

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

NRG Power Marketing, Inc.)	
)	
v.)	
)	Docket No. EL00-49-000
New York Independent System Operator,)	
Inc.)	
)	

**ANSWER OF NEW YORK INDEPENDENT SYSTEM OPERATOR, INC. TO
COMPLAINT OF NRG POWER MARKETING, INC.**

Pursuant to Rules 206(f) and 213 of the Commission’s Rules of Practice and Procedure,¹ the New York Independent System Operator, Inc. (“NYISO”) hereby answers the complaint filed by NRG Power Marketing, Inc. (“NRG”) in this proceeding on March 7, 2000 (“Complaint”).

NRG alleges that the NYISO violated its Commission-approved² Temporary Extraordinary Procedures, as well as its “Extraordinary Corrective Action” (“ECA”) guidelines, when it corrected a number of erroneously calculated real-time energy prices on December 11 and 12, 1999. NRG asks that the Commission restore the originally posted prices, despite the fact that they were erroneously calculated. The NYISO urges the Commission to deny NRG the unjust and unreasonable relief that it seeks.

¹ 18 C.F.R. §§ 385.206(b) and 213 (2000).

² The Commission approved the NYISO’s “Temporary Extraordinary Procedures for Correcting Market Design Flaws and Addressing Transitional Abnormalities,” thereby authorizing the NYISO to utilize Temporary Extraordinary Procedures (“TEPs”) in appropriate circumstances for a 90 day period on September 15, 1999. *See New York Independent System Operator, Inc., et. al.*, 88 FERC ¶ 61,228 (1999); *reh’g denied*, 89 FERC ¶ 61,168 (1999). The ECAs were developed through consultations with market participants within the TEP framework. On February 4, 2000, the NYISO made a filing with the Commission seeking to extend certain components of its Temporary Extraordinary Procedures for an additional 90 days while allowing the other components to lapse. The February 4 filing is still pending before the Commission.

The NYISO admits that it was unable to fully comply with the ECA procedures for announcing that erroneously posted prices were under review insofar as it was approximately 24 hours late in announcing its review of the December 11 and 12 prices. Nevertheless, the NYISO substantially complied with the ECAs, and was clearly acting within their spirit, when it corrected the erroneously posted prices in order to ensure that real-time energy prices were determined in accordance with its Locational Based Marginal Pricing (“LBMP”) methodology.³ NRG must not be permitted to reap a multi-million dollar windfall, at the expense of other market participants, on account of unanticipated software errors that emerged during the early stages of NYISO operations, especially when the NYISO’s price corrections did not injure NRG, other than by depriving it of a windfall. Moreover, restoring the erroneously calculated prices, as NRG requests, would violate the filed-rate doctrine and could severely undermine New York’s wholesale electric power market. Accordingly, the NYISO respectfully asks that the Commission dismiss the Complaint.

Copies of all pleadings and other correspondence in connection with this proceeding should be addressed to:

John P. Buechler
Director of Regulatory Affairs
New York Independent System Operator, Inc.
3890 Carman Road
Schenectady, N.Y. 12303
Tel: (518) 356-6153
Fax: (518) 356-4702
jbuechler@nyiso.com

Arnold H. Quint
Ted J. Murphy
Hunton & Williams
1900 K Street, N.W., Suite 1200
Washington, D.C. 20006-1109
Tel: (202) 955-1542
Fax: (202) 778-2201
aquint@hunton.com

³ The Commission approved the NYISO’s use of the LBMP methodology in *Central Hudson Gas & Elec. Corp.*, 86 FERC ¶ 61,062 (1999).

I. Introduction

On December 11-12, 1999, less than a month after the NYISO commenced operations, a series of previously undetected software flaws caused the NYISO's Security Constrained Dispatch ("SCD") program to miscalculate real-time energy prices for a number of intervals. The SCD program is the heart of the NYISO's real-time market and is responsible for committing and dispatching generators in real-time and for setting real-time prices, generally in five-minute intervals.⁴

Normally, the SCD process dispatches available generators on a least-cost bid basis, after accounting for reliability factors, as well as generation response rates and transmission constraints, by sending "base point signals" to each generator. In addition, there is a price calculation step in the SCD process in which units are dispatched in order to determine market clearing prices. Most of the software problems on December 11 and 12 pertained to the price calculation step, not the base point dispatch step. Thus, the SCD program incorrectly ignored a number of low-cost generators in the price calculation dispatch, causing the NYISO to post erroneous market clearing prices based on the bids of much more expensive units, despite the fact that the actual base point signals the NYISO sent to generators were much lower. More specifically:

- On December 11, for SCD intervals 17:04,⁵ 17:09, 17:17, 17:25 and 17:31, there were a large number of units that should have been identified as marginal units, at prices

⁴ The Real-Time Market, and the SCD program, should be distinguished from the NYISO's Day-Ahead Market, which is administered by the Security Constrained Unit Commitment ("SCUC") program, and which constitutes the other prong of the NYISO's multi-settlement system.

