. **IMPORTANCE OF CONFIDENCE AND** **PERCEPTION OF QUALITY IN PRICE INDICES**

A. Confidence and Perception Matter

In order to function effectively, energy spot markets must generate prices that are adequately credible to permit decision-making by those with an interest in the short-term value of energy—customers, producers, and other buyers and sellers. “Credibility,” however, is an inherently subjective criteria based on the perceptions of the users of the spot prices. The Commission in its Policy Statement focused on encouraging process improvements that should improve (and seem to have actually improved) the likelihood that spot index prices either actually reflect the market value at particular places, or at least signal uncertainty where market activity is possibly too low to create meaningful prices. Nevertheless, even if Staff believed that these processes could be said to have worked perfectly, they could not be deemed a success until the market broadly perceives them as effective.

These perceptions still vary widely across the industry, though not necessarily in a systematic way. For natural gas markets, assessing broad perceptions of index price credibility is more difficult because of the extensive fragmentation of perceptions across and among industry subgroups like producers, traders, and customers. Electricity indices appear to be used less, but many of the same difficulties apply.

²⁴ On March 26, 2004, MPRAC filed the data with its comments in response to the March 5 Notice in Docket No. PL03-3.

At one end of the spectrum, the most sophisticated buyers and sellers are unlikely to rely on indices primarily for their price information. They are more likely to actively trade, either contributing to the formation of prices or, at least, intimately understanding the forces at play at all levels of the market and durations of transactions in close-to-real-time. Nevertheless, they remain exposed to price index quality in two ways: in marking their books to market and in contractual provisions with counterparties looking to benchmark prices. To the extent trading assessments diverge from published price indices, their accounting and risk management departments will lose critical benchmarks for short-term performance.²⁵ And, to the extent that price indices diverge from prices at which they can actually trade energy, they face these same unmanageable risks.

At the other end of the spectrum, and of great importance to the Commission, smaller and less sophisticated buyers and sellers simply do not have the wherewithal or need to support active trading, and are truly index “price takers.” In effect, they find out about prices by reading the press. Many market participants fall in this category (as does the Commission itself). They use price data in contracts and in the defense of their purchasing and sales practices to owners and regulators. They have no real alternatives to assess spot energy value other than the prices published as indices, and their confidence is the test the industry must meet to resolve the price index problem.

As revelations of false reporting to price index developers in the 2000-2002 period emerged, some companies curtailed the scope of their price reporting. Moreover, in the period following the Enron scandal, much of the energy trading sector of the industry nearly collapsed, removing major players and sharply reducing the volume of wholesale transactions being conducted. This in turn reduced the volume of prices reported to index developers and raised questions whether the remaining transactions could produce accurate and robust indices representative of the true value of energy at any given time.

User confidence in spot market indices is related to the perception of quality. This means that for both the sophisticated and the smaller, less frequent market participants, the underlying quality of data reporting and index construction is of paramount importance. Information gathered from the responses to the request for comments and the second survey sheds important light on the progress made in quality improvement.

B. Comments on Current State of Price Indices

Of the 33 comments filed in response to the March 5 notice, 21 were by individual companies, six by associations, and six by price index developers. Of the 21 companies, 17 indicate that they either currently report prices or plan to begin shortly. Many of these companies indicate that the safe harbor provision in the Policy Statement was important

²⁵ Testimony of James C. Allison, *Workshop on Market Activity and Price Indicators*, Docket No. AD03-7-002, Nov. 4, 2003, at 73-74.

to the decision to continue or begin reporting prices, and a number of companies state that their confidence in price indices has increased since issuance of the Policy Statement. Similarly, most of the associations filing comments indicate that voluntary price reporting has improved both in quantity and quality since issuance of the Policy Statement.

Despite the overall positive tone of the comments, a number of commenters remark on the need for index developers to provide greater transparency in the development of their indices and additional information about reported transactions, such as the level of market activity at specific trading points and how reported prices are used in calculating their indices.²⁶ Some commenters also point out that, while improvements in index development are welcome, they are not a substitute for more fixed-price trading and that greater market participation is needed to increase liquidity.²⁷

1. Comments by Associations

The Market Price Reporting Action Committee (MPRAC), the umbrella group of energy companies, customers, trade associations, and price index developers, states that it is committed to advancing the process of price reporting and index development. MPRAC says three price index developers—Platts, Natural Gas Intelligence, and the IntercontinentalExchange—all report that the number of natural gas transactions and associated energy volumes have increased substantially since the November 2002 low point, and that nearly 60 companies are now actively reporting natural gas transactions. MPRAC did not address electricity indices or transactions.

The other five associations filing comments all are MPRAC members. American Gas Association (AGA) asserts changes since adoption of the Policy Statement “have materially improved the transparency of information contained in price indices” and members are “anecdotally reporting an overall increase in confidence” in indices. This, AGA states, “is leading toward a successful reporting solution.” The Edison Electric Institute and the Alliance of Energy Suppliers, noting deficiencies in information available through price indices, urge the Commission “to continue its dialogue with the index developers to ensure that the process is sufficiently transparent” and say that “the Commission’s main emphasis should remain on the price indices themselves.”

The Electric Power Supply Association (EPSA) asserts that the Commission has

²⁶ BP Energy Company at 4-5; ConocoPhillips Company at 2-3; Edison Electric Institute and Alliance of Energy Suppliers at 2-3; Entergy-Koch Trading at 2; Goldman Sachs & Co. at 4; National Fuel Gas Distribution Company at 3; Niagara Mohawk Power Corp. at 3-4; Pacific Gas & Electric at 2; Piedmont Natural Gas Company, Inc. at 3. A similar comment was filed by Tenaska Marketing Ventures in January 2004.

²⁷ BP Energy Company at 3; Goldman Sachs & Co. at 3; Questar Energy Trading Company at 2; TXU Portfolio Management Company at 2.

made significant contributions and that industry has responded to the Commission with initiatives that have improved the quality of reporting. EPSA encourages the Commission to continue to rely on voluntary price reporting. The Natural Gas Supply Association (NGSA) asserts its “members demonstrated their confidence in the indices by contracting most of their gas to be sold at index,” even at the November 2002 nadir of trading activity. NGSA urges the Commission to “continue to support voluntary reporting and let the market respond” to the Policy Statement guidance. Process Gas Consumers Group (PGC) believes that the Commission’s Policy Statement has “greatly improved market confidence in the price indices.”

2. Comments by Market Participants

The market participants’ comments generally responded to seven questions posed by Staff. The questions and comments are reviewed below.

Q1 Has the Policy Statement safe harbor for good faith reporting been helpful for your firm in its consideration of whether to engage in the reporting of price transaction data?

Q2 Have you adopted the standards of ¶ 34 of the Policy Statement or otherwise taken steps to improve the quality of trade data submitted to price index developers?

Many commenters who currently report trade data say that the Policy Statement was an important factor encouraging reporting.²⁸ It also is an important factor for those that have not been reporting. El Paso Merchant, LP (El Paso) says it “hope[s] to resume price reporting by no later than May 1, 2004,” and “without the safe harbor it is doubtful whether El Paso Merchant would have elected to resume price reporting.” Similarly, Energy-Koch Trading, LP (EKT) states it plans to resume reporting prices shortly, and “the Policy Statement safe harbor for good faith reporting has been beneficial in enabling it to do so.” Niagara Mohawk Power Corporation (Niagara Mohawk) says that it “is considering whether to engage in the reporting of gas price transaction data” and the “Policy Statement safe harbor for good faith reporting will be an important part of the evaluation of the risk-reward trade-off for reporting.” With respect to the adoption of standards, many commenters say that they have adopted the standards.²⁹ Others are in

²⁸ ChevronTexaco Natural Gas at 1; EnCana Marketing (USA), Inc. at 4; KeySpan Delivery Companies at 2; National Fuel Gas Distribution Corporation at 2.

²⁹ BP Energy Company at 4; ChevronTexaco Natural Gas at 1; Cinergy Services, Inc. at 2; ConocoPhillips Company at 2; Nicor Gas at 3; Pacific Gas and Electric Company at 2; Piedmont Natural Gas Company, Inc. at 2; Public Service Company of New Mexico at 2; Questar Energy Trading Company at 2.

the process of doing so or contend that their existing practices meet the standards.³⁰

Q3 Have changes by price index developers materially improved the transparency of information contained in price indices?

Q4 Do price index developers provide enough information about the level of trading activity at locations for which index prices are provided?

Some commenters say that there has been improvement by price index developers,³¹ but others noted that further improvement is needed. BP Energy Company (BP) notes while publishers of indices have taken steps in the right direction, “it is not always obvious from the index price publication how the published index prices are derived.” BP also says “it is difficult to discern what gas deliveries count towards the setting of the index price” at some locations, and “it is less than clear which prices are based upon an assessment and which are the result of actual transactions.” ChevronTexaco Natural Gas (ChevronTexaco) urges all publishers to define “the exact delivery points behind each index.”

Goldman, Sachs & Company (Goldman) notes significant improvements by index developers, but says that “the information still falls short of the Policy Statement’s mandate to provide for both the day-ahead *and* month-ahead markets, total volume, number of transactions, and number of transacting entities.” Goldman argues “disclosure of counterparty identity is important to trade verification and elimination of double counting.” Pacific Gas and Electric Company (PG&E) says many indices lack ancillary transaction data and urges index developers to provide the highest price, lowest price, weighted average price, net price change, actual volume, number of trades, and number of counterparties. Similarly, Piedmont Natural Gas (Piedmont) says “price index publishers continue to withhold discovery on the actual number of transactions occurring at specific points,” and “index developers should not filter or withhold information provided to them by reporting companies.”

Edison Electric Institute and the Alliance of Energy Suppliers note that “market participants lack access to information related to what percentage of trades are reported and what percentages of trades that are reported are actually used in the creation of the price indices.” ExxonMobil says “more detail beyond the ‘tier’ system, including

³⁰ El Paso Merchant, LP at 2; (working to conform to Policy Statement); EnCana Marketing (USA), Inc. at 4 (final stages of implementing new internal systems); ExxonMobil Corporation at 2 (practices “very much aligned” with Policy Statement); KeySpan Delivery Companies at 2 (will use internal audit process); TXU Portfolio Management Company LP at 2 (adopted CCRO recommended best practices).

³¹ AGL Resources Inc. at 2; El Paso Merchant at 2-3; EnCana Marketing (USA) Inc. at 4-5; ExxonMobil Corporation at 2;

volumes, number of counterparties [but not names] and transactions would be useful.”

Q5 Is it clear to you in publications what information is intended to be price indices and what information is intended to be “market price indications” or other market-related information? Do price index developers make clear which prices are indices prepared according to their index methodology?

Almost all commenters say that index developers make clear which information represents price indices prepared in accordance with their price index methodologies. PG&E says that it is not always clear, however, and points out that “it is difficult to compare and contrast the same indices reported by different publications.” PG&E “would prefer a standard methodology consistently applied by all publishers.” Questar Energy Trading Company (Questar Trading) observes “publishers do not provide any substantive guidelines as to the number of trades which would make a pricing point a true index price as compared to just a market indication.”

Q6 Do you have any specific concerns regarding the quality of price indices? If so, what are they? Please be specific about the basis for the concerns as well as what the concerns are.

BP cites the need for “much greater transparency in the definition of the [pricing] points themselves,” and argues “that it is inappropriate to use physical basis as a proxy for fixed price transactions.” ChevronTexaco notes the concern about “the quality of price indices when the number of submitted transactions is minimal” and recommends that price index developers “collaborate with electronic exchange platforms (e.g. ICE) to incorporate deals transacted on those platforms.” EnCana Marketing (USA) Inc. says quality would improve if “index definitions referenced specific pipeline meter locations.”

Entergy-Koch Trading suggests possible changes to weight indices “toward the last day of settlement or reflect daily pricing activity throughout the month.” Unlike BP Energy, EKT prefers that indices include “a combination of prices from fixed price physical trades and basis/differential trades that apply to physical contracts.” KeySpan Delivery Companies (Keyspan) are concerned with the accuracy of indices where there is limited activity, and urges the Commission to “encourage all buyers and sellers who transact business at ‘low volume locations’ to report prices for their transactions at those locations.”

National Fuel comments that it would be helpful for index developers to provide “more information about the level of trading activity at locations.” Niagara Mohawk notes that the exclusion of price “outliers” and refinements in calculating the “common range” are unclear. PG&E suggests that index developers provide more information about the developments of bid-week indices, including daily prices, volumes and similar information for each day during bid-week. Piedmont “encourages the Commission to

continue to press for counterparty reporting, and for reporting parties to provide such information to index developers.” Similarly, Public Service Company of New Mexico is concerned that “without counterparty name and buy/sell indicators being provided, trades cannot be accurately matched and double and triple counting of transactions may occur, ultimately skewing the price indices.”

Questar Trading argues that without 100 percent reporting of fixed price trades “any indices will continue to be questionable.” TXU Portfolio Marketing LP (TXU) “is concerned that no information is available regarding how price developers selectively use information.” Specifically, TXU asks whether reported prices are used if they are not matched to a transaction, and whether price ranges include all reported prices or just those “clustered around the mean.”

Q7 Do you have more confidence in price indices today than before issuance of the Policy Statement?

Virtually all commenters responded in the affirmative, with some noting their concern with thinness of data at some reporting points and others adding comments that improvements still can be made. Delaware Municipal Electric Corporation, however, “does not believe that there has been any significant improvement in the reporting of prices and indices which would result in increased customer confidence in such reporting.” Other commenters also expressed unease. Questar Trading says “it still does not have the confidence it would like in the indices” in the absence of reporting of all trades, and Piedmont notes “it would be beneficial to have further improvement in the quantity of transactions reported and the degree of information reported.”

