NEW YORK INDEPENDENT SYSTEM OPERATOR
10 Krey Boulevard Rensselaer, NY 12144

January 29, 2010

Via Electronic Delivery

Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Re: *New York Independent System Operator, Inc.*, Docket No. ER06-1014-____
Seventh Price Validation Informational Report

Dear Ms. Bose:

Pursuant to Ordering Paragraph (B) of the Commission's July 14, 2006 order ("July 14 Order") in the above-captioned proceeding,[1] the New York Independent System Operator, Inc. ("NYISO") respectfully submits this Price Validation Informational Report ("Report"), which details the corrections that the NYISO has made to erroneous locational based marginal prices ("LBMPs") from the period July 1, 2009 through December 31, 2009, as well as actions the NYISO has taken to minimize pricing errors.

Due to the NYISO's continued efforts, conducted in collaboration with its stakeholders, price errors and the need for price corrections continue to be infrequent and to decline. In 2005, the NYISO corrected prices in approximately 16% of hours. In 2006, that number was reduced to approximately 3% of hours. In 2007, the number was further reduced to approximately 1% of hours. In 2008, the percentage of hours containing price errors continued to decline to approximately 0.7%. And in 2009 the percentage of hours corrected was below 0.3%. The trend has been one of consistent improvement with pricing performance having reached a very high level.

I. Background

In its July 14 Order, the Commission conditionally accepted proposed revisions to the NYISO's tariffs to eliminate its Temporary Extraordinary Procedures ("TEPs") and establish a framework and time limits for price corrections outside of the TEPs. In that order, the Commission required the NYISO to submit informational reports every six months thereafter that indicate the causes of pricing errors that occurred during the reporting period, the duration and rate impact of those errors and the associated corrections, and the actions the NYISO took to correct the pricing errors. In addition, the Commission directed the NYISO to summarize and

[1] *New York Independent System Operator, Inc.*, 116 FERC ¶ 61,037 (2006).

discuss what actions it undertook during the preceding six months to reduce or eliminate the types of price errors that occurred.

This is the seventh Report submitted in compliance with the July 14 Order.[2] This Report details all of the price corrections the NYISO made for the period July 1, 2009, through December 31, 2009, in its Real-Time Market.[3] There were no day-ahead market price corrections during the reporting period. The Report identifies the cause(s) of each pricing error, the number of Real-Time Dispatch ("RTD") intervals affected,[4] and the amount by which each corrected price was changed. In addition, the Report describes the measures taken by the NYISO to minimize the incidence of pricing errors and to improve its price validation and correction practices. Attachments A and B to this Report detail the Real-Time Market price corrections for the period July 1, 2009 through December 31, 2009.

II. Communications and Correspondence

Communications regarding this filing should be directed to:

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III. Service

The NYISO has served a copy of this filing on the official service list compiled by the Secretary in this proceeding. In addition, the complete filing will be posted on the NYISO's

[2] The NYISO submitted the prior reports to the Commission on January 31, 2007, July 31, 2007, January 31, 2008, August 1, 2008, January 31, 2009, and July 31, 2009 respectively.

[3] The Real-Time Market is defined as the "ISO-administered markets for Energy and Ancillary Services, resulting from the operation of the RTC [Real-Time Commitment] and RTD [Real-Time Dispatch]" models. OATT at § 1.36f; Services Tariff at § 2.155. While the NYISO corrects prices in the hour-ahead market, as necessary, that "market" consists of only advisory prices that are not used in NYISO settlements. Furthermore, the NYISO has corrected relatively few advisory prices during the period covered by this Report.

[4] RTD intervals normally occur every five minutes.

website at www.nyiso.com. The NYISO will also make a paper copy available to any interested party that requests one.

IV. Report Details

A. Types and Causes of Pricing Errors

Attachment Q of the OATT and Attachment E of the Services Tariff define two types of price errors.[5] The first type of error ("Type I") results from a simple miscalculation and can reflect a software programming error or a failure of the software to produce an accurate price calculation. The second type of error ("Type II") results when a price is based on an incorrect price-setting resource.