⁵ Ideally the SCD is run every five minutes. However, it is sometimes run more often, usually when conditions are changing or something is wrong, *e.g.*, a bad data read. At other

(continued . . .)

generally ranging from \$12 to \$80 MW. Because these units were incorrectly ignored, the SCD did not take them into account for dispatch or price calculation purposes and thereby mistakenly calculated a much higher real-time energy price than supply and demand conditions dictated. The software errors that caused these problems resulted in the posting of the erroneous \$1,603.08 market clearing price for hour block 1700 that NRG has asked the Commission to restore.⁶

- On December 12, for SCD intervals 0:47, 0:57, 1:32, 7:21, 8:07, 10:12 and 23:46, prices were calculated using an erroneous reference bus price. The error was attributable to an attempted programming fix to an unrelated SCD problem that did not work as intended and caused an unexpected incidental error.
- On December 12, for SCD intervals 16:28, 16:50, 16:51, 16:56, 17:00, 17:17, 17:18, 17:23, 17:24, 17:27, 17:39, 17:44, 17:45 and 17:49, there were a large number of units that should have been identified as marginal units, at prices generally ranging from \$12 to \$80 MW. Because these units were incorrectly ignored, the SCD did not take them into account for dispatch or price calculation purposes and thereby mistakenly calculated a much higher real-time energy price than supply and demand conditions dictated. The software error that caused these problems resulted in the posting of the erroneous \$2,810 market clearing price for hour block 1600 and the

times there are long intervals when SCD is not run. All SCD intervals are defined pursuant to a 24 hour “military” time scale. “17:04” is thus 5:04 P.M.

⁶ Complaint at 5.

erroneous \$6,525.40 market clearing price for hour block 1700 that NRG has asked the Commission to restore.⁷

- On December 12, for SCD intervals 21:00, 21:01, 21:06, 21:07, 21:12, 21:17, 21:22, 21:39, 22:00 and 22:18, the prices calculated by the SCD were inconsistent with the actual dispatch of units and the reference bus price had the wrong sign. The software problem that caused these anomalous results was an unintended byproduct of the NYISO's efforts to fix the other software problems that were distorting the NYISO's real-time market price calculations.

In each of the aforementioned intervals the software errors resulted in the SCD computing, and the NYISO posting, erroneously calculated real-time energy prices. In many instances, including those cited by NRG in its Complaint, the erroneously calculated price was dramatically higher than a correctly calculated price, derived from the actual interplay of supply and demand, would have been.

Moreover, it was generally the case that those generators whose bids erroneously set the high prices in the price calculation step **were not actually dispatched** to operate at the levels to which those bids applied. In general, there was an enormous discrepancy between the erroneous prices originally posted, and the actual dispatch points of the units that set these prices. For example, on December 12, during the intervals 17:18 through 17:49, when some erroneously calculated prices greater than \$8,000 MWh were posted, no unit was actually sent a dispatch signal to a point above \$500 on its bid curve, and in the majority of these intervals the maximum dispatch signal was less than \$200. During most of the intervals, the highest cost unit actually dispatched to meet incremental load had a bid considerably below the *corrected* prices. In

⁷ *Id.*

addition, any unit that was actually dispatched to generate energy at an erroneously high price would have been paid the “bid production cost guarantee” pursuant to Section 4.23 of the NYISO’s Market Administration and Control Area Services Tariff (“ISO Services Tariff”), protecting it from economic injury.⁸

The inexplicably high December 11 and 12 prices quickly led many market participants to refer to December 12 as “Black Sunday.” NRG, however, stood to reap a substantial windfall as a result of the NYISO’s miscalculations. Indeed, its Portfolio Director, Craig Gantner, went so far as to declare in an e-mail, responding to the NYISO’s explanation of the price corrections, that he preferred to refer to December 12 as “Golden Sunday.”

Although the NYISO immediately suspected that the posted prices for the intervals noted above were anomalous, it did not immediately understand what caused them, and could not rule out the possibility that they were the product of legitimate competitive market forces.

Accordingly, the NYISO Staff, working in tandem with outside economic consultants, conducted an extensive review of the suspect December 11 and 12 prices. It was eventually established that the price spikes in question were caused by software problems, and SCD miscalculations, rather than high demand, or a scarcity of available supply. Consequently, the NYISO invoked ECA #5 and corrected the erroneously calculated prices. In every case, incorrect prices, including those referenced in the Complaint, were replaced with correctly determined, truly market-based prices from proximate intervals.

ECA #5 permits the NYISO to correct prices that are found to have been incorrectly calculated as a result of a “market design flaw” or a “transitional abnormality.” Under the

⁸ The veracity of this Answer’s description of the technical aspects of the December 11 and 12 price corrections is supported by the Affidavit of Scott Harvey, which is attached to this

(continued . . .)

provision of ECA #5 in effect on December 11 and 12,⁹ the NYISO was expected to “identify potentially incorrectly calculated prices within forty-eight hours and correct them within a period of seven days from identification.”¹⁰ The Commission’s Order approving the NYISO’s TEP authority (“September 15 Order”) also required the NYISO to post an explanation of any corrective action on its web-site and on its OASIS.¹¹

As is explained in more detail *infra* in Section II, because of its lack of market experience and its desire to avoid creating unnecessary price uncertainty, the NYISO missed ECA #5’s 48-hour deadline for reserving prices by approximately 24 hours with respect to both the December 11 and 12 prices. The NYISO nevertheless corrected the erroneously calculated prices in order to protect the integrity of the market. As is discussed in detail *infra* in Section II.B, the NYISO provided a detailed explanation of the price miscalculations, via e-mail, to every subscriber to the NYISO’s Technical Information Exchange mailing list (the “TIE” list).

The NYISO respectfully asks that Commission keep these facts in mind when it judges the merits of the Complaint. Ultimately, NRG is attempting to exploit the NYISO’s procedural missteps during its first few weeks of operation for its own financial gain and to the detriment of other market participants. The Commission should therefore reject the Complaint and uphold the NYISO’s price corrections.