C. Survey Results

Staff has used technical conferences, workshops, filings, and two voluntary surveys to assess the performance of price indices over the past year, as well as the effects of the Commission’s Policy Statement. In general, information gathered from the surveys support several observations:

- Levels of reporting to natural gas and electricity price indices suffered over the past, but have improved since late 2002.
- The quality of the price reporting has improved significantly over the past year, improving index reliability.
- Price index developers have taken significant steps to conform to the standards of the Policy Statement. Many market participants, however, believe that more transaction data is needed to understand the depth of markets at each trading location.
- The performance of indices and reporting varies a great deal across markets,

geography, and company activity, making strong general conclusions about performance difficult to make, and increasing the importance of direct volumetric and transaction information to allow index users to make informed specific decisions.

- Consistent with anecdotal evidences, survey respondents cite a high level of dependence on indices.
- Confidence in the price index process could be stronger (survey respondents ranked it as “7” of “10”). The policy implications of this ranking level are not clear.
- Nearly 20 percent of survey respondents indicated that they plan to begin or increase price reporting to indices, which will further improve the quality of price indices.

Results from both surveys will be discussed in greater detail below. In addition, the appendix provides detailed results from the second survey.

The first survey was sent in September 2003 and posed ten questions about activity before and after issuance of the Policy Statement. In March 2004 the Commission sent a second survey and asked somewhat more detailed questions about energy transactions. While there is no authoritative list of electricity and natural gas buyers and sellers (one of the consequences of a bilateral market; price indices themselves are another), the Commission selected nearly 300 survey recipients from industry lists of active marketers, traders, producers, generators, gas utilities, electric utilities, and industrial end-users. The companies were also selected with an eye toward larger entities in an effort to capture a fairly large portion of industry activity.

The survey recipients were not a stratified sample of each segment of the industry, however, and there was no penalty for failing to respond to the survey. As a result, respondents do not constitute a statistically representative sample of the industry. Therefore, Staff has tabulated and aggregated³² the information received in response to the surveys, but has not conducted statistical analysis of the data. Nonetheless, the tabulated information is instructive of the activities and views of those who responded to the survey, and Staff believes that valuable insights can be gained from review of the tabulated data.

1. 2004 Survey Results

After sending out 278 surveys, Staff received 189 responses from 179 companies, a response rate of 68 percent. A few companies responded by unit and a few others’

³² Most respondents asked for confidential treatment of data submitted under 18 CFR § 388.112. Staff has aggregated all data and, where Staff discusses any narrative or explanatory information furnished, has not identified any survey respondent individually.

affiliated companies responded jointly. The completeness of responses varied, with some not answering the more quantitatively detailed questions. Based on recently published trader summaries, the largest ten electricity and ten natural gas marketers responded to the survey, and most of the top 20 in both electricity and natural gas were included.³³ Consequently, despite the statistical caution referenced above, Staff believes that the following discussion of the responses has substance and can further the policy discussion in a meaningful way.

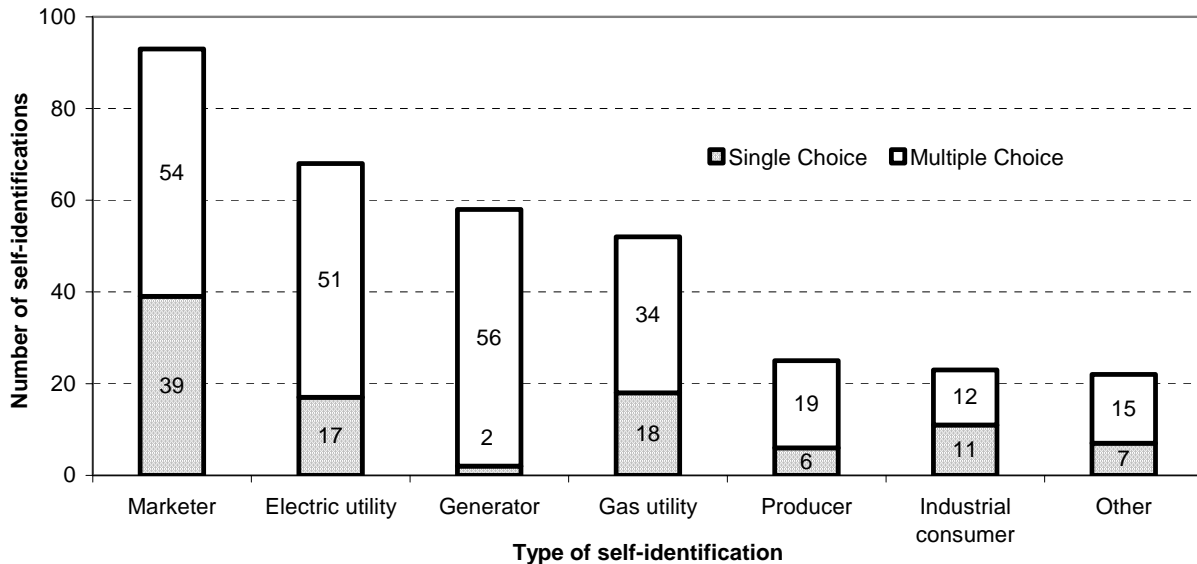
Who Responded

Responses to the second survey were extensive and represented a strong cross-section of industry participants. In the 189 surveys returned to Staff, respondents had the ability to identify their company's activities as "producer," "marketer," "industrial consumer," "electric utility," "gas utility," "generator," or "other," or as any combination of those categories. Of the 189 responses, 100 respondents selected one category, 46 respondents chose two categories, 27 respondents chose three categories, 12 respondents chose four categories, and four respondents chose five categories. Figure 1, which summarizes the choices and indicates whether respondents identified themselves in one category or in multiple categories, demonstrates that a fairly broad cross section of energy market participants responded to the survey. Given that the survey is not a statistically representative sample of the market, it is important that the set include a diverse set of company types, including both companies engaged in only one type of activity and companies engaged in multiple activities.

³³ Industry trade press occasionally publishes lists of most active traders. *See, e.g.*, <http://intelligencepress.com/features/rankings/gas> and <http://intelligencepress.com/features/rankings/power>.

Figure 1

Almost half of respondents identified themselves as marketers, but responses showed broad representation across the industry and many combinations



When examining responses by type of entity (e.g., marketer, gas utility), all respondents that self-selected that category are included. When discussing the results of all respondents, each respondent is counted once, regardless of how many categories were selected. The largest sub-category of respondent was marketer (alone) with 39 responses. The next most common included both “marketer” and “generator” (37 responses), “electric utility” and “generator” (36 responses), and “electric utility” and “gas utility” (30 responses). No other combination had more than 18 responses.

Respondents also showed diversity when they identified themselves based on their trading objectives. Respondents were diverse, but those with natural gas transactions most often identified themselves as “retailers,” while most electricity respondents said they “traded in support of assets or production” (see Table 1).

Table 1

Slightly more natural gas respondents identified themselves as purchasers for resale than other objectives, while more electric respondents identified trading in support of physical assets or production³⁴

	Natural Gas		Electricity	
	Number	Percent	Number	Percent
Contract-based business (including trading without physical assets)	30	17%	21	15%
Purchase for own consumption	43	24%	21	15%
Purchase for resale to end users	55	31%	46	33%
Trading in support of physical assets or production	52	29%	51	37%
All respondents	180	100%	139	100%

Participation in financial markets showed less diversity of strategies, consistent with current industry conditions. More than half the companies responding (almost 60 percent) indicated that they traded financial products at a ratio of less than one third of their physical volumes. Fewer than 30 percent said their ratio of financial-to-physical deals fell between one third and three times physical volumes. The remainder, less than an eighth (almost 12 percent), indicated that they traded financial products at more than three times their physical volumes.

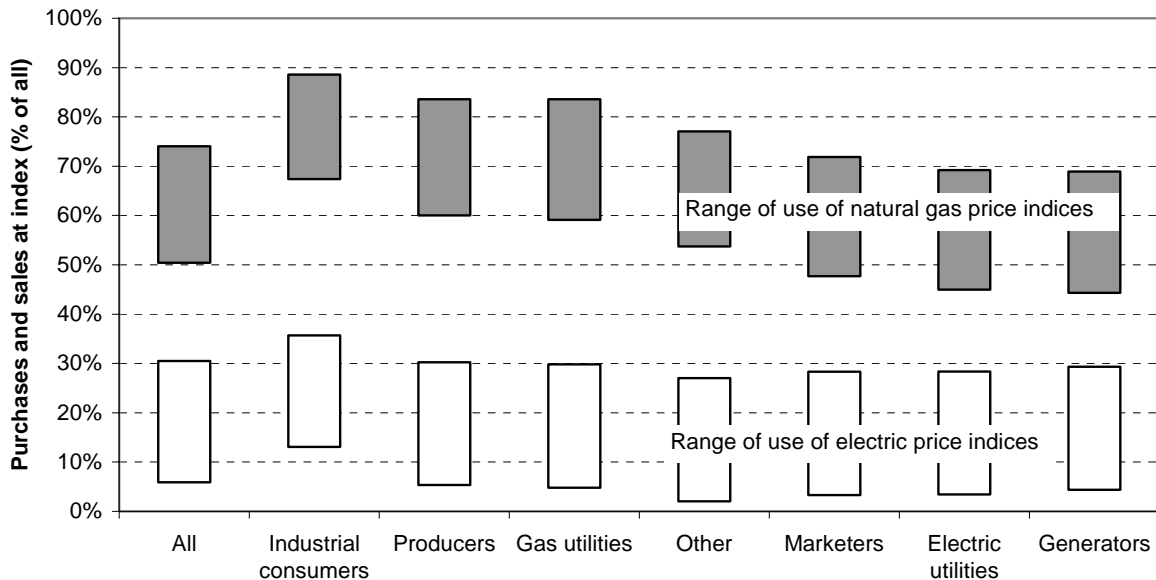
Short-Term Natural Gas Indices Are More Important to Respondents than Electricity Indices

Respondents indicated that natural gas price indices are far more important to their contracting than electricity price indices (see Figure 2). On average, respondents indicated that they priced somewhere between 50 and 75 percent of their natural gas sales and purchases based on some form of natural gas index, while on average a range from about five percent to not more than a third of electricity transaction volumes were priced using indices. A number closer to the lower end of the range is more consistent with anecdotal evidence.

³⁴ Nine surveys did not include a response to this question. This question asked for a single choice. In the rare cases when multiple categories were chosen, Staff kept only one, giving preference in the following order: “Purchase for resale to end users,” “Purchase for own consumption,” “Contract-based business,” and “Trading in support of physical assets.”

Figure 2

Survey respondents reported using natural gas price indices in pricing more than electricity; industrial consumers use indices more than others



Respondents indicated, for natural gas and electricity separately, percentage ranges of volumes purchased and sold during calendar 2003. Using those responses Staff calculated ratios for the average respondent as well as for respondents by their identification. Given the form of the question, Staff cannot determine exact averages, although the typical respondent in each category would fall in that range.

Respondents who are industrial consumers are more likely to rely on gas and electricity indices for pricing transactions than any other group. Producers and natural gas utilities reported themselves as next most likely. Electric utilities and generators were least likely to use natural gas indices as the pricing terms in contracts. The use of electricity indices varied less across respondent class than the use of gas indices, but still followed a generally similar pattern. Industrial consumers reported using electricity indices most often, followed by producers and gas utilities. Unlike with gas indices, marketers were less likely to use electricity indices than any other group except for those identifying themselves as “other,” though the difference is very small in comparison to other classes.

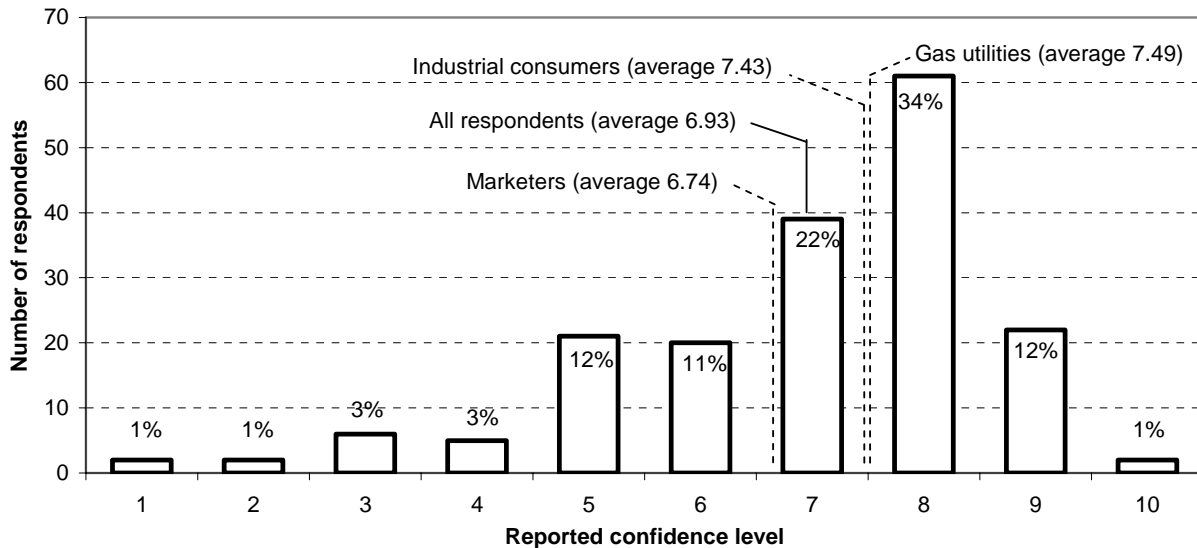
Respondents Have Some Confidence in Price Indices, but May Need More

Respondents reported having relatively more rather than less confidence in indices, averaging a “7” in a ranking of 1 to 10. Nevertheless, the broad diversity of responses seen above applies in this case as well. The distribution of results indicates a far greater concentration toward the higher end of the scale with more than 90 percent of

respondents falling in the 5–10 range (see Figure 3). Many comments in the survey indicated that confidence varies widely between gas and electricity indices, gas indices for “producing” and “consuming” areas, and by perceived level of market activity.

