

July 31, 2012

**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. ER06-1014-000  
Twelfth 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,<sup>1</sup> 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")<sup>2</sup> from the period January 1, 2012, through June 30, 2012, 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. 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%. In 2009 the percentage of hours corrected was 0.3%. In 2010 the percentage of hours corrected was 0.2%. In 2011 the correction rate showed a slight increase, with the percentage of hours corrected moving up to 0.3%. This increase in price corrections was due to issues related to the deployment of Enhanced Interregional Transaction Coordination (EITC) code, which introduced 15-minute scheduling of external transactions.<sup>3</sup> In the first-half of 2012 the percentage of hours corrected dropped back to 0.2%.

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<sup>1</sup> *New York Independent System Operator, Inc.*, 116 FERC ¶ 61,037 (2006).

<sup>2</sup> Capitalized terms not otherwise defined herein shall have the meaning specified in Section 1 of the NYISO's Open Access Transmission Tariff ("OATT") and Section 2 of the NYISO's Market Administration and Control Area Services Tariff ("Services Tariff").

<sup>3</sup> See *New York Independent System Operator*, Order Conditionally Accepting Proposed Tariff Revisions and Granting Waiver, Docket No. ER11-2547-000, 134 FERC 61,186 (issued March 14, 2011); *New York Independent System Operator*, Order Granting Deferral of Effective Dates and Waivers, Docket Nos. ER11-2454-000 and ER11-2547-000, 135 FERC 61,256 (issued June 20, 2011); *New York Independent System Operator, Inc.*,

This dramatic reduction in price corrections indicates that the NYISO has substantially fulfilled the purpose behind the Commission-ordered price correction reports<sup>4</sup> and, as a result, the NYISO will soon file with the Commission a Motion to cease making them. Pursuant to its Services Tariff, the NYISO will continue to issue occurrence-driven and quarterly price correction reports, which are posted on the NYISO website. Since these provide substantially identical information to the information the NYISO regularly includes in the Commission-ordered informational reports, the NYISO believes its price correction process will remain transparent, even if these informational reports cease.<sup>5</sup>

## 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 which 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 discuss what actions it undertook to reduce or eliminate the types of pricing errors that occurred.

This is the twelfth Report submitted in compliance with the July 14 Order.<sup>6</sup> This Report details all of the price corrections the NYISO made for the period January 1, 2012, through June 30, 2012, in its Real-Time Market.<sup>7</sup> There were no Day-Ahead Market price corrections during the reporting period. The Report identifies the causes of each pricing error, the number of Real-Time Dispatch ("RTD") intervals affected,<sup>8</sup> 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 January 1, 2012, through June 30, 2012.

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Letter Order (accepting April 13, 2011, compliance filing on scheduling at proxy buses), Docket No. ER11-2547-001 (issued July 21, 2011).

<sup>4</sup> *New York Independent System Operator, Inc.*, 116 FERC ¶ 61,037 (2006) ¶ 43.

<sup>5</sup> Market Administration and Control Area Services Tariff §20.4.

<sup>6</sup> The NYISO submitted the eleven prior reports to the Commission on January 31, 2007, July 31, 2007, January 31, 2008, August 1, 2008, January 30, 2009, July 31, 2009, January 31, 2010, July 29, 2010, January 28, 2011, July 29, 2011, and January 31, 2012, respectively.

<sup>7</sup> 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 Section 1.18; Services Tariff at Section 2.18. 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.

<sup>8</sup> RTD intervals normally occur every five minutes.

## **II. Communications and Correspondence**

Communications regarding this filing should be directed to:

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## **III. Service**

The NYISO will send an electronic link to this filing to the official service list compiled by the Secretary in this proceeding, to the official representative of each of its customers, to the New York Public Service Commission, and to the New Jersey Board of Public Utilities. In addition, a complete copy of this filing will be posted on the NYISO's website at [www.nyiso.com](http://www.nyiso.com).

## **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.<sup>9</sup> The first type of error ("Type I – Calculation Error") 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 – Incorrect Marginal Resource") 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:

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<sup>9</sup> See OATT, Attachment Q at Sections 23.1.1 and 23.1.2; Services Tariff, Attachment E at Sections 20.1.1 and 20.1.2.