Answer as Attachment 1.

⁹ When ECA #5 was negotiated, market participants accepted that the NYISO should be allowed 48 hours to identify, and seven days to correct, erroneous prices during the period from December 8 to December 31, 1999 because the NYISO would have so little market experience during that period. The time allowed for NYISO action was shortened to 24 hours after December 31.

¹⁰ See Complaint, Exh. K at 2.

¹¹ *New York Independent System Operator, Inc., et. al.*, 88 FERC ¶ 61,228 at 61,755 (1999).

II. The NYISO's Actions Were in Substantial Compliance with the ECAs

A. Although the NYISO Corrected the Erroneous December 11 and 12 Prices in a Timely Manner, It Did Not Announce That Those Prices Were Under Review Within 48 Hours Because It Was Unable to Identify the Software Problems Responsible For the Erroneous Calculations Within the Required Period

The NYISO acknowledges that it did not comply with the letter of ECA #5 inasmuch as it did not notify market participants that the erroneously calculated December 11 and 12 prices were under review within 48 hours.¹² At that time, the NYISO Staff was utilizing a process under which it attempted to determine, to a reasonable certainty, that prices were erroneous before declaring them to be under review.

The NYISO was exceedingly reluctant to announce prematurely that prices were being reviewed because a number of market participants had complained that such announcements fostered uncertainty in the marketplace. Consequently, NYISO Staff believed that it should have a firm basis for believing that particular prices had been incorrectly posted before announcing that they were under review. Despite the lateness of its announcement, the NYISO urges the Commission to recognize, for the reasons described in Sections III - VIII of this Answer, that it would be unjust and unreasonable to give NRG a windfall by restoring the erroneously calculated prices, which were produced by software errors rather than competitive market forces.¹³

¹² The Complaint notes that the NYISO initially suggested that it would interpret ECA #5's 48-hour notice requirement as affording the NYISO two business days to give notice that prices were under review. At the time these suggestions were made, various members of the NYISO's Staff believed, based on past New York Power Pool practice, that it was reasonable to equate 48 hours with two business days. This misunderstanding has since been corrected, and the NYISO is not asserting in this Answer that ECA #5's then applicable 48-hour notice requirement should have been read as a two business day notice requirement.

¹³ As is noted *infra* in Section IV, Complainant is wrong to assert that the NYISO's correction of the erroneously calculated December 11 and 12 prices constituted impermissible retroactive ratemaking. *See* Complaint at 10, n.7.

The NYISO does not seek to minimize the importance of ECA #5's notice requirements. Indeed, as is discussed *infra*, the NYISO's inability to meet these requirements in the aftermath of the December 11 and 12 software errors prompted the NYISO to overhaul its price review and validation procedures.

In the case of the erroneous December 11 and 12 prices, which were the product of insidious flaws in the NYISO's software, the NYISO Staff missed the 48-hour deadline while it was attempting to determine if the prices were the result of a market design flaw.¹⁴ As it turned out, approximately 72 hours elapsed before the NYISO Staff was confident that the December 11 and 12 prices were erroneously calculated.

Prompted by the uproar over the correction of the "Black Sunday" prices, the NYISO instituted a new review policy under which it announces that potentially incorrect prices are under review as quickly as possible, even at the risk of increasing the number of correctly calculated prices that are subjected to review.¹⁵ The revised policy has been highly successful and the NYISO has not run afoul of ECA #5's notice requirement since the new review policy was implemented, even though the notice period allowed by ECA #5 is now only 24 hours.¹⁶ Moreover, NYISO Staff's increasing expertise, coupled with the gradual elimination of software

¹⁴ As a general matter, because the NYISO real time market is driven by the highly sophisticated SCD algorithm, it is less dependent on human intervention than other bid-based systems (*e.g.*, ISO New England's) and less vulnerable to human error. However, on those occasions that the SCD miscalculates prices, the errors at fault can be more difficult for human operators to detect and fix.

¹⁵ In addition, the NYISO has increased the amount of Staff resources dedicated to price review, involving a larger number of market monitoring unit personnel, as well as a number of outside economic consultants.

¹⁶ The veracity of this Answer's description of the NYISO's price review and announcement policies as they existed around December 11 and 12 and as subsequently revised,

(continued . . .)

problems, has greatly reduced the need for NYISO review, and correction, of real-time energy prices.¹⁷ For example, during the first three weeks of March, the NYISO corrected only 0.63% of real-time energy prices.

B. The NYISO Provided an Adequate Explanation of the December Price Correction

NRG incorrectly asserts that the NYISO has “never given an explanation”¹⁸ of the December 11-12 price corrections. In fact, the NYISO provided an explanation on December 22, 1999, *see* Attachment 3 (“December 22 Explanation”), which clearly articulated: (i) that a number of different prices on December 11 and 12, including those specifically challenged by the Complaint, were incorrectly calculated because the NYISO’s SCD failed, due to a software flaw, to identify a large number of marginal units that should have been selected to run and thus erroneously calculated market-clearing prices; (ii) that some December 12 prices were incorrectly calculated because the software used an erroneous reference bus price; (iii) that other December 12 prices were incorrectly calculated, because of SCD dispatching errors associated with faulty software code and the fact that the reference bus price had the wrong sign; (iv) that all of the erroneously calculated prices were replaced with properly calculated prices from the closest possible time intervals; and (v) that the NYISO had been able to fix some of the software flaws and was attempting to quickly fix the others.

is supported by the Affidavit of Charles A. King, which is attached to this Answer as Attachment 2.