Figure 3

The average level of confidence in the current index construction process averaged almost 7 out of 10—gas utilities and industrial consumers reported being most confident*



*In rare cases when respondents indicated different confidence levels for different ad-hoc categories of indices, Staff took the lowest value. This gives a minimal downward bias to the results.

Interestingly, the lowest average tallied response came from marketers, potentially a troubling finding, though their confidence level differed only slightly (and not significantly) from the overall average. Their confidence level averaged 6.74 versus the overall average of 6.93. Perhaps more interesting is the higher average ranking of 7.43 from industrial consumers and the highest average ranking of 7.49 from gas utilities. Given these two groups’ greater reported reliance on indices (see above), the slightly higher assessment may have some greater importance.³⁵

The quantitative assessment of “confidence” provides some understanding of market participants’ faith in energy market indices, but does not provide clear policy signals or a directive for action. Staff prefers not to speculate on whether a “7” in this survey indicates adequate index confidence.

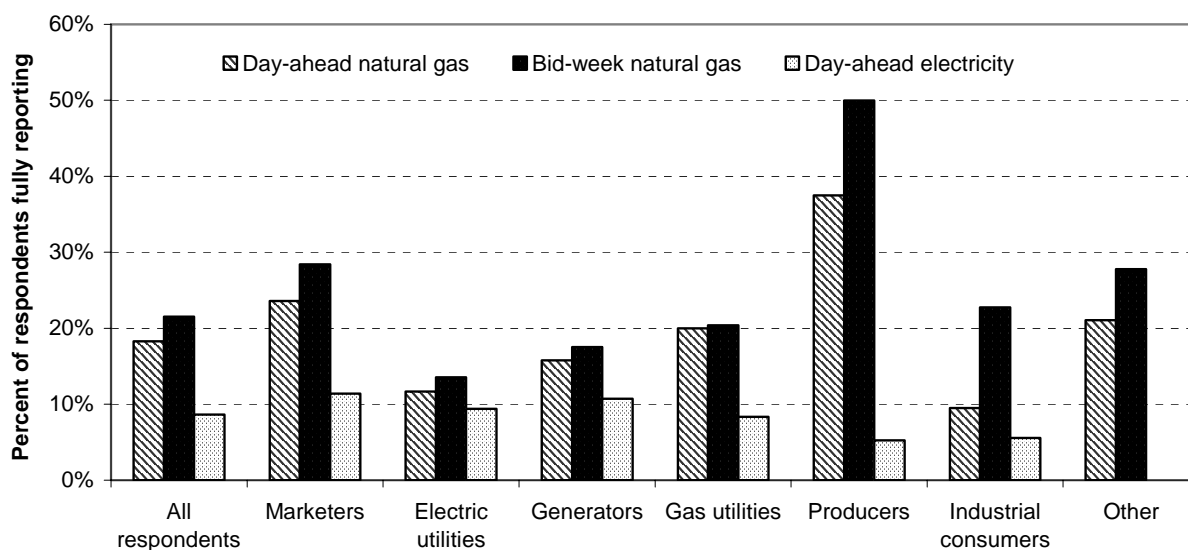
³⁵ In general, respondents that use indices more tended to express greater faith in indices as well. A few respondents showed extreme dependency and little confidence, however. Presumably these respondents do not feel they have alternatives.

Few Respondents Report All Reportable Transactions to Spot Indices

Survey respondents indicate that relatively few companies are reporting all reportable transactions to index developers (see Figure 4). Overall, about a fifth of companies are reporting all their day-ahead and bid-week natural gas transaction volumes.³⁶ About a tenth of companies are reporting all their reportable day-ahead electricity transactions.³⁷ For both day-ahead and bid-week natural gas, respondents that identified themselves as producers were the most likely to report all their transactions to index developers, at a rate of more than double the average. For day-ahead electricity, marketers and generators were slightly more likely than other respondent types to report all their transactions, but these rates were not very different from other groups or the survey-wide average.

Figure 4

Survey results show that a minority of companies are reporting all transactions



More Day-Ahead Gas Transaction Volumes Are Reported than Bid-Week Gas or Day-Ahead Electricity

Respondents reported a wide variety of reporting volumes levels in the fixed-price

³⁶ This is a somewhat lesser percentage than is found in the notifications filed as a result of the Market Behavior Rules. There 73 companies filing notices in Docket No. RM03-10 stated they report gas transactions fully in compliance with the Policy Statement, out of a total of 253 companies filing notices in that docket, or 29 percent.

³⁷ This is approximately the same percentage than is found in the notifications filed in Docket No. EL01-118, where 57 companies out of 580 stated that they report electricity transactions fully in compliance with the Policy Statement.

natural gas market that forms next-day indices, though no group reported a range with a low end of less than 48 percent. The survey asked respondents to roughly quantify what portion of their October 2003–February 2004 reportable day-ahead gas, bid-week gas, and day-ahead electricity transaction volumes are reported to index developers. The results are presented in Table 2.

Table 2
Percent of volumes reported

	Day-ahead natural gas			Bid-week natural gas			Day-ahead electricity	
	Low	High		Low	High		Low	High
Marketer	48%	59%		37%	47%		21%	41%
Electric utility	53%	63%		36%	44%		18%	29%
Generator	50%	60%		49%	58%		15%	21%
Gas utility	57%	68%		30%	36%		26%	38%
Producer	69%	80%		73%	83%		7%	25%
Industrial consumer	63%	87%		49%	64%		3%	16%
Other	51%	59%		59%	66%		21%	48%
All respondents	49%	59%		35%	44%		21%	39%

* Low and high cases are based on ranges identified in the survey question. Categories are not disjoint and thus “all categories” is not the sum of the other categories.

The results indicate that at least half of respondents’ day-ahead natural gas transaction volumes are reported to index developers by all categories of respondents. The results indicate that the highest level of reporting is by producers and industrial consumers. It is worth noting, however, that Staff has more confidence that most large marketers and generators responded to the survey than it has confidence that most large industrial consumers did. Though industrial consumers account for a large share of natural gas consumption, the consumption is certainly spread over a larger number of individual customers. Thus the high level of reporting by industrial consumers may be the result of self-selection and the lack of an unbiased sample.

Reporting in the month-ahead natural gas markets by respondents appears to be somewhat weaker; 35 to 44 percent of fixed-price month-ahead gas transaction volumes are reported to indices by respondents. More than day-ahead natural gas, these results vary widely by type of respondent, varying from 30 percent to above 70 percent in the “low” case. Similar to the results for day-ahead transactions, marketers indicated that they reported a somewhat low level of transaction volumes.

Overall, survey respondents indicated that reporting of day-ahead electricity transaction volumes was lower than reporting of both day-ahead and bid-week natural gas transaction volumes, in the range of 21 to 39 percent. Trading across all respondent categories was less than 50 percent. Similar to bid-week natural gas reporting, day-ahead electricity reporting varied widely by respondent category. The pattern of reporting

differed from that of both types of natural gas transactions. Whereas marketers indicated that they generally reported a lower level of gas transactions than other respondent categories, marketers indicated that they reported a higher level of day-ahead electricity transaction volumes than other respondent categories.

The existence of transparent RTO spot prices may account for less reporting of spot transactions. Staff has observed that when available, many secondary markets use RTO spot prices in preference to indices.

Survey Results Compared to Recent Industry Estimates

On April 30, 2004, the Market Price Reporting Action Committee (MPRAC), an umbrella group of more than 35 individual companies and associations, filed comments attempting to quantify recent reporting levels for day-ahead and bid-week natural gas and for day-ahead electricity. Their results were systematically much higher than the survey results, as shown in Table 3 below. In fact, in no case did the survey results support MPRAC's statement that "[w]hile uncertainties remain around these estimates, a sensitivity analysis indicates a high degree of confidence that, for the two natural gas markets, the percent reported by the Publishers during the January Time Period exceeded 60%."³⁸

Table 3
Comparison of Survey and MPRAC assessments of volumes reported

	Survey Range (10/03 – 2/04)	MPRAC Est. Range (1/04)
Natural Gas Daily	49-59%	69-71%
Natural Gas Bid-week (monthly)	35-44%	72-74%
Electricity - Daily	21-39%	49-56%

Several differences in analytic approach could be responsible for these significant differences. Staff has had no direct access to the information used by MPRAC in its study, and consequently can only speculate regarding the exact nature of the differences. Nevertheless, Staff has identified possible reasons for the differing results:

- Different Time Periods. Staff's inquiry is based on data reported for the period October 2003 through February 2004. MPRAC's analysis covered January 2004.

³⁸ MPRAC at 2.

- Different Locations. The survey asked for all company activity, resulting in numbers reflecting all locations. MPRAC's analysis covered 16 specified natural gas and 9 specified electric locations, all of which appear to be active trading locations.
- Differing Models. Staff's approach is a simple volume-weighted average of company-identified ranges of reported volumes. MPRAC's analysis focused on two approaches, each of which used assumptions about uniformity of activity to project market-wide activity.

The major disadvantage of Staff's approach is that it uses results from a sample which is clearly not statistically significant and cannot, therefore, be applied to the market as a whole but can only be attributed to respondents. The broad response detailed above ameliorates this concern only so much. The disadvantage of MPRAC's approaches is that they both make use of assumptions about uniformity of behavior to project results based on the information they do have for particular points.

Perhaps the most important finding coming from the survey responses is that there is actually very little uniformity about market participant behavior within bilateral natural gas and electricity markets. This lack of uniformity raises some questions about the applicability of MPRAC's analysis.

On the other hand, the difference between these results might suggest that there is a material difference between reporting practices at liquid and illiquid points. Transactions at the more active and liquid points, represented in the MPRAC analysis, may be reported more often than those at illiquid points picked up in the survey.

Rather than speculate further, Staff has published, as a detailed technical appendix to this Report, further tallies from the survey in the hope that others, perhaps including MPRAC members, will review this material and develop further insights into the functioning of the price-forming markets.

Longer-Term Price Reporting Is Very Limited

Fewer respondents answered the questions on longer-term price reporting. Nevertheless, the results clearly indicate that few companies report long-term transactions to index developers; over 75 percent of respondents indicated that they reported no forward fixed price natural gas or electricity transactions to index developers. Staff assumes that few long-term transactions are reported and the prices for such transactions reflected in index developers' publications are based upon a very small self-selected sample coupled with journalistic judgment.

Reporting Practices of Respondents Have Improved Since the First Survey

Survey results show that there continues to be improvement in the price reporting processes of respondent companies that report at least some of their natural gas or electricity transactions to index developers (see Table 4). The percentage of companies that report to index developers through a department independent from trading has doubled over the past year to nearly two-thirds. There has been a more notable rise in the percentage of companies that conduct annual independent audits of their price reporting practices, rising more than ten-fold, from five percent to 58 percent over the same period. Finally, the number of companies with a public code of conduct for buying and selling natural gas and electricity, as well as reporting transactions to index developers, has risen from 36 percent to 65 percent.

Table 4

Percentage of companies following selected price reporting guidelines

	First survey (before late July 2003)			First survey (after late July 2003)			Second survey		
	No	Yes	% Yes	No	Yes	% Yes	No	Yes	% Yes
Reporting by independent group?	76	38	33%	47	46	49%	33	56	63%
Annual review by independent auditor?	109	6	5%	76	17	18%	37	52	58%
Public code of conduct available?	108	62	36%	95	69	42%	31	58	65%

A Fifth of Companies Responding to the Survey Plan To Begin or Increase Reporting in the Future

As shown in Table 5, nearly 20 percent of the 162 companies that responded to the question on future price reporting state they will begin or increase their reporting to index developers in the future—more than half of them within the next three months. This provides a promising indication that the quality of price indices will continue to improve.

Table 5
Number of companies planning to begin or increase price reporting to index developers

	Number	Percent of all respondents
Plan to begin or increase reporting	30	19%
Within 3 months	16	10%
After at least 3 months	14	9%

2. 2003 Survey Results

Following the release of the July 24, 2003 Policy Statement, Staff solicited responses to its first “Survey Concerning Reporting of Energy Trade Data.” Like the second survey, the first survey was voluntary, and is not a representative or unbiased statistical sample. In addition, the first survey did not ask for information on the volume of gas and electricity traded.

The first survey was sent to 261 recipients, garnering a response rate of above 70 percent. In addition, a number of companies submitted unsolicited responses, bringing the total number of survey responses received to 232. Responses came from a wide mix of electricity and gas companies. Almost half stated their transactions do not result in index-reportable information. About 40 percent of companies said that they transact gas only and about 30 percent of companies said that they transact electricity only. The remaining 30 percent said that they transact both gas and electricity. The survey results discussed below are based on responses from solicited companies only.

The results indicate that there was a decrease in reporting after late July 2003. More than 60 percent of respondents indicated that they had reported prices prior to late July 2003, whereas 52 percent indicated that they reported before late July 2003. Drops occurred in all categories: six percentage points in gas, 11 percentage points in electricity, and 20 percentage points in companies that trade both gas and electricity. Overall, gas reporting was lowest (47 percent) and electricity reporting was highest (66 percent).

About 45 percent of companies that reported trading after late July 2003 indicated that they reported primarily to publications, down from 57 percent prior to late July 2003. There was little change in those reporting to exchanges or others. Electricity companies were less likely to report to publishers than other reporting companies (34 percent versus 56 percent).