- 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. Penalty and shift factor trade-offs are dispatch schedules that are mathematically correct but inconsistent with actual operating practices or procedures.
- 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.
- 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 January through June 2012**

The NYISO has conducted an analysis of its Real-Time Market from January through June 2012 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**  
**January - June 2012**

2012	Hours		
	Corrected	Total	% Corrected
January	0	744	0.00%
February	0	696	0.00%
March	0	744	0.00%
April	2	720	0.28%
May	8	744	1.08%
June	0	720	0.00%
<b>Total</b>	<b>10</b>	<b>4,368</b>	<b>0.23%</b>

As shown above, the NYISO corrected prices in only 0.23% of the hours in the first half of 2012. It should be noted that any hour that had at least one interval corrected is included in this tabulation. During this period, four months, January, February, March and June, had no price corrections. April had two hours corrected, and May had price corrections in eight hours. Nearly all of the hours with price corrections in May were due to load forecaster issues, primarily from data feeds and inputs used by the load forecaster model.

Table 1-B below provides a compilation, by month, of the number of RTD intervals corrected from January through June of 2012. The percentage of intervals corrected is significantly less than the percentage of hours corrected because not all intervals in a corrected hour were erroneous.

**Table 1-B**  
**RTD Intervals Corrected**  
**January - June 2012**

2012	Intervals		
	Corrected	Total	% Corrected
January	0	9,025	0.00%
February	0	8,399	0.00%
March	0	8,977	0.00%
April	5	8,716	0.06%
May	40	9,019	0.44%
June	0	8,786	0.00%
<b>Total</b>	<b>45</b>	<b>52,922</b>	<b>0.09%</b>

For the period January through June 2012 there were 45 RTD intervals corrected for a correction rate of 0.09%. The highest monthly interval correction rate of 0.44% occurred in May due to the load forecaster issue identified above. All but four intervals corrected in May were because of this problem.

The price corrections from January through June 2012 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 – Calculation Error or Type II – Incorrect Marginal Resource).

As Table 2 shows, all of the RTD interval price corrections in the first half of 2012 were due to Type II errors.

**Table 2**  
**RTD Price Correction Error Types**  
**January - June 2012**

2012	Intervals		Hours	
	Type I	Type II	Type I	Type II
January	-	-	-	-
February	-	-	-	-
March	-	-	-	-
April	-	5	-	2
May	-	40	-	8
June	-	-	-	-
<b>Total</b>	<b>0</b>	<b>45</b>	<b>0</b>	<b>10</b>

Table 3 presents a summary of RTD interval price corrections classified by reason for the second half of 2012.

**Table 3**  
**January - June 2012**  
**RTD Interval Price Corrections by Reason**

Reason	Jan	Feb	Mar	Apr	May	Jun	Total
1 - Posting Error	-	-	-	-	-	-	0
2 - Indeterminacy / Penalty or Shift Factor Trade-Off	-	-	-	-	-	-	0
3 - Data Error - Static	-	-	-	-	-	-	0
4 - Computer System Failure	-	-	-	-	-	-	0
5 - Software Error	-	-	-	5	27	-	32
6 - Telemetry	-	-	-	-	-	-	0
7 - Prices Inconsistent w/Dispatch / No Marginal Unit	-	-	-	-	-	-	0
8 - Operator Input	-	-	-	-	13	-	13
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>40</b>	<b>0</b>	<b>45</b>

#### January Price Corrections

There were no price corrections in January 2012.

#### February Price Corrections

There were no price corrections in February 2012.

#### March Price Corrections

There were no price corrections in March 2012.

#### April Price Corrections

There were five intervals corrected in April spanning a total of 2 hours. Three intervals were corrected on April 17. The erroneous prices were the result of an incorrect data feed to the load forecaster. The remaining two intervals from April 23 were also corrected due to a load forecaster error, this time caused by an incorrect initialization.

#### May Price Corrections

May 2012 had the largest number of price corrections: 40 intervals over three days spanning 8 hours. May 1 had price corrections in 26 intervals covering 6 hours. These errors were manifested by unstable behavior of the load forecaster model caused by incorrect load forecaster model coefficients. On May 11 there was one interval corrected when a posting problem resulted in a missing interval. The final RTD energy price correction occurred on May 21 and was due to an operator error resulting in an incorrect interface limit that erroneously triggered special pricing rules.