¹⁷ *See NYISO’s Revised Set of Temporary Extraordinary Procedures for Correcting Market Design Flaws and Addressing Transitional Abnormalities (“Revised TEP Filing”)* at 6-8, (Docket No. ER00-1533, Feb. 4, 2000) (discussing the NYISO’s sensitivity to the importance of price certainty and its commitment to ensuring it by calculating market-clearing prices as quickly, and accurately, as possible.)

¹⁸ Complaint at 7.

The December 22 Explanation further emphasized that:

Two problems in the SCD pricing and dispatch logic manifested themselves on Dec 11 and Dec. 12 These problems caused the SCD price calculation step not to see significant quantities of energy that were available on the margin and being dispatched. In particular, the output of GTs [*i.e.*, gas turbines] that had been started was not seen by SCD in the price calculation step, although it was seen in the final dispatch step. Substantial capacity on certain steam units was also not seen in the price calculation step.

The December 22 Explanation was broadly disseminated via electronic mail to the NYISO's TIE list. It immediately triggered responses by market participants who asked questions concerning various aspects of the explanation. Craig Gantner, NRG's Portfolio Director, was among those who responded. The NYISO responded directly to some of these questions and followed up with a detailed oral presentation at the NYISO's January 5th TIE meeting. In addition, on January 7, 2000, the NYISO circulated a lengthy explanation of its rationale for correcting the erroneously calculated December 11 and 12 prices. Interestingly, NRG has attached an excerpt from this message to its Complaint as Exhibit F but chose to omit the first four paragraphs, which emphasize that the NYISO had corrected the December 11 and 12 prices in order to address errors caused by various "software demons." The complete text of this message is attached to this Answer as Attachment 4.

It is unclear why NRG did not acknowledge the December 22 Explanation in its Complaint, or why it believes that the December 22 Explanation did not satisfy the Commission's requirement that the NYISO provide an explanation as to why its corrective action was the result of a market design flaw. Although the December 22 Explanation does not explicitly reference the Commission approved definition of a "market design flaw," *i.e.*, a "market structure, market design or implementation flaw giving rise to situations in which market conditions or the application of ISO procedures would result in inefficient markets or

prices that would not be produced in a workably competitive market . . . ,” it seems implausible that NRG did not understand the software problems described in the December 22 Explanation to be market design flaws.¹⁹ Indeed, the NYISO’s Temporary Extraordinary Procedures explicitly state that “[p]ossible indications of Market Design Flaws include the dispatch of higher priced resources in the market when resources with lower-priced bids are available and not selected to operate, and there is no valid reason for not operating the lower-priced resource.”

Although the NYISO did not post the December 22 Explanation on its web-site²⁰ or on the NYISO’s OASIS, it distributed the December 22 Explanation to the TIE list. The TIE list has approximately 700 subscribers, which the NYISO believes includes representatives of every NYISO market participant, and has become the standard medium through which the NYISO communicates important NYISO related information to market participants. Sending e-mails to the TIE List provides all market participants with immediate and equal access to important information. Indeed, dissemination to the TIE list can be even more effective than an OASIS or Internet posting since it enables interested market participants to receive information without having to access the NYISO’s OASIS or web site.

¹⁹ This is especially true given that the NYISO noted it was reviewing the erroneously calculated December 11 and 12 prices pursuant to ECA #5 in its “Daily Status Reports” for December 14 and 15. *See* Complaint at Exhibit J. NRG presumably knew that the NYISO could take action under ECA #5 only in the event of a market design flaw or “transitional abnormality.” Given that a “transitional abnormality” is defined as “a situation in which a systematic equipment malfunction, including telecommunications failure or widespread and massive electric transmission or equipment outages, would prevent the dispatch of the system as contemplated by the market rules,” *see* Attachment O to the ISO Open Access Transmission Tariff at 2, and given the December 22 Explanation’s focus on software design flaws, it should have been clear that the NYISO was acting to correct a market design flaw.

²⁰ At the time of the corrections, the NYISO lacked the software capability to post full explanations on its web site. It did, however, post the corrected prices themselves on its web site on December 21, and re-posted them on December 23.

Accordingly, despite the NYISO's failure to post the December 22 Explanation, all TIE list subscribers received information clarifying that the price corrections were aimed at remedying the effects of a market design flaw, rather than suppressing truly market-based prices. The Commission should not give NRG a windfall by restoring the incorrectly determined December 11 and 12 prices, especially since NRG received, and responded to, the December 22 Explanation. Moreover, the NYISO has instituted procedures to ensure that explanations of future price corrections will be promptly posted to its web-site and OASIS, in addition to being circulated to the TIE list.

III. NRG has Failed to Demonstrate that the December 11 and 12 Prices Were Produced by Competitive Market Forces Rather than a Market Design Flaw

NRG has mistakenly presumed that the original December 11 and 12 prices were “arrived at by supply and demand forces”²¹ and that if the “market operated as it should have,” NRG would have received the originally calculated December 11 and 12 LBMPs.” The flaw in NRG’s claim is the fact that it is the corrected prices, not the original prices, which accurately reflect competitive market pressures. The originally posted December 11 and 12 prices were not determined by the interplay of supply and demand. Instead they were the result of software flaws that disrupted the SCD process and led to a number of computational errors. Given the circumstances, the NYISO’s price correction was necessary to ensure the credibility of the NYISO’s own work, and to ensure that participants in the New York market are able to make intelligent bidding decisions based on accurate price information.