There was progress in the quality of the reporting process by companies that reported after July 2003 as compared with prior to July 2003. More reporting was done by independent company departments, more companies used independent auditors, and

more companies had a public code of conduct. Results from these questions are discussed in more detail in the discussion above, where they are compared to the 2004 survey results.

D. Other Considerations

Interest in resolving the crisis of confidence in price indices goes beyond the Policy Statement. As noted earlier, the Commission took additional steps in issuing its Market Behavior Rules, and Congress is contemplating directing the Commission to establish a price collection system.

1. Behavior Rules

In issuing Market Behavior Rules applicable to all sellers of wholesale electricity using market-based rate authority, the Commission responded to the manipulation of energy price indices noted in the Staff *Western Markets Report*. To assure that honest and accurate information is provided to price index developers, the Commission adopted the following Market Behavior Rule 4, effective December 17, 2003:

To the extent Seller engages in reporting of transactions to publishers of electricity or natural gas indices, Seller shall provide accurate and factual information, and not knowingly submit false or misleading information or omit material information to any such publisher, by reporting its transactions in a manner consistent with the procedures set forth in the Policy Statement issued by the Commission in Docket No. PL03-3 and any clarifications thereto. Seller shall notify the Commission within 15 days of the effective date of this tariff provision of whether it engages in such reporting of its transactions and update the Commission within 15 days of any subsequent change to its transaction reporting status. In addition, Seller shall adhere to such other standards and requirements for price reporting as the Commission may order.

105 FERC ¶ 61,218 at P 116 (2003). For holders of blanket certificate authority for jurisdictional sales of natural gas at market prices, the Commission adopted similar language, designated as a Code of Conduct applicable to pipelines and holders of blanket marketing certificates, in 18 CFR §§ 284.288(b) and 284.403(b), effective December 24, 2003. Order No. 644, FERC Stats. & Regs. ¶ 31,153 (2003).

In adopting this behavior rule for both natural gas and electricity wholesale markets, the Commission responded both to comments that reporting should be mandatory and arguments that the rule would discourage companies from reporting. The Commission decided the rule “struck an appropriate balance,” noting that “we are attempting to work within the framework of voluntary reporting” and that “[w]e are

awaiting Staff's review of the comprehensiveness of reporting in the wake of our Policy Statement." 105 FERC ¶ 61,218 at P 119.

The notifications filed in response to the truthful reporting requirement present a mixed picture. The Commission received notices on behalf of some 756 companies. Most notices stated the companies were not reporting energy trade data to price index developers in accordance with the Policy Statement standards. Many of the companies that notified the Commission they were reporting are among the more active traders, however. Moreover, in response to the directive to notify the Commission of changes in reporting status, the Commission has recently received notices from nine companies that have changed their reporting status to reflect new or increased reporting.³⁹ This is consistent with the statements by the MPRAC and certain publishers that the number of reporting companies has increased in recent months.

2. Pending Energy Legislation

Congress has also indicated an interest in ensuring accurate, reliable, and transparent energy prices. The Conference Report accompanying H.R. 6, the *Energy Policy Act of 2003*, currently pending action in the Senate, details provisions for market transparency in both natural gas and electricity markets. For both markets, the bill would require the Commission to issue rules within 180 days. For natural gas, the rules would direct jurisdictional entities "to timely report information about the availability and prices of natural gas sold at wholesale in interstate commerce to the Commission and price publishers." H. Rept. No. 108-375 at 90. For electricity, the rules would establish "an electronic information system to provide the Commission and the public with access to such information as is necessary or appropriate to facilitate price transparency and participation in markets subject to the Commission's jurisdiction." *Id.* at 297.

In the event such legislation becomes law, the Commission will have specific statutory mandates affecting how it goes about encouraging price transparency in energy markets. While the Commission does not have this authority or mandate from Congress at present, future legislation may change the premises upon which the Commission has acted to date on this issue.

³⁹ Companies recently filing notices that they have resumed or increased reporting include PECO Energy Company (Feb. 9, 2004), Constellation Power Source (Feb. 13, 2004), ConocoPhillips Company (Feb. 20, 2004), PPL EnergyPlus LLC (March 16, 2004), PPL Gas Utilities Corporation (March 18, 2004), ChevronTexaco Natural Gas (March 31, 2004), Puget Sound Energy, Inc. (April 7, 2004), San Diego Gas & Electric Company (April 14, 2004); and Avista Utilities (April 22, 2004). In the same time period, no companies have filed notices that they were reducing reporting. In addition Williams Energy Marketing and Trading, El Paso Merchant LP, Entergy-Koch Trading, and Piedmont Natural Gas Company have filed comments in which they stated their intention to report in the near future.

IV. **PROCESS ASSESSMENT**

As part of the evaluation of change in price reporting over the past year, the Staff reviewed available information from those reporting prices and price index developers to determine whether there has been any significant change and, if so, whether the change has improved the quality of price indices. A significant amount of information came from the two surveys conducted by the Commission, but additional information is available from individual company comments and the filings of various price index developers.

A. Data Providers

Data providers have, by and large, embraced the standards of the Policy Statement, meaning that they operate under codes of conduct, submit data from mid- or back-offices, report more information about each transaction, and audit the process by which their trade data is captured and sent to price index developers.

1. Processes Today Versus Two Years Ago

In some cases, adoption of these basic quality measures was the result of intense scrutiny in the wake of the California energy crisis. Not every company continued to report trade data, however. There is no requirement to do so, as the current system of publisher-based price index development has been entirely voluntary since its inception. Indeed, some companies facing scrutiny of their practices withdrew from price reporting,⁴⁰ and other companies followed suit.⁴¹

When the Commission conducted the first survey in 2003, it found that many companies had not yet determined whether to begin or resume reporting under the “safe harbor” provisions of the Policy Statement. When the Commission followed up in the Market Behavior Rules by adopting a requirement that any entity reporting its transaction information must “provide accurate and factual information ... by reporting its transactions in a manner consistent with the procedures set forth in the Policy Statement,” many companies operating under market-based rate authority (electricity) or holding blanket certificate sales authority (natural gas) notified the Commission that they were not so reporting.⁴²

⁴⁰ Reliant Resources, Inc. and Williams Energy Marketing and Trading Company both informed the Commission in May 2003 that they had suspended reporting. 104 FERC ¶ 61,153 at P 10.

⁴¹ Among the more active traders deciding not to report prices were Entergy-Koch Trading and Constellation Power Source.

⁴² The Commission received notices filed on behalf of 253 companies in Docket No. RM03-10

The process of implementing internal processes to assure compliance with the Policy Statement standard has taken some time for a number of companies. As noted, however, nine companies recently filed notices informing the Commission that they are beginning or resuming reporting.⁴³ Additionally, in comments filed in March, El Paso Merchant Energy LP, Entergy-Koch Trading, Piedmont Natural Gas Company, and Williams Energy Marketing and Trading stated they expect to resume reporting in the near future. Even more encouraging were the survey responses. While the great majority of companies state they have no plans to change their present practices (either of reporting or not reporting), 30 companies state they intend to begin or resume reporting in the future.⁴⁴

The change in process appears to be significant. Several price index publishers state they have increased process standards for the submission of data by issuing detailed definitions of trading points to identify what transactions may be considered for each point; standardizing the format for data submission and encouraging electronic submission; requiring mid- or back-office personnel to submit data; requiring certification from data providers that the data is complete and accurate; and encouraging the submission of counterparty data to facilitate transaction matching and checking.

Similarly, a number of market participants have indicated that they are adopting new software programs and internal protocols, and testing the new procedures thoroughly, before resuming price reporting. Many of the 30 companies stating in the survey responses their intent to report discussed the steps being taken to establish standard data processes, including upgraded software, necessary to meet the Policy Statement standards. In some cases this has been a lengthy process, but ultimately it should produce superior quality and consistency of data submitted for inclusion in price indices.

2. Level of reporting

On March 26, 2004, the MPRAC filed comments on the progress made in the industry on increasing the level of reporting to price index developers. This group is continuing industry efforts initiated by the CCRO to achieve consensus on improvements

and 580 companies in Docket No. EL01-118. There were 77 companies responding in both dockets, for a net total of 756 companies. Most companies stated that they do not report in full compliance with the Policy Statement. In Docket No. RM03-10, 73 companies stated that they report fully; in Docket No. EL01-118, 57 companies so stated.

⁴³ See n. 37, *supra*.

⁴⁴ Sixteen of these companies said they would begin reporting within the next three months and 14 said it would take three months or more.

to be made to the current voluntary price reporting system. As compared with the industry group that filed the consensus comments in June 2003 that formed the basis for the Policy Statement, the MPRAC also includes participation by eight publishers of price indices.⁴⁵ The MPRAC asserts that there has been “a significant increase in reporting of natural gas transactions to price index publishers and exchanges, along with supporting data on the number of transactions and transaction volumes.”

The MPRAC included a news release it issued March 10, 2004, in which price index developers ICE, NGI, and Platts, and the New York Mercantile Exchange (NYMEX), compared the number and volume of natural gas bid-week transactions from November 2002, the low point of price reporting, with the months of November 2003 through March 2004 (trading for gas to flow in the months of November-March). The ICE data indicated that bid-week trades went from 1.6 Bcf/d in November 2002 to 2.9 Bcf/d in November 2003 and 4.4 Bcf/d in March 2004. For the same months, the number of individual trades were 284, 446, and 788, respectively, and the number of traders 48, 53, and 69. NYMEX activity went from 8.6 Bcf/d in November 2002 to 22.9 Bcf/d in November 2003 and 39.0 Bcf/d in February 2003.

Index publishers NGI and Platts provided similar data, along with their indications of the number of trading locations designed Tier 1, Tier 2, or Tier 3. NGI and Platts information showed a significant increase compared with the low month of November 2002, and an overall upward trend from November 2002 to March 2004. Both indicate bid-week volumes as slightly more than 12 Bcf in March 2004 with more than 1900 trades. While NGI and Platts do not indicate the number of parties trading, they do provide the number of Tier 1, Tier 2, and Tier 3 points. NGI, for instance, says that there are now 40 Tier 1 points and 30 Tier 2 points; Platts indicates 35 Tier 1 and 21 Tier 2 locations.

B. Index Developers' Compliance with Policy Statement Standards

In order to better understand steps taken by price index developers to improve the quality of published indices, Staff requested price index developers to submit statements to the Commission about their indices and to address the standards for price index publishers as set out of the Policy Statement. Several statements were provided by index developers in January 2004, and additional material was supplied in response to the Commission's March 5 Notice requesting comments. The following ten index developers submitted information: Argus Media, Bloomberg LP, Btu/Data Transmission Network, Dow Jones & Company, Energy Intelligence Group, Inc., Intelligence Press, Inc., IntercontinentalExchange, Inc., Io Energy, Platts, and Reuters.⁴⁶

⁴⁵ The price index developers participating in the MPRAC are Argus, Bloomberg, Dow Jones, Energy Intelligence Group, IntercontinentalExchange, Io Energy, NGI, and Platts.

⁴⁶ Reuters states that it does not presently publish price indices for use in contract settlement, but

The statements address the five standards in ¶ 33 of the Policy Statement: (1) code of conduct and confidentiality, (2) completeness, (3) data verification, error correction and monitoring, (4) verifiability, and (5) availability and accessibility. All index developers indicate they have adopted or are in the process of adopting these Policy Statement standards. Staff will review the index developers' statements here; Staff's recommendations regarding qualifying index developers for purposes of using indices in jurisdictional tariffs are presented in Section VI.D, *infra*.

1. Code of Conduct and Confidentiality

The Policy Statement calls for a public code of conduct, publication of the developer's index methodology, and for confidential treatment of data submitted by trade reporting companies.

a. Code of Conduct

Most index developers indicate they have a code of conduct for employees gathering and utilizing market transaction data or are developing a code of conduct, but not all make their codes public. Argus Media (Argus) provides its company's ethics policy, which also is posted on Argus's website. Bloomberg states that it has a code of conduct but that it has not yet made the code public. Each employee must sign a confidentiality agreement and adhere to Bloomberg's Employee Resource and Information Guide as well as Bloomberg News's internal code of conduct.

Btu/Data Transmission Network (Btu/DTN) indicates its employees must sign an agreement governing their conduct, and supplied a copy of the agreement. Btu/DTN also states that it has formally separated its "data" and "editorial" departments. Dow Jones & Company (Dow Jones) indicates that a code of conduct is under review, and Energy Intelligence Group (Energy Intelligence) notes it has an employee handbook which addresses conduct of employees in dealing with confidential data. Intelligence Press, Inc. (NGI) supplies a copy of its code of conduct, updated in January 2004, and notes that it operates under the "journalism code of ethics." IntercontinentalExchange, Inc. (ICE) supplied relevant excerpts from its code of conduct, adopted in April 2002. In addition, ICE provided a participant code of conduct, developed in October 2002 and modeled after the Electric Power Supply Association's code of ethics, which is an annex to each

that it publishes only indicative price data. As such, Reuters notes that it does not apply the higher standards of the Policy Statement. Reuters also states that its participation in Commission proceedings is related to potential future services. As a result, the Reuters submission will not be discussed in detail in this Report. At such time as Reuters begins publication of an index for general industry use, or a Reuters index is proposed for use in a jurisdictional tariff, Staff will upon request evaluate Reuters' compliance with the Policy Statement standards.

participant agreement entered into in order to conduct business on the exchange.