#### June Price Corrections

There were no price corrections in June.

### **C. Correction of Pricing Errors**

When erroneous prices are found, there are a number of ways they can be corrected. The Services Tariff allows for the following seven correction modes for erroneous LBMPs:

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

In accordance with NYISO 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 January through June 2012. 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**  
**January - June 2012**

	Jan	Feb	Mar	Apr	May	Jun
<b>CAPITAL</b>	-	-	-	-538.39	126.97	-
<b>CENTRAL</b>	-	-	-	-514.92	121.11	-
<b>DUNWOODIE</b>	-	-	-	-535.82	128.54	-
<b>GENESEE</b>	-	-	-	-504.44	117.67	-
<b>HUDSON VALLEY</b>	-	-	-	-539.36	128.35	-
<b>LONG ISLAND</b>	-	-	-	-536.78	-18.56	-
<b>MILLWOOD</b>	-	-	-	-536.84	128.37	-
<b>MOHAWK VALLEY</b>	-	-	-	-525.35	122.77	-
<b>NEW YORK CITY</b>	-	-	-	-516.21	129.07	-
<b>NORTH</b>	-	-	-	-422.95	114.71	-
<b>WEST</b>	-	-	-	-486.83	114.08	-
<b>HQ</b>	-	-	-	-426.48	113.66	-
<b>NPX</b>	-	-	-	-531.34	124.27	-
<b>OH</b>	-	-	-	-477.77	109.34	-
<b>PJM</b>	-	-	-	-504.38	-311.93	-



**Table 5**  
**Zonal Price Change Count (Increase/Decrease)**  
**January - June 2012**

	Jan		Feb		Mar		Apr		May		Jun		Total	
	Increase	Decrease	Increase	Decrease	Increase	Decrease	Increase	Decrease	Increase	Decrease	Increase	Decrease	Increase	Decrease
CAPITAL	-	-	-	-	-	-	2	3	25	1	-	-	27	4
CENTRAL	-	-	-	-	-	-	2	3	25	1	-	-	27	4
DUNWOODIE	-	-	-	-	-	-	2	3	25	1	-	-	27	4
GENESEE	-	-	-	-	-	-	2	3	25	1	-	-	27	4
HUDSON VALLEY	-	-	-	-	-	-	2	3	25	1	-	-	27	4
LONG ISLAND	-	-	-	-	-	-	2	3	16	10	-	-	18	13
MILLWOOD	-	-	-	-	-	-	2	3	25	1	-	-	27	4
MOHAWK VALLEY	-	-	-	-	-	-	2	3	25	1	-	-	27	4
NEW YORK CITY	-	-	-	-	-	-	2	3	25	1	-	-	27	4
NORTH	-	-	-	-	-	-	4	1	25	1	-	-	29	2
WEST	-	-	-	-	-	-	2	3	25	1	-	-	27	4
HQ	-	-	-	-	-	-	4	1	19	1	-	-	23	2
NPX	-	-	-	-	-	-	2	3	23	1	-	-	25	4
OH	-	-	-	-	-	-	2	3	23	1	-	-	25	4
PJM	-	-	-	-	-	-	2	3	24	13	-	-	26	16
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>34</b>	<b>41</b>	<b>355</b>	<b>36</b>	<b>0</b>	<b>0</b>	<b>389</b>	<b>77</b>

As can be seen in Table 4, the average zonal price changes were significantly negative in April and, with the exception of two zones, positive in May. The April average change across all zones was -\$500. The average change across all zones in May was over \$83. As shown in Table 5, there were a total of 466 zonal interval prices corrected. Of these, 389 zonal interval prices (83%) were increased and 77 (17%) 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 2012. This continued success is due to the NYISO's commitment to identifying pricing problems, thoroughly evaluating the problems, and developing, where possible, solutions to mitigate the problems. These efforts have dramatically reduced pricing errors since 2006.

For the January through June 2012 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 Intelligent 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 generators, lines and PARs.
- On-going operator training has an enhanced curriculum to focus on the identification and response to pricing problems.
- The NYISO has continued to enhance its network model and scheduling systems to improve performance.

- Corrections to the Scarcity Pricing posting logic.