In the September 15 Order, the Commission expressed concern that it sometimes “may be difficult to determine the difference between market outcomes that result from design flaws, and

²¹ Complaint at 17.

those that result from scarcity or surplus conditions.”²² There is little doubt here that the originally posted December 11 and 12 prices were attributable to design flaws not market scarcity. Although it initially took the NYISO several days to properly understand the software design flaws that caused the December price increases, the NYISO and its outside economic consultants have concluded, after an extensive analysis, that corrective action was necessary because the originally posted prices had not been established by competitive market forces. NRG has offered no countervailing evidence to support its allegation that the December 11 and 12 prices were truly market driven, or that the NYISO revised the prices simply because they were high.

IV. The NYISO’s Correction of the December 11 and 12 Prices Was Consistent with the Filed-Rate Doctrine and Section 205 of the Federal Power Act

NRG has claimed that the NYISO’s price corrections were unlawful under Section 205 of the Federal Power Act²³ and the “filed-rate doctrine,” which prohibits regulated entities, including the NYISO, from charging rates other than those properly on file with the Commission. In fact, the reverse is true. The price corrections NRG attacks were necessary under Section 205 and the filed rate doctrine. In a February 10 ISO New England Order, the Commission stated that “consistent with the filed-rate doctrine, the ISO already has the authority and is required, to correct all prices that do not reflect operation of the NEPOOL market rules (which are the filed rate.)”²⁴ The Commission stated further that ISO New England was empowered, pursuant to the filed-rate doctrine, to correct “technical implementation errors,”²⁵ explicitly including software

²² 88 FERC ¶ 61,228 at 61,755.

²³ 16 U.S.C. § 824d (1998).

²⁴ *ISO New England, Inc.*, 90 FERC ¶ 61,141, *slip op.* at 6 (Feb. 10, 2000)

²⁵ *Id.*, *slip op.* at 5.

errors that “occur when the prices calculated in realtime by the software do not reflect the actual resource dispatch.”²⁶

The logic of the February 10 Order is equally applicable to the NYISO. The basic framework of New York’s LBMP energy market is established by the ISO Services Tariff, which is on file with the Commission. The ISO Services Tariff’s provisions are implemented by sophisticated software that generates LBMPs, and makes least-cost dispatch decisions, after analyzing hundreds of bids, and accounting for load forecasts, transmission system conditions and unit operating characteristics, among other variables. The software is the primary vehicle through which the ISO Services Tariff’s policies are effected and therefore plays an integral role in the determination of the NYISO’s market-based “filed rate.” Erroneously calculated prices caused by software problems are thus necessarily inconsistent with the ISO Services Tariff, as well as the filed-rate doctrine, and must be corrected. Conversely, only prices that correctly reflect the market-based pricing principles set forth in the ISO Services Tariff are consistent with the filed-rate doctrine. Because the NYISO corrected the December 11 and 12 prices in order to ensure that NRG was paid the price it would have received if the NYISO’s software had functioned correctly, it follows that the December 11 and 12 price corrections were consistent with the filed-rate doctrine.

Consistent with the foregoing, the Commission stated in the September 15 Order that it was acceptable for the NYISO to recalculate erroneous prices, “as the recalculated prices are intended to reflect the prices that would have resulted from the market design we have already approved.”²⁷ The Commission also acknowledged in *Order 2000* that RTOs which operate bid-

²⁶ *Id.*, slip op. at 2.

²⁷ 88 FERC ¶ 61,228 at 61,754.

based markets have a duty to ensure that final market clearing prices are correct, even to the extent that they are required to recalculate prices, with the proviso that such recalculations must be as rare, and as rapidly conducted, as possible.²⁸ Although the Commission did not mention the filed-rate doctrine in this context, its willingness to allow recalculations implicitly recognizes that the filed-rate doctrine does not prevent RTOs from correcting erroneously calculated prices. It is entirely appropriate that the NYISO, which operates a sophisticated bid-based market and has a Commission-approved independent governance structure, be afforded similar flexibility to correct prices.

The filed-rate doctrine cases²⁹ cited by NRG all substantially predate the creation of bid-based ISO-administered markets, as well as the introduction of bilateral wholesale market-based rate arrangements among utilities, and therefore provide little guidance as to how the filed-rate doctrine should be applied to the NYISO. To the extent that these cases are relevant, they support the NYISO's ability to correct erroneous prices since only correctly calculated prices are consistent with the NYISO's market design and its market-based filed rate.

NRG's theory that the NYISO's price corrections constituted impermissible retroactive ratemaking is incorrect for similar reasons. The NYISO's actions did not retroactively alter the ISO Services Tariff or any aspect of the NYISO's market design or supporting software that implement the NYISO's filed-rate. Instead, the price corrections eliminated errors that produced prices inconsistent with the filed rate. An instructive analogy can be drawn to the Commission's

²⁸ *Regional Transmission Organizations, Order No. 2000*, FERC Statutes and Regulations ¶ 31,089 at 31,217-18 (2000).