Io Energy (Io) discusses its operation, noting that it separates the journalistic function from the data function of collecting and assessing market price information (Data Group). Trade information provided to Io is confidential and seen only by employees working in the Data Group. While Io describes in detail the steps taken to maintain confidentiality of information provided to the Data Group, it appears that Io has not made an employee code of conduct public. Platts discusses its Code of Ethics and the Code of Business Ethics of Platt's parent company, The McGraw-Hill Companies.⁴⁷ All employees must affirm their adherence to the codes annually. The codes require strict confidentiality of data submitted to Platts within each of Platt's business units, and call for editors to adhere strictly to Platts' published price index methodologies.

b. Public Methodology

Several index developers have made basic information about their methodologies public, but not all have addressed this issue. Argus states its index methodology, which was submitted with its statement, is posted on its website. Bloomberg says that it has not yet made its methodology public, but that it intends to make public how its price information is developed, including index calculation methods, relevant formulas and algorithms, treatment of aberrant data, and the like. Btu/DTN and Dow Jones do not address whether they have made their calculation methodologies public. Energy Intelligence periodically publishes its methodology and has it posted in an open area of its website. NGI states and explains its index calculation methodology, and supplies a set of guidelines issued to data providers. Io supplies an extensive discussion of the methodologies for its daily gas, bid-week gas, and daily electricity indices; additional methodology information is posted in an open area of Io's website. Platts supplies its methodologies for gas and electricity reporting, and notes that they are also publicly posted on Platt's website.

c. Confidentiality

All index developers provided clear statements that all data submitted is subject to significant confidentiality safeguards and most supplied copies of their form confidentiality agreements or copies of the relevant portions thereof. Each of the confidentiality agreements adequately protects the trade data supplied by market participants. Moreover, each index developer made clear statements that they impose strict requirements on their staff to assure that confidentiality of participant trade data is maintained.

⁴⁷ Platts notes that it supplied the complete codes to Staff under a request for confidential treatment. Staff here considers only Platts' public discussion of the codes.

2. Completeness

Completeness includes providing sufficient information to inform users about the nature of trading at different locations, including some measure of activity or liquidity to assist with transparency of the reported prices. Argus says it publishes hourly electricity price indices that provide total volumes, total volumes per hour, range of prices per hour, volume-weighted average prices by hour, and average price for on-peak and off-peak hours. Bloomberg states that it makes available the range of prices and volume-weighted average price for electricity where at least two sources of data exist, but does not provide the number of transactions or trading entities. Similarly, Bloomberg does not provide electricity volumes due to potential distortion from double-counting. For natural gas, Bloomberg produces only price assessments, not calculated indices. Bloomberg intends to publish volume-weighted indices for natural gas based on trade data obtained electronically, but has not yet received enough volume to do so.

Btu/DTN provides a detailed explanation of the data it publishes, as expanded in March 2004, for bid-week gas, next-day gas, and next-day electricity. The information includes high, low, weighted average, and change in price, along with a tier designation to indicate the activity underlying the index values. The tiers used for bid-week indices are the same as described below for Platts. Btu/DTN states that of approximately 106 natural gas price points, many points are notional only, based on a market assessment without actual trade data, and that it indicates which points meet its minimum volume standards (tiers 1 and 2). Dow Jones, which only publishes electricity indices, provides the weighted average price and relevant volume, but does not provide the high and low trades. Dow Jones states, however, that it is in the process of amending its program to include publication of highs and lows. In addition, when no transactions are reported for a point, Dow Jones utilizes survey information but labels it as such and shows zero volumes.

Energy Intelligence states that it is in the process of redesigning its weekly table to include average daily volumes and numbers of transactions, as well as the weekly range for all points in its survey. Where data is insufficient to establish a meaningful price, it does assess prices and marks the prices with an asterisk. The redesigned tables are expected to be in use by May 2004.

NGI states that in July 2003 it introduced a tier system for its bid-week survey to show levels of trading at each location. Points with volumes of 100,000 MMBtu/d or more are designated Tier 1; points with volumes between 25,000 MMBtu/d and 100,000 MMBtu/d are designated Tier 2; and points below 25,000 MMBtu/d are Tier 3. NGI also acknowledges the need for more transparency in daily indices, and says that it will include daily volume tiers in May 2004.

ICE states that the number of trades, number of parties trading, and sell-side

volumes are reported in the 10X indices based on trades made on the ICE platform or confirmed through the eConfirm service and asserts that its share of day-ahead markets is more than 50 percent of the total volume. ICE states that it reports high, low, and weighted average prices at each location.

Io explains that it provides high, low, and weighted average prices for all indices, and notes that outlier prices (outside of two standard deviations) are excluded from the average but included in the high and low prices. For monthly gas indices and daily power indices, Io also provides median, standard deviation, and volume. Io indicates it publishes prices for 25 gas locations and numerous electricity locations by region in North America. Io maintains that the volume information it supplies is superior to a tier approach to showing the level of activity at each location. Further, Io provides detailed estimates of the portion of regional markets represented by prices reported to it, ranging from 25-50 percent.⁴⁸

Platts supplied a copy of its data submission guide to participants, and states that in May 2003 it began publishing the volume of transactions for 100 daily gas pricing points. With respect to electricity indices, Platts says that it has been publishing volumes since 1997. Platts notes that it began in July 2003 to divide locations for monthly price indices into three groups, or tiers, based on the volume and number of transactions at each point. The criteria for the tiers are: Tier 1 (100,000 MMBtu/d or more and at least ten trades), Tier 2 (between 25,000 and 99,999 MMBtu and at least five trades), and Tier 3 (below 25,000 MMBtu/d and/or fewer than five trades). Platts says that in August 2003 it began providing volumes for Tier 1 locations on its website, and states that it now supplies volumes for daily and the most liquid monthly gas markets.

3. Data Verification, Error Correction, and Monitoring

All index publishers address verification, error correction, and monitoring. Argus describes its Index Management System and four separate steps taken to cross-check data entered into its system, culminating with a secure set of transactions approved for publication. All data (except from one source) is received from mid- or back-offices. Bloomberg states that it does not require certification by data providers that the information is accurate and complete. Bloomberg does, however, perform quality assurance checks on data, including use of automated tools to compare prices to historical patterns. Bloomberg has two principal analytical tools to review reported prices. One tool determines if the spread between reported high and low prices exceeds historical

⁴⁸ Io also candidly discusses the reliability of electricity prices reported for certain locations. As Io explains, “due to a lack of liquidity, the presence of market power in the transmission and generation markets and the unwillingness of some utilities to make information available, there are some regions of the country ... where the volumetric data do not support indexes that should be used for benchmarks.” Io Statement at 36.

thresholds. The other evaluates prices that exceed two common deviations from the index value.

Btu/DTN notes the importance of experienced editorial screening before data control takes over production of index prices. In the event of an error, Btu/DTN announces the error and corrects the affected tables within one hour. In the event of anomalous data, Btu/DTN states that it will seek an explanation from the provider and, in the absence of a satisfactory explanation, notify the Commission of the anomaly.

Dow Jones explains the concerted effort its production team makes to compare data and scrutinize any data falling outside the trading range. Dow Jones also states that it tracks the frequency of errors by participants. Energy Intelligence states that its data comes mostly from back offices, and that it uses statistical measures to test submitted data. If anomalous data cannot be verified by the closing deadline, the data is not used.

Energy Intelligence explains its use of statistical measures (two standard deviations from mean plus or minus five cents) and editorial review in examining data submitted to it. Energy Intelligence excludes unexplained prices outside this range from its price indices.

NGI discusses its methodology and explains how it reviews data submitted to identify possible errors, which are investigated before being included in an index. NGI explains that statistical measures are used to screen for data points more than 2.5 or three standard deviations from the mean, and will not use such data unless independently confirmed and validated by similar trading at other locations. Data from transactions less than 1000 MMBtu/d or where there is some indication of special circumstances generally are not used. NGI obtains most of its data from mid- or back-offices, and is working with data providers to submit all data from sources other than traders.

ICE notes that it has the identity of the buyer and seller for each transaction, and thus can verify transactions directly and readily. ICE also states that it maintains surveillance programs to identify unusual trading patterns, and investigates any such instances.

Io states most data providers submit information from a mid-office, although Io notes that some public power entities do not have mid-office arrangements for reporting, and that 99 percent of volumes reported have been verified by the data providers. Io performs spot checks and contacts data providers for explanations of seemingly anomalous data. If erroneous data is used in a index, Io publishes a correction if the effect on the weighted average is greater than two percent, or if the high or low price changes.

Platts states that its standards call for submission of data from mid- or back-offices

only and that Platts seeks a certification from a senior company official that the data provider is supplying complete and accurate information. Platts uses buy/sell indicators and counterparty data if available to match transactions. Where there is a question about the validity of any data, Platts states that it takes steps to verify such data and may exclude it if not satisfied. Moreover, Platts says that it uses proprietary data analysis systems to uncover potentially anomalous data, and discusses any such data with senior personnel at reporting companies.

4. Verifiability

Argus states that it annually performs internal management audits across all index publishing operations worldwide. In addition, Argus says its Finance Department performs quarterly reviews under the CCRO-recommended criteria for internal audits. Bloomberg says that it has implemented a company-wide independent internal audit process that uses separate calculation and production methods to test index development for all of its products. Btu/DTN states it has established an independent internal audit process by its accounting department which will “provide a vigilant internal audit process annually” beginning June 2004, and that it is discussing having its external auditor perform an annual audit. Dow Jones states that its agreements with data providers provide for an independent audit, and that it is in the process of implementing the recommendations of the Committee of Chief Risk Officers for an internal process audit. Energy Intelligence has engaged an outside auditor to perform an external audit of its entire index publication process as a supplement to its existing internal checking and verification procedures. Energy Intelligence says the full audit results will be supplied to the Commission and interested parties.

NGI is in discussions with accounting firms to put a meaningful audit process in place, and expects to solicit bids in the second quarter of 2004. NGI notes that is changing its data processing system to one that will record and provide an audit trail for tracking decisions made in the process of eliminating suspect data points.

ICE states that it receives annual third-party reviews by Ernst & Young, consisting of SAS 70 and Systrust examinations. The former is an in-depth audit of control activities and the latter evaluates security criteria. The SAS 70 audit is available upon request. Io states an independent audit will be conducted upon request, but does not discuss performing periodic audits or process reviews. Platts states that has recently expanded its internal compliance program, and is conducting reviews to assure that underlying data is accurately recorded by Platts, that each price point is determined under Platt’s published methodology, that all results are consistent, and that staff know and follow Platts’ policies and methodologies. This expansion, Platts says, provides an additional layer of audit review to Platts’ existing safeguards.

5. Availability and Accessibility

All index developers stated that their published indices are readily available on a non-discriminatory basis to subscribers. Argus states its indices are available to anyone on a subscription basis. Bloomberg notes customs for its Bloomberg Professional service and holders of Data Licenses have 24-hour access to price data. Btu/DTN says its seven publications are all available by subscription and through various electronic data platforms, and that it will add an interactive website for subscribers in 2004. Dow Jones notes that its indices are distributed through the Wall Street Journal, newswires, and through independent distribution networks. Energy Intelligence says its indices are distributed in any format chosen by subscribers. NGI notes that its publications are available to subscribers on its website. ICE distributes its indices by email at no charge, and the information is redistributed by third parties. Io states its indices are available by subscription. Platts notes that it supplies subscribers through multiple channels, including third-party distribution.

Staff is concerned, however, about the ability of the Commission to obtain access to data in the possession of an index provider in the event of allegations of false price reporting or price manipulation. Several index developers (Argus, Btu/DTN, Energy Intelligence, and Io) use the standard confidentiality agreement recommended by CCRO, which restricts the Commission's and other government authorities' access to information to that "legally required" after notice to the affected data providers and opportunity for a protective order or other relief. Bloomberg states more affirmatively that the standard confidentiality provisions of its agreements permit Commission access to confidential data upon order or request and notice to the affected data provider. Dow Jones did not address this point. Energy Intelligence, which uses the CCRO model agreement, says data could be made available if the request overrides First Amendment considerations, such as in a criminal investigation. NGI notes its new confidentiality agreements with data providers provide an exception to non-disclosure in the event it is "legally required" by a governmental or regulatory authority, and that NGI would first notify the affected data provider. Similar to Energy Intelligence, NGI states it will cooperate with investigations consistent with its agreements and First Amendment considerations.

ICE states that its participant agreements permit the disclosure of information under subpoena or regulatory request for information. Platts states that if the Commission needed access to data held by Platts and could not obtain the information from other sources, Platts would consider voluntarily responding to a request "subject to the terms of the applicable Platts confidentiality agreement with the data provider and Platt's legal rights as a publisher under the First Amendment and applicable law." Platts also notes that it has discussed with the Commission Staff ways in which Platts can assist the Commission in specific and targeted investigation consistent with its "legal rights as a publisher."

The several qualifications by index developers about their willingness to provide the Commission with access to confidential price data in the event of an investigation of possible false reporting or manipulation of prices is of substantial concern. While process improvements by those reporting prices and by index developers are welcome and important, the Commission must still have the tools to conduct efficient and effective investigations in the event false reporting or price manipulation is suspected. To this end, Staff recommends that the Commission require that index developers provide access to data in such an investigation as a condition of the use of a published index in jurisdictional tariffs.

As noted, Staff presents its recommendations regarding price index developers in Section VI.D, *infra*, along with recommendations on criteria for use of price indices in tariffs.

V. OPTIONS

The Commission has been actively engaged with the industry on the quality of price formation since early 2003. The Commission has received significant input on a range of options available to it as it continues its efforts to improve price transparency and confidence in wholesale energy markets. In this section, Staff discusses different options available to the Commission as it determines how best to facilitate and encourage the optimal industry resolution of price formation issues.

A. Accept Current Progress

The Commission could end active involvement with price formation issues and instead permit the industry to address issues without any formal structure or further guidance from the Commission. Under this approach, the Commission would continue to monitor energy markets for general purposes, and could return to active engagement on the issue in the future depending on what developments take place in energy markets.