## **V. Conclusion**

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

Respectfully submitted,

/s/ Mollie Lampi

Mollie Lampi

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ATTACHMENT A

RTD Price Correction Report

January - June 2012

## RTD Energy Price Correction Report

[illegible]

ATTACHMENT B

RTD Price Correction Impact

January - June 2012

Note to Attachment B:

The tally of intervals corrected in the body of this report provided in Tables 1-B, 2 and 3 are for all energy price corrections. The tables in Attachment B do not include the May 11, 2012 price correction, which did not have any prices posted for the 04:00 interval. The price correction posted these missing prices.

# CAPITAL

Time Stamp	Original LBMP	Final LBMP
04/17/2012 09:30:00	19.67	20.02
04/17/2012 09:35:00	20.16	20.00
04/17/2012 09:40:00	20.20	20.00
04/23/2012 08:01:47	2,753.58	30.82
04/23/2012 08:03:11	0.02	30.82
05/01/2012 01:25:00	0.00	17.74
05/01/2012 01:30:00	0.01	17.74
05/01/2012 01:45:00	54.20	25.55
05/01/2012 01:49:47	-10.24	24.52
05/01/2012 02:20:00	-90.69	25.37
05/01/2012 02:25:00	0.01	25.37
05/01/2012 04:40:00	-179.57	17.54
05/01/2012 04:45:00	-106.77	17.54
05/01/2012 06:25:00	-214.60	22.22
05/01/2012 06:30:00	0.01	22.22
05/01/2012 06:32:59	0.01	25.03
05/01/2012 06:52:47	-212.08	17.43
05/01/2012 07:00:00	-426.63	18.71
05/01/2012 07:00:41	-426.63	18.71
05/01/2012 07:08:11	-438.27	18.71
05/01/2012 07:11:23	-441.14	18.71
05/01/2012 07:15:00	-57.87	18.71
05/01/2012 07:20:00	-57.87	18.71
05/01/2012 07:25:00	-113.64	18.71
05/01/2012 07:30:00	0.01	18.71
05/01/2012 07:35:00	0.01	18.71
05/01/2012 07:40:00	0.02	18.71
05/01/2012 07:45:00	0.02	18.71
05/01/2012 07:50:00	-56.32	18.71
05/01/2012 07:55:00	0.01	18.71
05/01/2012 09:15:00	0.02	21.82

# CENTRAL

Time Stamp	Original LBMP	Final LBMP
04/17/2012 09:30:00	19.15	19.54
04/17/2012 09:35:00	19.62	19.52
04/17/2012 09:40:00	19.68	19.52
04/23/2012 08:01:47	2,633.08	29.19
04/23/2012 08:03:11	0.02	29.19
05/01/2012 01:25:00	0.00	17.23
05/01/2012 01:30:00	0.01	17.23
05/01/2012 01:45:00	53.63	24.91
05/01/2012 01:49:47	-10.01	23.98
05/01/2012 02:20:00	-88.45	24.70
05/01/2012 02:25:00	0.01	24.70
05/01/2012 04:40:00	-173.79	16.98
05/01/2012 04:45:00	-103.34	16.98
05/01/2012 06:25:00	-209.13	21.53
05/01/2012 06:30:00	0.01	21.53
05/01/2012 06:32:59	0.01	24.20
05/01/2012 06:52:47	-209.67	17.30
05/01/2012 07:00:00	-404.62	17.99
05/01/2012 07:00:41	-404.62	17.99
05/01/2012 07:08:11	-411.65	17.99
05/01/2012 07:11:23	-413.96	17.99
05/01/2012 07:15:00	-54.06	17.99
05/01/2012 07:20:00	-54.06	17.99
05/01/2012 07:25:00	-106.45	17.99
05/01/2012 07:30:00	0.01	17.99
05/01/2012 07:35:00	0.01	17.99
05/01/2012 07:40:00	0.02	17.99
05/01/2012 07:45:00	0.02	17.99
05/01/2012 07:50:00	-52.34	17.99
05/01/2012 07:55:00	0.01	17.99
05/01/2012 09:15:00	0.02	21.29