²⁹ Complainants citations include, *Arkansas Louisiana Gas Co. v. Hall*, 453 U.S. 571, 577 (1981); *City of Piqua, Ohio v. FERC*, 610 F.2d 950, 953 (D.C. Cir. 1979); *City of Cleveland v. FPC*, 525 F.2d 845, 854 (U.S. App. D.C. 1976).

precedent on formula rates and automatic adjustment clauses. The Commission has previously held that utilities with formula rates on file may change their prices as costs and other conditions change, provided that they do so in accordance with the formula. Moreover, when a formula rate is mis-applied, utilities are required to correct the resulting errors.³⁰

Thus, contrary to NRG's mistaken interpretation, the filed-rate doctrine fully validates the NYISO's decision to correct the erroneously calculated December 11 and 12 prices. In fact, it appears that the NYISO would have authority, pursuant to the filed rate doctrine, to correct erroneously calculated prices even in the absence of the Commission approved Temporary Extraordinary Procedures or ECAs.³¹

V. NRG has Failed to Demonstrate That it Was Injured by the December Price Corrections

NRG contends that it was “damaged by the substantial downward revisions of the clearing prices that were otherwise determined by the supply and demand components of the market.”³² In reality, the NYISO's price corrections deprived NRG of the windfall it would have received if the erroneously calculated prices had been allowed to stand. Only the corrected prices are justifiable under the NYISO's tariff and the filed-rate doctrine because they are the only prices that were actually determined by the “supply and demand components of the market.”

There was never a legitimate market basis for the erroneous prices that NRG has asked the

³⁰ See, e.g., *Delmarva Power & Light Co.*, 24 FERC ¶ 61,199 at 61,461 (1983) (requiring refunds for amounts improperly collected in prior periods); see also *Southern California Edison Co. v. FERC*, 805 F.2d 1068, 1070 (D.C. Cir. 1986) (noting with approval, admissions that: (1) a utility must refund costs that are improperly collected under a fuel adjustment clause, and (2) corrections are routine when there have been mathematical errors in calculating a bill).

³¹ See *ISO New England*, 90 FERC ¶ 61,141, slip op. at 5 (2000) (indicating that ISO New England would be authorized to “correct errors in charging the filed rate” even in the absence of an interim “emergency corrective action” rule).

Commission to restore, and it was entirely appropriate that NRG be paid the truly market-based corrected prices. The Commission should not view NRG's loss of its hoped for "Golden Sunday" windfall as an "injury," given that it was in fact paid the correctly determined, market-based price for real-time energy on December 11 and 12.

Nor has NRG alleged that its units were actually dispatched at a price anywhere near the erroneously calculated prices. Even if an NRG, or NRG-affiliated unit, had been dispatched at such a price it would have been paid an amount at least equal to the applicable "bid production cost guarantee," as per Section 4.23 of the ISO Services Tariff, and thus would not have sustained any "injury."

Moreover, NRG has not even alleged that it was injured as a result of the fact that the NYISO took an additional 24 hours to notify market participants that it was reviewing the December 11 and 12 prices. It has not suggested that it detrimentally relied on receiving the erroneous price during the 24 hour period preceding the NYISO's notice.

NRG has also hypothesized that the NYISO's correction of the erroneous December 11 and 12 prices will have an adverse "commercial, financial and operational" effect on the market.³³ The NYISO denies this unsubstantiated allegation. NRG's thesis that the NYISO's supposedly "arbitrary" price correction will diminish confidence in the market falsely presumes that the original prices were produced by competitive market forces, rather than software problems. It also ignores the importance of price accuracy to efficient market performance and to market participants' decisions to enter a market. The importance of price accuracy is discussed in detail in the next section.

³² Complaint at 16.

³³ Complaint at 16-17.

VI. NRG Has Elevated the Importance of Price Certainty Above That of Price Accuracy

The NYISO agrees with NRG that predictability and price certainty are critical to the efficient operation of competitive markets. Indeed, as was discussed *supra* in Section II the NYISO did not announce that the December 11 and 12 prices were under review within the 48 hour period in large part to avoid creating price uncertainty. The NYISO has devoted substantial resources to price review matters and has worked hard to reduce the number of reservations and corrections.

Market participants are entitled to pay, and be paid, correct prices established pursuant to the proper workings of the NYISO's market design as approved by the Commission. Forcing customers to pay an incorrectly calculated price would clearly violate their contractual rights as signatories to Service Agreements executed under the ISO Services Tariff. Moreover, accurate price signals are essential to market efficiency. Prices that do not reflect competitive forces send distorted signals and, if left uncorrected, will lead to inefficient decisions. Price accuracy should be every bit as important to entities with generation interests, such as NRG, as is it is to loads, since inaccurate price information could cause developers of new generation resources to make serious mistakes concerning the development and siting of new units.

The NYISO is not alone in this view. Various parties made similar arguments in Docket No. ER00-749-000, *i.e.*, the proceeding that culminated in the February 10 ISO New England order discussed *supra* in Section IV. For example, Northeast Utilities Service Company ("NUSCO"), representing the various Northeast Utilities operating companies and their affiliated power marketer, Select Energy, Inc., argued that price certainty should not be emphasized at the

expense of price accuracy.³⁴ TransCanada Power Marketing, Ltd., also emphasized the costs associated with inaccurate prices and the importance market participants placed on being able to rely on prices that were correctly determined under ISO rules.³⁵

It is unlikely that errors will ever be completely eliminated from sophisticated bid-based electricity markets. In particular, errors may have been unavoidable during the early weeks of the NYISO's operations despite the NYISO's extensive pre-operational market trials,³⁶ considering that the NYISO's multi-settlement market system was, and still is, the most sophisticated in the United States. Although the NYISO does not seek to downplay the significance of problems associated with price calculation errors, it believes that the harm associated with allowing an incorrect price to stand is far greater than whatever harm may have resulted from its inability to meet ECA #5's notice requirement.