This option recognizes that price formation is fundamentally a function of industry structure: consequently, the Commission may have little ability to promote a solution without having significant effects on structure beyond price discovery. It would seem that the industry has as significant an incentive to improve the credibility of its prices as it responds to customer interests as does the Commission in assuring that viable energy markets support market-based rates for wholesale energy. This option also recognizes a point made by a number of commenters—that the price index crisis is in large part attributable to well-known liquidity problems in energy markets, and that improved reporting of transactions, while important and helpful, must go hand-in-hand with robust trading to establish markets and prices.

Even without Commission assistance, several technological drivers seem likely to result in a more durable price formation process. For example, more widespread use of centralized industry services like online trading, automated transaction confirmation, or credit clearing would all result in significantly easier access to the transaction data needed to determine and publish prices. The underlying drivers for these developments are unlikely to be price reporting, but may well (over time) arise from the need to manage transaction costs through the more assertive use of information technology.

Many commenters have indicated that the role of the Commission has been a positive one over the last year. A few have not. At any rate, the Commission's approach has been, to date, less prescriptive and more one of keeping attention on the issue. Whether a satisfactory industry solution will evolve more quickly without the Commission keeping the industry focused on the problems of data adequacy and transparency, however, is unknown.

The stakes remain high. If confidence in these prices does not improve, the result could be steadily decreasing confidence in prices, a consequent reduction in the liquidity of critical energy markets, and a collapse of the market activity necessary to provide the basis for market-based regulation.

B. Continue To Focus Attention

A second option is to continue to encourage the industry to implement the Policy Statement fully and to closely monitor the level of trading activity reported by price index developers. As noted earlier, some price index developers contend that there has been significant improvement over the past several months in the volume of energy traded at fixed prices, the number of entities trading energy, and the number of parties reporting transactions to index developers. Similarly, the MPRAC contends that the Policy Statement has had the desired effect of encouraging more transaction reporting, and that the increase in quality control by both price reporters and price index developers has led to an increased level of confidence in the current voluntary system of price formation.

Continuing Commission attention may continue to provoke improvements. Feedback from the industry in public forums, such as conferences and workshops, can assist the Commission in directing attention where most needed and in prompting industry participants to respond to Commission guidance. To the extent some industry members contend that progress has been made as a result of the Policy Statement and subsequent Commission engagement, it is possible that a continuation of this interest and monitoring of industry actions will produce an acceptable level of industry involvement in open and transparent price discovery.

One way in which the Commission could continue to focus attention would be to require all companies with market-based rate authority and all holders of blanket sales

certificates to file detailed statements about their adherence to the Policy Statement standards, similar to the filings required of certain companies following issuance of Staff's *Western Markets Report*.⁴⁹ Such public declarations of policy on the part of traders would supplement and expand considerably on the summary notifications filed as a result of the Market Behavior Rules requirement.

It is possible, however, that continued Commission involvement may actually hinder industry progress towards further improvements. If the industry is focused too much on what the Commission's next steps might be, it may inhibit industry consensus from forming around viable solutions that bring acceptable levels of activity and transparency into public view.

C. Introduce Mandatory Reporting

Another option is for the Commission to move toward a regime of mandatory price reporting of energy trade data, as a number of parties have urged over the past several months. As noted in the Policy Statement, current law provides authority to obtain price information from market participants. For natural gas, Sections 14(a) and 16 of the Natural Gas Act (NGA), 15 U.S.C. §§ 717m(a) & 717o (2000), give the Commission broad powers that supplement the Commission's direct regulatory authority over companies that transport natural gas in interstate commerce or that make sales of natural gas in interstate commerce for resale that are not "first sales." Moreover, the Commission has authority under Section 315 of the Natural Gas Policy Act of 1978 (NGPA) to "require any first sale purchaser of natural gas under a new contract, a successor to an existing contract, or a rollover contract to file with the Commission a copy of such contract, together with all ancillary agreements and any existing contract applicable to such natural gas."⁵⁰ This would include interstate or intrastate pipelines, local distribution companies, certain end-users, or sales that precede sales to these entities. *Id.* at § 3301(21).

With respect to wholesale sales of electricity, the Commission has parallel

⁴⁹ *America Electric Power Co., et al.*, 103 FERC ¶ 61,089 and 104 FERC ¶ 61,153 (2003).

⁵⁰ 15 U.S.C. § 3375 (2000). Current Section 315 was originally Section 315(c) when the NGPA was enacted in 1978. Section 315(a) addressed contract duration and Section 315(b) addressed the right of first refusal. The Wellhead Decontrol Act of 1989 removed Sections 315(a) and (b) but left Section 315(c), redesignated as Section 315. The House Report on the Wellhead Decontrol Act states that "the Committee intends that the Energy Information Administration of the Department of Energy, and the FERC as well, continue to collect and publish all appropriate data, including wellhead pricing data and other natural gas-related statistics, which may be reasonably necessary to a full understanding of this important industry by the public, the industry, the Congress, and others." *See* H.R. Rep. No. 29, 101st Cong., 1st Sess. At 10-11 (1989).

authority to that under the NGA to require data reporting and obtain data under the Federal Power Act (FPA), 16 U.S.C. § 824d(c) (2000). Taken together, the authorities of the NGA, NGPA, and FPA provide the Commission with a number of tools to mandate price reporting.

Even with a strong set of authorities available, however, the Commission would have to tailor any mandatory reporting rules to the fragmented nature of regulatory authority over different kinds of energy transactions. The Commission would be likely to face opposition from parties that prefer not to have a regulatory requirement to report prices.

Mandatory reporting also requires the Commission to address several significant reporting issues, including:

- The scope of reporting;
- Whether to require reporting directly to existing price index developers, to create some form of intermediary or data repository, or to have the Commission collect price information directly;
- What the criteria should be for deciding who must report;
- Whether there are participants who could not be compelled to report;
- What data elements would be required in reports; and
- Whether required reporting could weaken confidentiality protections for commercial data.

These are material issues. For example, too broad a scope of reporting would be burdensome, but too limited a scope could result in reduced trading activity in those transactions that form price. It is difficult to see how the Commission could direct traders to report prices to trade publications—in effect, forcing companies to reveal information to reporters.

Mandatory reporting can take different forms. One approach would be for the Commission to use its conditioning authority to require all companies with market-based rate authority and all holders of blanket sales certificates to report a minimum level of trade information to one or more index developers. As noted earlier, the Commission required these companies to notify the Commission whether they report energy trade data according to the standards of the Policy Statement. The Commission received notifications on behalf of more than 700 companies, most of which stated that they did not report according to the standards of the Policy Statement.⁵¹ The Commission could

⁵¹ The Commission notes that many of such companies may engage in some reporting of prices to one or more index developers, but may not have fully adopted the standards for reporting in Policy Statement ¶ 34 or may not have reported *all* of their trades to price index developers. In such cases, the companies were contributing to price formation, but not as fully as the Policy

utilize its conditioning authority to require that holders of these blanket authorities report their trade data under specified conditions. Choices would have to be made on the number of trades for which reports have to be provided, the number of index developers to get reports, whether any standardization across index developers is needed, how to treat new entrants in the index development field, and like questions.

A second approach that would involve considerably more change in the industry is creating some form of intermediary for collecting and disseminating data. This would add a new element to the present industry arrangements for price discovery—one or more data repositories whose purpose would be to collect, check, aggregate, and compile price and price-related data. As noted earlier, several organizations have proposed to undertake this role in some fashion, generally as a self-regulating organization. Under most scenarios advanced to the Commission, this would involve the creation of an independent organization, with governance that would assure independence and even-handed treatment of all segments of the industry. This organization would collect data directly from market participants (or through one or more collecting intermediaries), screen and validate the data, and compile the data in one or more forms. The terms for collecting data would include strong confidentiality protections and agreed-upon methodologies for validating and checking data. The compiled data would be sold to index publishers who could tailor the cleansed data and provide value-added services in providing price information to the marketplace.

Additional issues arise with the creation of a new entity, including the extent of the Commission's authority to create and oversee any such entity. There are also significant cost and timing issues. Even a non-profit organization would require significant capital to organize and implement the infrastructure to receive, process, and produce validated prices for use by price index developers. It is not known how long it would take to develop and implement an SRO or the extent to which industry would embrace this approach as a solution to data quality and transparency concerns.

A third approach would be for the Commission to collect price data directly. For example, the Commission could develop an after-the-fact reporting system similar to the Electric Quarterly Reports (EQR), required under 18 CFR § 35.10b. The Commission has developed the EQR tool to provide electronic access to a large amount of electricity transaction data on a time-delayed basis. Jurisdictional utilities must file, in electronic format, the prices charged for all services within 30 days of the end of the quarter in which the transactions took place. The Commission could create a similar function for jurisdictional companies to report the consummation of other price transactions (purchases and sales) after the fact, effectively adding natural gas transactions to the electronic database. While this would not provide real-time price information to the markets, it would permit any interested party to review prior transactions and gain

Statement calls for.

insights on the quality of current price indications by comparing past market price information with actual transaction activity.

With any of these possible choices, there are other considerations to take into account, such as whether required reporting would decrease the number of traders or diminish trading activity on the part of traders averse to revealing their activity. Perhaps one answer to the risk of participants exiting fixed price trading would be to require that all transactions, not just price-forming transactions, be reported. With respect to use of Commission resources, any form of mandated reporting would necessitate monitoring of compliance with reporting requirements, and involve a commitment of Commission resources to assuring that industry participants are complying with reporting requirements.

D. Greater Reliance on Platforms for Trading, Confirmation/Settlement and Clearing

Some parties have observed that the most open forum for obtaining accurate price information is trading on an electronic platform, such as ICE. Information from comments and the survey indicate that a significant portion of fixed price daily trading on both gas and electricity markets is taking place on ICE, and ICE produces indices derived directly from electronic trades.

Still, it is not clear that the industry has evolved to a preferred electronic platform or platforms. For example, bid-week gas and next-day electricity trading do not appear to be as concentrated on ICE. In energy markets, there are gas and electricity contracts traded by open outcry (NYMEX, COMEX) and electronically (ICE), bid markets within regional transmission organizations and independent system operators, trading through intermediaries, and direct bilateral trading. Some companies participate in multiple forms of trading, others do not.

In addition to electronic platforms for trading, platforms set up to facilitate confirmations/settlements and clearing have potential to further aggregate transactions for the purpose of forming more robust price indexes. For example, ICE has established an eConfirm service to provide confirmation of transactions between parties who did not transact on ICE's trading platform. To effect confirmation, both parties must provide prices, volumes, time of execution and other terms to confirm that these match with their mutual intentions. When these confirmed fixed price transactions are combined with transactions on ICE's trading platform, the resulting price indexes would encompass a larger number of transactions. Both ICE (through the London Clearing House—LCH) and NYMEX (Clearport) have established credit clearing services. At customers' choice, ICE clears both ICE-traded transactions and off-platform transactions brought to ICE to be cleared. NYMEX also provides similar clearing services through its Clearport platform. At expiry or when transactions are closed out, the same platforms can provide

settlement services, including instructions and bank-wired transfer of funds.

Both clearing services have gained traction over the past year. As these and other clearinghouses gain critical mass to realize the benefits of multilateral netting, it is reasonable to expect more market participants to choose to both execute trades and clear credit on the same platforms to save credit capital allocation. These executed and cleared trades would also naturally be confirmed and settled on the same platforms thereby saving on credit capital allocated for trading. The savings from multiple functions performed on the same platform would encourage more transactions to take place at the same venue. Price indices formed from aggregation of the resulting larger number of transactions are likely to be more reliable. Verification would be built in, since counterparty identity is known and all transaction information must be confirmed. This thorough verification is critical for making collateral calls involving significant amounts of dollars.

Increased reliance on platform activity could also complement a structure where a central data repository is used. If the competing platforms contribute transaction information to an independent central aggregation facility, the resulting price indexes would be even more robust. This central aggregation would have implementation issues similar to those discussed for the central data hub earlier, but perhaps to a lesser extent, particularly if oversight can be limited to guarding against possible collusion between the platforms to limit competition between them.

E. Future Public Input

The information gathered since the issuance of the Policy Statement indicates some success in the approach taken thus far by the Commission. Robust and reliable price formation in energy markets is vital, however, to the Commission's commitment to reliance on open markets to produce just and reasonable results for market participants. At present, the degree of progress toward accurate, reliable, and transparent price indices is encouraging, but has not achieved the full promise of the Policy Statement. To develop the record further on the current state of price discovery, and to inform the Commission as to the best choices for future action, Staff recommends that the Commission hold another public hearing focused on the options now available to the Commission for further progress in price formation and on the issue of overall market liquidity.

VI. ROLE OF PRICE INDICES IN JURISDICTIONAL TARIFFS

Price indices reflecting market prices for physical gas and electricity are used by industry for a variety of purposes, such as for settling bilateral contracts of varying terms, basis swaps, swing swaps, and spreads. These particular uses of indices are commercial

market-based rather than tariff-based. They are critically important to energy markets, because billions of dollars of market transactions are valued at or affected by index prices.

Price indices, however, also are used in natural gas pipeline or electric transmission tariffs for various purposes. One major use of gas indices in pipeline tariffs is to establish cashout values, through mechanisms established in tariff provisions, for the resolution of volume imbalances between transporters and shippers and as components of operational balancing agreements (OBAs) on regulated pipelines. Indices may also be used for certain penalties if a shipper fails to deliver nominated and scheduled gas supplies. Yet another tariff use of indices is to price transportation services under certain circumstances.⁵² Use of indices in electricity transmission tariffs is less common, but some electricity tariffs use indices for financial settlement of imbalances and losses, similar to the gas pipeline cashout mechanisms.