The NYISO classifies pricing errors at two levels. The first level is the type of error, as described above. The second level provides a more detailed description of the underlying cause of the error. The NYISO recognizes eight second-level error classifications, as follows:

1 - Posting Error - Posting errors occur when prices do not properly post on NYISO's website. These include instances when prices posted incorrectly or did not post at all.

2 - Indeterminacy / Penalty or Shift Factor Trade-offs - Indeterminacies occur when the pricing solution cannot be tied to a specific resource.

3 - Static Data Error - Static data errors are instances when incorrect non-metered data are used in the pricing and scheduling system software.

4 - Computer System Failure - Computer system failures include all IT hardware systems used in compiling data, and calculating and posting prices.

5 - Software Error - Software errors are programming errors in the computer code that is used in the commitment, dispatch and price calculation processes.

6 - Telemetry - Telemetry issues are caused by problems in the metering, compilation and conveyance of meter data from generators, loads, tie lines and phase angle regulators to the NYISO.

7 - Prices Inconsistent with Dispatch / No Marginal Unit - Errors here are the result of the unit dispatch and pricing not being consistent. Also included are instances when no marginal unit can be identified.

[5] *See* OATT, Attachment Q at §§ A(i)-(ii); Services Tariff, Attachment E at §§ A(i)-(ii).

8 - Operator Input - Operator input errors occur when the system operator enters an erroneous value that results in incorrect pricing.

B. Discussion of Pricing Errors from July through December 2009

The NYISO has conducted an analysis of its Real-Time Market from July through December 2009 to determine the number of intervals and hours that required price corrections, as well as the causes of the underlying price errors. Table 1-A below provides a count of hours corrected by month in the Real-Time Market.

Table 1-A

RTD Hours Corrected

July - December 2009

2009	Hours		
	Corrected	Total	% Corrected
July	0	744	0.00%
August	2	744	0.27%
September	3	720	0.42%
October	0	744	0.00%
November	2	720	0.28%
December	2	744	0.27%
Total	**9**	**4,416**	**0.20%**

As shown above, the NYISO corrected prices in only 0.2% of the hours in the second half of 2009. It should be noted that any hour that had at least one interval corrected is included in this tabulation. During this period, two months had no price corrections.

Table 1-B below provides a compilation, by month, of the number of RTD intervals corrected from July through December of 2009. As would be expected, the percentage of intervals corrected is significantly less than the percentage of hours corrected because not all intervals in a corrected hour require correction.

Table 1-B

RTD Intervals Corrected

July - December 2009

2009	Intervals		
	Corrected	Total	% Corrected
July	0	8,947	0.00%
August	11	8,910	0.12%
September	36	8,656	0.42%
October	0	8,933	0.00%
November	5	8,632	0.06%
December	2	8,941	0.02%
Total	**54**	**53,019**	**0.10%**

For the period July through December 2009 there were 54 RTD intervals corrected for a correction rate of 0.1%. Two of the six months had no corrections. The highest interval correction rate of 0.42% occurred in September, while four months had a correction rate under 0.1%. The 36 intervals corrected in September, accounting for two-thirds of the total number of intervals corrected, were all for an external proxy generator at the HQ interface; no internal or zonal prices were corrected.

The price corrections from July through December 2009 were classified by error type and error description for both hours and intervals. Table 2 provides the distribution of price corrections by month between the error types (Type I or Type II).

As Table 2 shows, most (87%) of the RTD interval price corrections in the second half of 2009 were Type I - Calculation - Errors that occurred in August and September. All of these errors had two causes - a database failure and Emergency Control Action end state issues. The remaining seven intervals were Type II errors. On an hourly basis, 56% of the corrections were for Type I errors.

Table 2

RTD Price Correction Error Types

July - December 2009

2009	Intervals		Hours	
	Type I	Type II	Type I	Type II
July	-	-	-	-
August	11	-	2	-
September	36	-	3	-
October	-	-	-	-
November	-	5	-	2
December		2		2
Total	**47**	**7**	**5**	**4**

Table 3 presents a summary of RTD interval price corrections classified by reason for the second half of 2009.