VII. The NYISO's Price Corrections Were Not Arbitrary or Capricious

As the NYISO has explained in the preceding sections, the NYISO corrected the December 11-12 prices because they were not calculated correctly in the first instance. Corrective action was necessary to preserve the integrity of the New York market and to ensure, consistent with the filed-rate doctrine, that buyers were charged, and sellers were paid, an accurately calculated market-based price. In short, the NYISO corrected the erroneous prices,

³⁴ *Motion to Intervene, Comments in Support and Limited Protest of Northeast Utilities Services Company*, Docket No. ER00-749-000 at 7-8 (Dec. 28, 1999).

³⁵ *Motion for Leave to Intervene and Protest of TransCanada Power Marketing, Ltd.*, Docket No. ER00-749-000 at 4-5 (Dec. 28, 1999).

³⁶ As the NYISO has previously explained, its pre-start up market trials identified a number of market design flaws. However, the pre-start up trials were unable to detect all of the flaws in the system because they were necessarily conducted on a market simulator, rather than in the actual market, and because market participants did not utilize their actual bidding and scheduling strategies until the NYISO actually commenced operations, and real money was at stake.

even though doing so was contrary to ECA #5's notice requirements, because it respected the market and market principles. There was nothing arbitrary or capricious about the corrections. Moreover, allowing the originally posted December 11 and 12 prices to stand would institutionalize arbitrary and capricious software-related pricing errors, a result completely at odds with NRG's espousal of price certainty.

Likewise, although NRG implies that the NYISO's actions were motivated by a hidden animus against generators, the NYISO's track record belies the accusation. On those rare occasions that the NYISO has had to correct real-time energy prices, the corrections have resulted in price increases approximately 30% of the time. Moreover, the NYISO does not seek to suppress high prices when such prices are the legitimate product of competitive market forces. It takes corrective action only in cases where a market design flaw, such as the software problems that led to "Black Sunday," result in prices that bear no relation to supply and demand conditions at the time they were established.

NRG sees the fact that the NYISO did not take retroactive action to revise prices after software problems during the first week of NYISO operations led to a load overstatement in the day-ahead market, which contributed to an over commitment of generation, as further evidence that the NYISO disfavors generators. This is not the case.

First, the over commitment of generation actually favored generators, because it inflated day ahead schedules and prices and caused generators to sell energy at day-ahead prices that were higher than would have prevailed if load had been correctly modeled. Real-time prices were lower as result of the over commitment, but this simply permitted generators scheduled day-ahead that were not needed in real-time to settle their imbalances against day-ahead schedules at lower prices, increasing generators profits. Rather than demonstrating a bias against generators,

these actions benefited generators at the expense of loads and affected all day-ahead schedules, not merely the deviations between day-ahead and real-time schedules, as did the real-time prices on December 11 and December 12.

In addition, after an extensive review of the over commitment by its Staff and outside economic consultants, the NYISO determined that it was virtually impossible, as a technical matter, to “re-do” the entire market for the first week of NYISO operations. In addition, any such attempt would necessarily require the NYISO to make an enormous number of controversial assumptions about market participants’ bidding behavior, and various other factors, that would inevitably provoke endless, and for all practical purposes, unresolvable conflicts. Thus, the NYISO concluded that it would not attempt to revise the disputed November prices, because it was impossible to do so accurately. The NYISO provided this explanation to market participants via electronic mail on December 8, 1999. *See* Attachment 5. By contrast, it was possible, and relatively simple, for the NYISO to correct the erroneous December 11 and 12 prices. The distinction between the two cases had nothing to do with the category of market participants involved, and everything to do with the feasibility of making changes.

Finally, contrary to NRG’s assertions, the NYISO has no desire to interfere with market processes, and does not presume that it is charged with a quasi-regulatory obligation to keep energy prices artificially low.

VIII. It Is Unjust and Unreasonable for NRG to Receive a Windfall Because of the NYISO’s Procedural Errors

NRG has failed to demonstrate that: (i) the NYISO’s price corrections deprived it of an accurately calculated market-based price; (ii) the NYISO’s price corrections violated the filed-rate doctrine or constituted impermissible retroactive ratemaking; (iii) it was genuinely injured (*i.e.*, other than to the extent that it lost a windfall); (iv) allowing the December 11 and 12 price

corrections to stand would not subvert the New York market more than leaving erroneous December 11 and 12 prices uncorrected; and (v) the NYISO's actions were arbitrary or capricious, or otherwise motivated by an anti-generator animus. Thus, the Complaint is nothing more than a demand that NRG be allowed to receive an erroneously calculated price, at the expense of other market participants, because the NYISO missed a procedural deadline. This request is patently unjust and unreasonable and should be rejected by the Commission. Indeed, for the reasons described *supra* in Section IV, the NYISO believes that the Commission could not grant NRG the windfall it seeks without running afoul of the filed-rate doctrine.