As a practical matter, there is a difference between (1) commercial, market-based uses of price indices where parties are negotiating at arm's-length and certain tariff-based uses where shippers have alternatives to using indices to price services⁵³ and (2) tariff provisions that use price indices to calculate a generally applicable charge under the rate schedule involved and that is ancillary to transportation or transmission service. In the former instances, parties are dealing in a commercial or negotiated setting or can choose a default cost-of-service rate. In the latter, the charges (such as imbalance cashout charges or

⁵² A number of pipelines have adopted negotiated rates for transportation under the Commission's Negotiated Rate Policy, using the difference between commodity price indices at different locations (basis differential) to price transportation. *Alternatives to Traditional Cost-of-Service Ratemaking for Natural Gas Pipelines, et al.*, 74 FERC ¶ 61,076, order on clarification, 74 FERC ¶ 61,194, *reh'g denied* 75 FERC ¶ 61,024 (1996). In *Modification of Negotiated Rate Policy*, 104 FERC ¶ 61,134 (July 25, 2003), the Commission decided that it "will no longer permit the pricing of negotiated rates based upon natural gas commodity price indices." 104 FERC P 24. Subsequently, however, in *Northern Natural Gas Company*, 105 FERC ¶ 61,299 at P 18 (2003), the Commission said that it "is currently considering these requests to reconsider the policy against the use of basis differentials in negotiated rate transactions." In addition, the Northern Natural order permitted indices to be used to calculate basis values for use in discounted rates.

⁵³ In commercial transactions, the index can determine the entire cost of purchasing gas. But such transactions are either non-jurisdictional or occur under blanket certificate authority, as the Commission has determined that the market is sufficiently diverse and robust such that market forces will produce just and reasonable rates. As for tariff-based transactions, they affect transportation costs only and are available in the context of a negotiated rate choice with a cost-based recourse rate. In selecting index-based negotiated or discounted rates, the shipper is bargaining with a cost-based fall-back.

penalties) are after-the-fact consequences of operational factors or shipper behavior and are not the subject of negotiation or choice.

The use of indices in commercial circumstances is fundamentally different from the use of indices to determine mandatory payments for operational circumstances or shipper conduct. While the market uses of indices are critically important to the industry, they also are situations in which parties can make informed choices about the indices upon which they choose to rely. Staff's present task is to recommend the degree of accuracy and reliability of an index used for generally applicable charges in pipeline and utility tariffs.

A. Index Uses in Natural Gas and Electricity Tariffs

The current widespread use of imbalance cashouts evolved as pipelines refined procedures following the unbundling of transportation and the mandate prohibiting pipelines acting as merchants. Following Order No. 436, shippers began to have difficulty settling imbalances, especially on pipelines whose capacity was being utilized fully. Because they had a low priority in scheduling, makeup volumes were difficult to nominate, and imbalances tended to build up over time. On June 19, 1991, the Commission approved a filing by Transcontinental Gas Pipe Line Company to establish a cashout mechanism for handling such imbalances.⁵⁴ Other pipelines subsequently filed to establish cash-out mechanisms and other imbalance management tools.⁵⁵ The Commission does not require that imbalances be managed using cashouts, but most pipelines currently employ such mechanisms.

Cashout mechanisms vary by pipeline, but they generally adhere to the following structure: positive or negative imbalances are resolved financially by multiplying the net imbalance volume by a specified index-based price (the cashout price), and the shipper either receives payment for positive imbalances or pays the transporter for negative imbalances as calculated from the cashout price.

Cashout prices typically are determined by calculating the numerical average of daily index prices or by using weekly averages as published by any of several index publishers. Some transporters calculate cashout prices by averaging prices based on a basket of indices (generally two or three) that represent market locations on the pipeline within a defined pipeline segment. Others average daily prices for the period that a shipper's receipts or deliveries were out of balance. Because all these mechanisms employ averages of indices

⁵⁴ *Transcontinental Gas Pipe Line Company*, 55 FERC ¶ 61,446 at 62,366-74 (1991).

⁵⁵ Another means of imbalance resolution is imbalance trading, a procedure that allows shippers holding negative or positive imbalances to trade their positions as a way of eliminating or reducing their imbalances. Some pipelines continue to require that shippers resolve negative imbalances by nominating replacement volumes within the month following notification of the imbalance.

calculated from several days of market activity, they tend to reduce the impact of any single day's index.

Imbalance provisions usually impose greater costs on parties exceeding a minimum variation in their scheduled and actual deliveries and receipts. It is common, for instance, for net imbalances in excess of two percent to be charged a multiple of the cashout price, such as 110 percent for a negative imbalance (money owed to the pipeline) and 90 percent for a positive imbalance (money paid by the pipeline). Such premiums are often tiered, increasing as the amount of the negative or positive imbalance increases.⁵⁶

Price indices are not as widely used in electricity transmission tariffs as they are in natural gas pipeline tariffs. One significant use is to cap the price for affiliate transactions under market-based rate authority. In several cases the Commission has determined “competitive prices at recognized market hubs provide an effective mechanism to prevent affiliate abuse.”⁵⁷ They are also sometimes used for financial settlement of imbalances or losses. This is similar to the more widespread pipeline use of indices to settle monthly cashouts of gas imbalances. Like the use of cashout mechanisms in gas tariffs, financial settlement of imbalances or losses in electricity tariffs is an important convenience to shippers on the grid.⁵⁸

B. Industry Views on the Importance of Indices in Tariffs

At the November 4, 2003, workshop on liquidity, speakers focused on the more common and prominent use of indices in natural gas pipeline tariffs. The Interstate Natural Gas Association of America supported the existing flexible use of indices for cashouts and expressed concern that arbitrage activity around cashouts would be exaggerated by any

⁵⁶ For example, if a tariff provides that a negative imbalance (gas owed to the pipeline) is charged at 110% of the index, and the index price is \$5.00, the tariff charge is \$5.50. In this example, \$5.00 is the cashout and \$0.50 is a premium which the pipeline must credit to its cost-of-service.

⁵⁷ *Pinnacle West Energy Corp.*, 92 FERC ¶ 61,248 at 61,790-91 (2000) (using Palo Verde index); *see also DPL Energy, Inc.*, 90 FERC ¶ 61,200 (2000) (using NYMEX “Into Cinergy” index); *First Energy Trading Services, Inc.*, 88 FERC ¶ 61,067 (1999) (using PJM locational prices).

⁵⁸ *See, for example, PacifiCorp*, 95 FERC ¶ 61,145 at 61,465, *reh'g denied* 95 FERC 61,467 at 62,676 (2001), where the Commission approved the use of a Dow Jones electricity index to calculate a pricing proxy charge for imbalances and losses, noting that “while a Dow Jones index is not the only acceptable index, we find it acceptable in this case.” 95 FERC at 61,465. *See also Arizona Independent Scheduling Administrator Association*, 93 FERC ¶ 61,231 at 61,762 (2000) (tariff price for Energy Imbalance Protocol “is based on the prices reported at regional trading points”).

action by FERC that significantly reduced the number of acceptable indices available for use in cashout mechanisms.⁵⁹ Testimony from producers also placed the use of indices in tariffs for cashouts in perspective, noting that producers are incented to stay within pipeline tolerance levels to avoid penalties.

While the simplicity and efficiency of the cashout mechanism is beneficial to the pipeline and shippers, it is still important that the rates charged, including any premium for variations from tolerance levels, be based on representative prices. Since not all index reference points have a level of activity that reflects liquid trading, Staff will recommend criteria for evaluating whether index points meet minimum expectations for reliable price formation.⁶⁰

C. Evaluation of Adequate Liquidity at Specific Price Index Reference Points

This section deals with the quality of an index necessary for use in jurisdictional tariffs but, for the reasons discussed earlier, does not discuss index quality for general use in commercial transactions. Through the course of the proceedings in Docket Nos. PL03-3 and AD03-7, Staff learned two basic lessons: that liquidity of a specific reference point in an index is but one of several attributes determining the quality of a price index, and that different quality levels can be sufficient for different purposes. In deciding between competing indices for a particular use, the contracting parties have to balance the proximity between the index pricing location and the actual delivery point against their tolerance for index inaccuracy.

Staff will discuss four criteria it deems relevant in the evaluation of index quality—availability, unbiasedness, accuracy, and market activity.

Availability

In judging the quality of an index, the consistency of publication should be considered first. Whether no trade happened, reporting was neglected, or the index developer was not comfortable with the information available, there may be periods when a price index is not reported for certain points. Jurisdictional entities can try to avoid

⁵⁹ Former Commissioner Donald Santa, now President of INGAA, said: “Generally, these cashout provisions work well, and are non-controversial within the industry. They represent a significant improvement over the previous method of using an in-kind repayment of gas to resolve imbalances. Returning to such mechanisms would be a costly and inefficient step backwards. Consequently, INGAA’s first point is that in addressing the reliability of natural gas price indices, the Commission should avoid an answer that results in the current cashout mechanisms becoming unworkable.”

⁶⁰ The discussion at the November 4 workshop focused on indices used in natural gas tariffs. Little was said about electricity transmission tariffs, but the Policy Statement applies to the use of indices in such tariffs as well. Staff’s recommended criteria also address electricity tariffs.

gaps in index availability by using a composite index made by averaging more than one index so that in case one is not published, the composite can still be calculated from the rest. This could be averaging across several index developers for the same time period or averaging over several time periods from the same developer.

Unbiasedness

The second most basic characteristic of a price index is that it not be biased towards reporting above or below the “real” volume-weighted average of the totality of trades. The main quality controls that Staff would consider desirable in this respect are the use of volume-weighted averages or median values, control of the homogeneity in the definition of included transactions, verification and possible exclusion of outliers as well as an honest effort to maximize the sample size.

Accuracy

A third characteristic of an index is how close it tends to be to the actual value from the totality of transactions. In this respect, Staff assumes truthful reporting, so this is simply a methodological question.⁶¹ A review of basic results in statistical sampling theory reveals that there exists a relation between the size of “sampling error,” the statistical confidence level, price dispersion (across transactions in the same price index), and the size of the sample with respect to the total population size (sampling fraction). As the size of the population (measured in volume, transactions, or participants) or the price dispersion change over time, a given sample size can yield very different confidence levels or sampling errors.

This gives two interesting results. The first is that in a market where size and price dispersion can vary greatly over time, any fixed criteria could in fact be providing very different qualities over time. This fact puts pressure for prudent parties to select an index with a higher average level of activity so that even under varying conditions the true quality is unlikely to fall below an acceptable threshold. The second interesting result is that a particular sample size represents a higher sampling fraction in a small market than in a larger one. In that sense, it is possible that parties can choose a smaller market as long as there appears to be a larger coverage of the market. Of course, a smaller market has an increased risk of having periods of not being available or of not being representative of the transaction of interest.

⁶¹ Staff notes that the market behavior rules adopted November 17, 2003 in *Order Amending Market-Based Rate Tariffs and Authorizations*, 105 FERC ¶ 61,218, and in Docket No. RM03-10-000 the Commission issued Order No. 644, *Amendment to Blanket Sales Certificates*, 105 FERC ¶ 61,217 mandate that entities reporting prices provide “accurate and factual information.”

Market Activity

Market activity or size can be measured by the volumes transacted, number of transactions, and number of active participants. From the previous paragraph it can be seen that a small market size, together with other aspects of liquidity (*e.g.*, price impact of large trades, large bid/ask spread, depth, infrequent trading, low diversity of market participants), exposes the market to increased dispersion. Dispersion, other things being equal, reduces the quality of the index.

D. Staff Recommendations Regarding Price Index Developers

Staff again notes that its recommendations regarding price index developer adherence to Policy Statement standards relate primarily to the use of indices in tariffs which, as discussed previously, is not necessarily relevant to contracting practices or defense of purchasing practices in particular commercial markets. In Section IV.B Staff reviewed in detail submissions by price index developers discussing each of the standards of the Policy Statement. Here Staff summarizes where index developers have met the standards and where there is room for improvement, and provides recommendations as to which price index developers' indices may be utilized in jurisdictional tariffs.

Staff believes that all index developers are improving various aspects of the process by which they gather, review, and publish price data. This was an important purpose of the Policy Statement, and notable progress is being made by index developers. As discussed above, all index developers have formal written agreements with data providers to assure confidentiality of data and to govern the terms under which data is submitted. While not all index developers have made their codes of conduct public, all have a code of ethics or code of conduct and at a minimum have discussed them in their filings with the Commission.

Progress is being made on the completeness of information provided to index users, including indicators of trading activity by some of the index developers. As many commenters note, however, there is still room for improvement. Staff believes that progress to date is encouraging but incomplete. In particular, the information provided by some publishers lacks sufficient information regarding market activity. For example, a market participant looking at a monthly gas index at a point designated as Tier 2 does not know if the average volume of transactions is 25,000 or 90,000 MMBtu/d. In some cases, daily gas indices provide volumes, but users do not know the number of transactions or number of trading parties, or whether both the buy and sell side of a transaction is included in the volume. In other cases, no volume or transaction information is provided for daily gas indices.

While some index developers argue that publishing low values for trading activity at certain points could encourage gaming by traders, Staff believes indices from such

markets should never be used in tariffs. Staff agrees that market participants need as much information as possible about trading at any given point to be able to make rational judgments about the prices reported and the risks of trading at such points or relying on prices reported for such points.

Several index developers note that while the number of companies providing reports and the number of reported transactions is increasing, trading volumes reported still have not recovered to pre-November 2002 levels. Further advances in transparency of information, however, should encourage more companies to participate in transaction reporting.

In the areas of data verification, error correction, and monitoring, Staff notes that all index developers have reported that they improved or are improving systems for examining incoming data and verifying it before inclusion in a published index, and that all index developers have error correction processes. In the related area of auditing, all index developers have taken steps to improve the internal and, in some cases, external scrutiny of their systems and processes. This is an important component of improving the confidence of the industry in the resulting indices. Staff encourages index developers to complete arrangements for annual process audits that include some component of external review, and to share the results of this review with the companies submitting their trade data for inclusion in the published indices. Finally, Staff notes that all index developers make their indices available to subscribers on a non-discriminatory basis and often through multiple outlets.