Table 3

RTD Interval Price Corrections by Reason

July - December 2009

Reason	Jul	Aug	Sep	Oct	Nov	Dec	Total
1 - Posting Error	-	-	24	-	-	-	**24**
2 - Indeterminacy / Penalty or Shift Factor Trade-Off	-	-	-	-	-	1	**1**
3 - Data Error - Static	-	-	-	-	5	-	**5**
4 - Computer System Failure	-	11	12	-	-	-	**23**
5 - Software Error	-	-	-	-	-	-	**0**
6- Telemetry	-	-	-	-	-	-	**0**
7 - Prices Inconsistent w/Dispatch / No Marginal Unit	-	-	-	-	-	1	**1**
8 - Operator Input	-	-	-	-	-	-	**0**
Total	**0**	**11**	**36**	**0**	**5**	**2**	**54**

July Price Corrections

There were no price corrections in July 2009.

August Price Corrections

August 2009 had one day with price corrections totaling two hours and eleven intervals. A computer system failure caused posting problems for nine intervals that were recovered, and also caused incorrect external schedules to be used.

September Price Corrections

All of the September 2009 price corrections (36 intervals over 3 hours) were due to posting problems caused by a software deployment and control center site switches. Because constraint data did not reach the appropriate servers in time, special pricing rules were not invoked for a proxy generator on the Hydro Quebec external interface. The price corrections reflected the Non-Competitive Proxy Bus Pricing rules for the specific proxy generator; zonal prices for the HQ interface were not affected.

October Price Corrections

There were no price corrections in October 2009.

November Price Corrections

November 2009 had two days with RTD price corrections with five affected intervals over two hours. The price corrections were due to incorrect external schedules being used by the scheduling systems.

December Price Corrections

In December 2009 there were two days with price corrections totaling two intervals and two hours. The first of the price corrections was for a generator scheduling error, while the second price correction was because of an indeterminacy due to a penalty factor trade-off.

C. Correction of Pricing Errors

The overwhelming majority of price corrections occur in the real-time market. When erroneous prices are found, there are a number of ways they can be corrected. NYISO uses the following seven correction modes for erroneous LBMPs:

1. Replace with a preceding or subsequent interval's price
2. Average the preceding and subsequent interval prices
3. Replace with a preceding interval's advisory price
4. Substitute erroneous LBMP with price from a similar bus
5. Recalculate prices
6. Replace with another market's prices (RTC or SCUC)
7. Repost missing prices

In accordance with NYISO's Market Services Tariff, price corrections must accurately reflect actual system conditions. A correction mode that is appropriate for an error in one circumstance may not be appropriate for the same error in another circumstance due, for example, to different commitment schedules, constraint patterns or external schedules. When pricing errors are found, the NYISO conducts an evaluation of the system conditions in the erroneous pricing interval, and uses a correction mode that most accurately reflects those conditions. The determining factor is how closely the final price reflects the state of the system during the erroneous pricing interval.

D. Impact of Price Corrections

The impact of price corrections on zonal LBMPs was evaluated for the period July through December 2009. In this evaluation, the average change in LBMP was calculated for each month using zonal prices in the Real-Time Market. The number of price increases and decreases that resulted from the price corrections was also examined. Tables 4 and 5 present the results of this analysis.