The NYISO recognizes the tremendous importance both to the efficiency of the New York market, and to its own credibility, that prices be correctly calculated as quickly as possible with the minimum possible number of errors. It understands that price recalculations must be done quickly, in order to minimize market participants' risks and transaction costs.³⁷ Fortunately, the NYISO's price review performance has improved dramatically in the months since "Black Sunday." The NYISO's failure to adhere to ECA #5's procedural requirements was an aberration that is unlikely to be repeated. Contrary to NRG's rhetoric, the NYISO has done the best it could to comply with the Commission's requirements, and its obligations to properly administer the New York market and calculate correct prices. The Commission therefore should not restore the erroneously calculated December 11 and 12 prices.

IX. Compliance with Rule 213 of the Commission's Rules of Practice and Procedure

A. Disputed Factual Allegations

- The NYISO disputes NRG's allegation that the NYISO "never explained" its decision to correct the December 11 and 12 prices, as the September 15 Order required.

- The NYISO disputes NRG’s claim that the prices originally posted on December 11 and 12 were the legitimate product of competitive market forces and the NYISO’s dispatching procedures.
- The NYISO disputes NRG’s assertion that the NYISO’s decision to correct the erroneously calculated December 11 and 12 prices was reached arbitrarily and pursuant to a discriminatory, anti-generator animus.

B. Law Upon Which This Answer Relies

- Section 205 of the Federal Power Act, 16 U.S.C. § 824d (1998) (the statutory foundation of the filed-rate doctrine).
- *ISO New England, Inc.*, 90 FERC ¶ 61,141 (2000) (interpreting the filed-rate doctrine as empowering ISO New England to correct pricing errors).
- *New York Independent System Operator, Inc., et. al.*, 88 FERC ¶ 61,228 (1999) (accepting the NYISO’s proposal to recalculate prices to the level that would have been reached in the absence of a market design flaw because the recalculated prices would reflect the prices that should have resulted from the Commission-approved market design); *reh’g denied*, 89 FERC ¶ 61,168 (1999).

C. Admissions and Denials of NRG’s Material Allegations

- The NYISO admits that it gave untimely notice under ECA #5, although it nevertheless substantially complied with ECA #5’s procedural requirements.
- The NYISO denies that its failure to provide timely notice under ECA #5 constituted a violation of the filed-rate doctrine or of FPA Section 205(d). Conversely, NRG’s requested

³⁷ *Order 2000* at 61,218.

relief would violate the filed-rate doctrine by allowing NRG to be paid a price that was not properly computed under the NYISO's market design.

- The NYISO denies that its decision to correct the erroneously calculated December 11 and 12 prices was in any way capricious or arbitrary. The NYISO decision was entirely rational and motivated by a desire to protect the integrity of the New York market
- The NYISO denies that its price corrections undermined confidence in the market. To the contrary, confidence in the market will be undermined if the NYISO is forced to restore an erroneously calculated price and provide NRG with a windfall.
- The NYISO denies that its correction of the erroneously calculated December 11 and 12 prices constituted impermissible retroactive ratemaking.
- The NYISO denies NRG's assertion that the original December 11-12 prices were properly calculated pursuant to "market rules in place at the time the bids were made and accepted by the NYISO."
- The NYISO denies NRG's assertion that the NYISO's "recalculation of the market rates for the dates at issue is inconsistent with the established market procedures"
- The NYISO denies that it is "interfering with operation of the competitive market by imposing its own regulatory regime in an arbitrary manner, rather than facilitating operation of a competitive market."
- The NYISO denies that it never provided an adequate explanation of its actions. In fact, the NYISO provided a detailed explanation, and NRG's allegation that the NYISO limited itself to tautological statements or opaque references to "acting on behalf of ratepayers" is simply wrong.

- The NYISO denies that the prices originally posted on December 11 and 12 were produced by competitive market forces rather than a market design flaw.
- The NYISO denies that NRG or “the market” has been “damaged” by the price correction. NRG has merely been denied its “Golden Sunday” windfall.

D. Defenses

- The NYISO substantially complied with the ECAs. Moreover, the price corrections were consistent with filed-rate doctrine.
- The NYISO’s failure to announce that the erroneously calculated December 11 and 12 prices were under review was the result of the difficulty of identifying the market design flaw that caused the errors and the NYISO’s reluctance to reserve prices without a reasonable certainty that they were incorrect.
- The NYISO’s correction of the December 11 and 12 prices was justified in light of its obligations to protect the integrity of the New York market and to comply with the filed-rate doctrine.

E. Attachments

- Attachment 1: Affidavit of Scott Harvey.
- Attachment 2: Affidavit of Charles A. King.
- Attachment 3: NYISO’s December 22, 1999 explanation of the December 11 and 12 price corrections.
- Attachment 4: NYISO’s January 7, 2000 follow up explanation of the December 11 and 12 price corrections.
- Attachment 5: NYISO’s December 8, 1999 explanation of its rationale for not attempting to reconstruct prices calculated during the first week of NYISO operations.

X. Conclusion

WHEREFORE, for the foregoing reasons the New York Independent System Operator, Inc., respectfully asks that the Commission dismiss the March 7, 2000 Complaint of NRG Power Marketing, Inc. and deny NRG the unjust and unreasonable relief it seeks.

Respectfully Submitted,

Arnold H. Quint
Ted J. Murphy
Counsel for
New York Independent System
Operator, Inc.

March 28, 2000

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure 18 C.F.R. § 2010 (1999).

Dated at Washington, D.C. this 28th day of March, 2000.

Ted J. Murphy
Hunton & Williams
1900 K Street, N.W.
Washington, D.C. 20006-1109
(202) 955-1500

Attachment 1

Attachment 2

Attachment 3

Attachment 4

Attachment 5