The important issue of Commission access to confidential data in the event of an investigation into false reporting or manipulation, however, was not satisfactorily addressed by all index developers. Dow Jones did not address this point. Energy Intelligence notes First Amendment concerns and suggested that a criminal investigation would be necessary. This is not in compliance with the Policy Statement, as the Commission initiates administrative, not criminal, enforcement investigations.⁶² Similarly, while Platts states that it is open to assisting the Commission, it also reserves the right not to comply with a request for disclosure. This also does not meet the Policy Statement expectation that, in a specific and targeted investigation of possible false reporting or manipulation of market prices, price index publishers would provide the Commission access to the transaction data needed to determine whether price reporters violated applicable rules or statutes.

In consideration of all of the above responses to the Policy Statement standards, Staff recommends the following:

⁶² If in the course of an administrative investigation the Commission discovers evidence of criminal violations of any relevant statute, however, it may refer the matter to the Department of Justice for criminal prosecution.

- Argus, Energy Intelligence, ICE, Io, NGI, and Platts be deemed to be in substantial compliance with the standards of the Policy Statement (a) on condition that they publish direct volume and transaction number data on which index prices are calculated (or indicate when no such data is available) and (b) on condition that they affirm the Commission will, upon an appropriate request, have access to relevant data in the event of an investigation of possible false price reporting or manipulation of prices.
- Bloomberg, Btu/DTN, and Dow Jones be deemed conditionally to be in substantial compliance subject to the conditions noted above, and also pending a further showing by each of them on progress in (1) making their methodologies public, (2) instituting measures to provide more complete transaction information; and (3) implementing audit procedures.

With respect to Staff's recommendation that a qualifying index provide direct volume and transaction number data from which each location's index price is calculated, or state where no transaction activity exists for an "assessed" or "estimated" price, Staff further recommends that any index that does not include such information by September 1, 2004, no longer be permitted to be utilized in jurisdictional tariffs. With respect to the expectation that price index developers affirm the Commission will have access to relevant confidential data in the event of an investigation of possible false price reporting or price manipulation, Staff further recommends that failure to do so will disqualify the developer's indices from use in jurisdictional tariffs.

Staff also notes that there may be existing index developers that have not submitted statements to the Commission for evaluation of their compliance with the Policy Statement standards, and that in the future other index developers may emerge whose indices may be utilized in the future in jurisdictional tariffs. In this event, it will be incumbent upon the filing party in the first instance to demonstrate that the index it wishes to use in its tariff meets the Commission's standards for index developers and reliability of specific points referenced.

E. Staff Recommendations Regarding Adequate Liquidity

Staff again notes that its recommended criteria for the use of indices in tariffs relates to its tariffs alone. As noted above, reference in Commission tariffs is a very particular use, not necessarily relevant to contracting practices or defense of purchasing practices in particular markets. Those companies entering into wholesale contracts can and should use price references appropriate to their business interests, fiduciary responsibilities and local market conditions.

The adequacy of *availability* for a reference point in established price indices can

be assessed by evaluating the publishing record for a review period. The review period proposed for daily and weekly indices is of 90 days and for monthly indices is of 12 months. Staff here recommends a minimum standard. If the tariff uses daily (or weekly or monthly) prices from one index source individually (i.e., a specific day's, week's, or month's index price), then the corresponding index must have published data for the referenced location for all trading days (or weeks or months) in the review period. Relaxation of this condition can be requested in some cases where the pricing uses averages over time. Specifically, obtaining a weekly average price from daily prices and obtaining a monthly average price from either weekly or daily prices. In case a weekly average of daily prices is used, the data should be available for at least four trading days in every week of the review period of 90 days. Similarly, if a provision is made to use a monthly average of daily or weekly data, the data should be available for three weeks in every month during the review period of 12 months.

The criteria of *unbiasedness* is met through various quality control measures which Staff found satisfactory in index developers compliance with the Policy Statement, as discussed in Section IV.B above. But with respect to the *accuracy* and *market activity* issues, a minimum reported activity level must be known. As noted earlier, several price index developers have added information, consistent with the Policy Statement standards, to indicate the degree of activity or liquidity at individual reference points. ICE provides the volumes, number of trades, and number of trading parties for each point each day. Other index developers have created the tier system in their monthly indices, identifying points as Tier 1, Tier 2, or Tier 3 according to the volume traded and number of trades taking place. For daily indices, however, these index developers may not have any indicators of activity, or may provide volume only.

The lack of consistent activity data, particularly in daily indices, inhibits transparency about important daily trading activity, and Staff urges price index developers to provide as much activity information as possible in all published indices.⁶³ Given the present state of information available, it is difficult to provide a simple and straightforward test of adequacy. Assuming, however, that price indices provide volume and transaction number data as discussed above, Staff recommends a flexible test—in order to be deemed to reflect adequate liquidity, index prices for the particular location must fulfill at least one of the following conditions:

⁶³ Staff again notes that a number of parties filing comments in March urged price index developers to expand the data provided on trading activity. *See, e.g.*, comments of Goldman Sachs & Company, Pacific Gas and Electric Company, Piedmont Natural Gas Company, ExxonMobil Corporation, and Questar Energy Trading Company.

- A. Daily indices should meet at least one of the following conditions for all non-holiday weekdays within the 90 days review period:
1. Average daily volume traded, over the review period, of at least 25,000 MMBtus for gas or 4000 MWh for power
 2. Average daily number of transactions, over review period, of five or more.
 3. Average daily number of counterparties, over the review period, of five or more.
- B. Weekly indices should meet at least one of the following conditions in the 13 weeks within the 90 days review period:
1. Average volume traded, over 13 weeks, of at least 25,000 MMBtus/day for gas or 4000 MWh/day for power.
 2. Average number of transactions, over 13 weeks, of eight or more per week.
 3. Average number of counterparties, over the 13 weeks, of eight or more per week.
- C. Monthly indices should meet at least one of the following conditions in the 12 months within the review period:
1. Average volume traded, over the 12 months, of 25,000 MMBtus/day for gas or 4000 MWh/day for power.
 2. Average number of transactions, over the 12 months, of ten or more per month.
 3. Average number of counterparties, over the 12 months, of ten or more per month.

If the proposed pricing mechanism is an average of more than one index, then at least one of them has to pass both the availability and market activity criteria. If the pricing mechanism calls for averaging one index over several time periods (days, weeks, or months), the underlying price series still has to satisfy the corresponding conditions listed above.

Applying these tests would require more information than is currently published by most publishers. For example, Gas Daily (Platts) publishes volumes but not number of transactions in daily indices, but uses tiers for its monthly indices. NGI does not currently publish volumes with daily indices, but plans to do so. ICE's daily indices include volumes, number of transactions, and number of counterparties. Staff recognizes that if its recommendations are adopted—including the historical review—index publishers need some time to begin providing the volume and transaction number data supporting each calculated index price.⁶⁴

⁶⁴ As discussed in the Report, some index developers have been providing some activity data, but the scope of such additional information is far from uniform. In order to be evaluated over a 90 day period (or, in the case of a monthly index, over a one year period), data meeting one or more

To this end, Staff recommends that indices currently used in tariffs, including those subject to further proceedings following issuance of a Staff report, be permitted to continue in use until price index publishers have time to modify their price indices to supply volume and transaction numbers underlying each calculated weighted-average price. This recommendation is not open-ended; however, as it would not permit the use of any index that has not begun providing the volume and transaction number information by September 1, 2004.

Also, Staff recommends that once an index has been approved for use in a tariff according to the index developers' compliance with Policy Statement standards and demonstration of adequate liquidity at the specific transaction locations referenced in the tariff, the index may continue to be used until an affected party seeks a change in the index being used based on the criteria no longer being met or the pipeline or utility files a change in the index used in the tariff.

Staff again emphasizes it is not evaluating tariffs for general contracting use, and parties may choose more or less active price index points when relying on index prices for market-based transactions or for any bilateral, negotiated rate transaction permitted under the tariff. In other words, although Staff has set out a general framework to think about the requirements in all cases, this Report does not discuss the standards for any purpose other than using indices to calculate operational service-related charges generally applicable to all users under a rate schedule.

F. Application of Staff Recommendations to Individual Tariff Filings

In addition to providing the foregoing overview of price index developers' adherence to the standards of the Policy Statement and the recommended criteria for use of an index in a tariff, Staff here presents recommendations for certain dockets in which the Commission accepted newly filed tariff sheets utilizing a price index and called for a report on the compliance of the price index developer with Policy Statement standards and a determination of whether the referenced points reflect adequate liquidity.⁶⁵

of the recommended criteria (volumes, number of transactions, number of counterparties) is needed. Price index developers are encouraged to make available historical data on volumes, number of transactions, and/or the number of counterparties at each reported trading location for a past 90 day period in the case of daily or weekly indices, and for a one year period in the case of monthly indices. Availability of such information would facilitate evaluation by the Commission of the suitability of the referenced index points in jurisdictional tariffs.

⁶⁵ Transcontinental Gas Pipe Line Corporation, Docket No. RP03-540-000; Northern Natural Gas Company, Docket No. RP03-533-000; Natural Gas Pipeline Company of America, Docket Nos. RP99-176-089 and RP99-176-094; Kinder Morgan Interstate Gas Transmission LLC, Docket No. RP03-245-000; and Northern Natural Gas Company, Docket No. RP03-398-000. In

In these orders, the Commission made clear that jurisdictional entities “must, in new tariff filings, use indices that meet the criteria in the Policy Statement.”⁶⁶ The Commission also provided for the pipeline or utility and interested parties to “file comments on Staff’s report, including additional evidence, no later than 15 days after Staff issues its report.”⁶⁷ The Commission further noted that “the ultimate burden remains on [the pipeline or utility] to show that use of its proposed index is just and reasonable.”⁶⁸

Rather than present recommendations on which specific indices and referenced locations pass muster under Staff’s proposed criteria, Staff recommends that the Commission first permit comment on the criteria proposed herein for index use in jurisdictional tariffs before obtaining additional data from filing companies or issuing further orders in individual tariff dockets. Ultimately the Commission will need sufficient information on the index or indices contained in any tariff sheets at issue in individual cases to determine that the index developer meets the Policy Statement standards and that the selected reference points meet or exceed minimum levels of activity to demonstrate adequate liquidity. At this point, however, it would be prudent first to obtain industry reaction to Staff’s recommended criteria so the Commission has a full record on which to base its selection of the final criteria to be used in individual dockets.

In future cases, Staff recommends that pipelines and utilities file supporting information with the tariff filing to demonstrate the suitability of the newly referenced

addition, similar filings are pending further action in Aquila, Inc., Docket No. ER03-1271-000; Portland General Electric Co., Docket Nos. CP01-421-000 and -001; Colorado Interstate Gas Co., *et al.*, Docket Nos. CP01-301-000, *et al.*; PG&E Gas Transmission, Northwest Corp., Docket Nos. RP02-70-002 and -003; B-R Pipeline Company, Docket No. CP01-418-000.

Staff notes the Commission has determined that an index may be to set a discounted transportation rate and, in such cases, there is no need for the Commission to determine whether the chosen index meets the Policy Statement criteria and reflects adequate liquidity. This is because the price index “will only be used to determine the discounted rate in a particular transaction where the customer has agreed to the use of that price index.” *Northern Natural Gas Co*, 105 FERC ¶ 61,299 at P 21 (2003). This is consistent with Staff’s distinction in this Report between indices voluntarily used in commercial transactions as contrasted with indices made part of generally applicable provisions of jurisdictional tariffs, where the customer is not able to negotiate or choose the index to be applied.

⁶⁶ See, e.g., *Transco*, 104 FERC at P 10; *Natural*, 104 FERC ¶ 61,190 at P 6.

⁶⁷ See, e.g., *Transco*, 104 FERC ¶ 61,181 at P 8; *Kinder Morgan Interstate Gas Transmission LLC*, 105 FERC ¶ 61,035 at P18 (2003).

⁶⁸ *Transco* P 14; see also *Northern Natural*, 104 FERC ¶ 61,182 P 10.

index.⁶⁹

VII. **CONCLUSION**

Successful conclusion of the energy price index issue can be achieved only when overall confidence reaches adequate levels. Information gathered through the Commission's two surveys and the comments and statements filed by market participants and price index developers indicate that the Commission's Policy Statement has made a positive contribution to the number of market participants reporting trade data, the quality control over the data reported, and more transparency in the publication of price indices for natural gas and electricity.

But further improvements are clearly possible. What is less clear is how the Commission can help achieve those improvements. Staff recommends that the Commission convene a public conference to hear responses from the industry on the options available to the Commission described above, any other options that should be considered, and the overall liquidity of energy markets, as well as taking comment on Staff's recommendations regarding use of indices in jurisdictional tariffs. Such input, along with continuing monitoring of progress in participation and transparency of data over the coming months, will inform the Commission about its future course of action.

⁶⁹ See, e.g., *North Baja Pipeline, LLC*, 105 FERC ¶ 61,374 P 38 (2003); *PacifiCorp*, Docket No. ER04-439, Letter Order (March 19, 2004).

APPENDIX

TABULATION OF 2004 SURVEY RESPONSES

The attached tables summarize responses to the survey sent by Staff in March 2004. The Appendix breaks down responses by a variety of categories in order to provide interested parties with as much information regarding the operation of energy indices as possible in anticipation of a future conference. While maximizing information, however, these tables are designed to maintain the confidentiality of individual respondents' information as requested in responses to the survey.