Table 4

Average Zonal Price Change

July - December 2009

	Jul	Aug	Sep	Oct	Nov	Dec
CAPITAL	-	-129.57	-	-	-33.89	-578.87
CENTRAL	-	-125.33	-	-	-31.91	-542.35
DUNWOODIE	-	-134.16	-	-	-34.71	-592.38
GENESEE	-	-125.77	-	-	-31.25	-528.36
HUDSON VALLEY	-	-134.02	-	-	-34.53	-590.79
LONG ISLAND	-	-143.62	-	-	-36.83	-696.53
MILLWOOD	-	-134.20	-	-	-34.61	-591.86
MOHAWK VALLEY	-	-127.95	-	-	-32.86	-578.88
NEW YORK CITY	-	-131.09	-	-	-34.85	-582.35
NORTH	-	-118.92	-	-	-31.73	-530.36
WEST	-	-121.39	-	-	-30.88	-487.99
HQ	-	-118.36	-	-	-31.86	-526.24
NPX	-	-129.86	-	-	-34.10	-1,251.29
OH	-	-118.39	-	-	-30.15	-466.29
PJM	-	-118.33	-	-	-32.42	-1,108.85

Table 5

Zonal Price Change Count (Increase/Decrease)

July - December 2009

	Jul		Aug		Sep		Oct		Nov		Dec		Total	
	Increase	Decrease	Increase	Decrease	Increase	Decrease	Increase	Decrease	Increase	Decrease	Increase	Decrease	Increase	Decrease
CAPITAL	0	0	1	2	0	0	0	0	2	3	1	1	4	6
CENTRAL	0	0	1	2	0	0	0	0	2	3	1	1	4	6
DUNWOODIE	0	0	1	2	0	0	0	0	2	3	1	1	4	6
GENESEE	0	0	1	2	0	0	0	0	2	3	1	1	4	6
HUDSON VALLEY	0	0	1	2	0	0	0	0	2	3	1	1	4	6
LONG ISLAND	0	0	0	3	0	0	0	0	1	4	1	1	2	8
MILLWOOD	0	0	1	2	0	0	0	0	2	3	1	1	4	6
MOHAWK VALLEY	0	0	1	2	0	0	0	0	2	3	1	1	4	6
NEW YORK CITY	0	0	1	2	0	0	0	0	2	3	1	1	4	6
NORTH	0	0	1	2	0	0	0	0	2	3	1	1	4	6
WEST	0	0	1	2	0	0	0	0	2	3	1	1	4	6
HQ	0	0	1	1	0	0	0	0	2	3	1	1	4	5
NPX	0	0	1	2	0	0	0	0	2	3	0	1	3	6
OH	0	0	1	2	0	0	0	0	2	3	1	1	4	6
PJM	0	0	1	2	0	0	0	0	2	3	0	1	3	6
Total	0	0	14	30	0	0	0	0	29	46	13	15	56	91

The average zonal price changes, as can be seen in Table 4, are driven by three large price corrections, on August 16, 2009, November 1, 2009 and December 31, 2009. These three price correction changes averaged -$575. Given the limited number of price corrections, the impact of these three corrections was substantial. Excluding these three corrections, the average zonal price change was $7.16. As shown in Table 5, there were a total of 147 zonal interval prices corrected. Of these, 56 zonal interval prices (38.1%) were increased and 91 (61.9%) were decreased.

E. Price Correction Mitigation Initiatives

The NYISO's efforts to improve initial price accuracy have successfully maintained a high level of price accuracy in 2009. This continued success is due to the NYISO's commitment to identifying pricing problems, thoroughly evaluating these problems, and developing, where possible, solutions to mitigate these problems. These efforts have dramatically reduced pricing errors since 2006.

For the July through December 2009 reporting period the NYISO has initiated a number of efforts - both institutional (e.g., software enhancements) and operational - to revise and develop strategies and procedures to mitigate pricing errors. Among the measures undertaken during the reporting period are:

- The Integrated Source Selection (ISS), an automated system that screens telemetry and switches to alternate metering sources when erroneous values are found, has been enhanced to expand and improve monitoring of interfaces and load pockets. The system now dynamically compares metering, the state estimator and RTD values for select elements of the system and alerts operators when variations exceed thresholds to reduce the probability of erroneous data being used in the scheduling systems.

- The NYISO has continued to enhance its network model to improve its performance in the scheduling systems.

V. Conclusion

WHEREFORE, the New York Independent System Operator, Inc., respectfully requests that the Commission accept this informational report.

Respectfully submitted,

/s/ *Mollie Lampi*

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