# DUNWOOD

Time Stamp	Original LBMP	Final LBMP
04/17/2012 09:30:00	20.29	20.63
04/17/2012 09:35:00	20.77	20.58
04/17/2012 09:40:00	20.83	20.58
04/23/2012 08:01:47	2,740.76	30.88
04/23/2012 08:03:11	0.02	30.88
05/01/2012 01:25:00	0.00	17.72
05/01/2012 01:30:00	0.01	17.72
05/01/2012 01:45:00	54.20	25.55
05/01/2012 01:49:47	-10.22	24.52
05/01/2012 02:20:00	-89.91	25.32
05/01/2012 02:25:00	0.01	25.32
05/01/2012 04:40:00	-178.89	17.52
05/01/2012 04:45:00	-106.27	17.52
05/01/2012 06:25:00	-215.62	22.43
05/01/2012 06:30:00	0.01	22.43
05/01/2012 06:32:59	0.01	25.27
05/01/2012 06:52:47	-212.29	17.53
05/01/2012 07:00:00	-433.44	18.93
05/01/2012 07:00:41	-433.44	18.93
05/01/2012 07:08:11	-446.46	18.93
05/01/2012 07:11:23	-450.62	18.93
05/01/2012 07:15:00	-59.11	18.93
05/01/2012 07:20:00	-59.11	18.93
05/01/2012 07:25:00	-115.96	18.93
05/01/2012 07:30:00	0.01	18.93
05/01/2012 07:35:00	0.01	18.93
05/01/2012 07:40:00	0.02	18.93
05/01/2012 07:45:00	0.02	18.93
05/01/2012 07:50:00	-57.79	18.93
05/01/2012 07:55:00	0.01	18.93
05/01/2012 09:15:00	0.02	22.21



# GENESEE

Time Stamp	Original LBMP	Final LBMP
04/17/2012 09:30:00	18.57	19.01
04/17/2012 09:35:00	19.05	18.99
04/17/2012 09:40:00	19.07	18.99
04/23/2012 08:01:47	2,579.24	28.38
04/23/2012 08:03:11	0.02	28.38
05/01/2012 01:25:00	0.00	16.98
05/01/2012 01:30:00	0.01	16.98
05/01/2012 01:45:00	52.96	24.58
05/01/2012 01:49:47	-9.90	23.70
05/01/2012 02:20:00	-87.25	24.24
05/01/2012 02:25:00	0.01	24.24
05/01/2012 04:40:00	-171.74	16.78
05/01/2012 04:45:00	-102.02	16.78
05/01/2012 06:25:00	-207.10	21.17
05/01/2012 06:30:00	0.01	21.17
05/01/2012 06:32:59	0.01	23.78
05/01/2012 06:52:47	-206.24	17.10
05/01/2012 07:00:00	-392.61	17.63
05/01/2012 07:00:41	-392.61	17.63
05/01/2012 07:08:11	-394.03	17.63
05/01/2012 07:11:23	-395.83	17.63
05/01/2012 07:15:00	-51.74	17.63
05/01/2012 07:20:00	-51.74	17.63
05/01/2012 07:25:00	-101.90	17.63
05/01/2012 07:30:00	0.01	17.63
05/01/2012 07:35:00	0.01	17.63
05/01/2012 07:40:00	0.02	17.63
05/01/2012 07:45:00	0.02	17.63
05/01/2012 07:50:00	-50.09	17.63
05/01/2012 07:55:00	0.01	17.63
05/01/2012 09:15:00	0.02	21.04

# HUDSON VALLEY

Time Stamp	Original LBMP	Final LBMP
04/17/2012 09:30:00	20.31	20.64
04/17/2012 09:35:00	20.79	20.60
04/17/2012 09:40:00	20.85	20.60
04/23/2012 08:01:47	2,758.71	31.02
04/23/2012 08:03:11	0.02	31.02
05/01/2012 01:25:00	0.00	17.80
05/01/2012 01:30:00	0.01	17.80
05/01/2012 01:45:00	54.51	25.64
05/01/2012 01:49:47	-10.27	24.63
05/01/2012 02:20:00	-90.26	25.47
05/01/2012 02:25:00	0.01	25.47
05/01/2012 04:40:00	-179.74	17.57
05/01/2012 04:45:00	-106.77	17.57
05/01/2012 06:25:00	-216.84	22.51
05/01/2012 06:30:00	0.01	22.51
05/01/2012 06:32:59	0.01	25.36
05/01/2012 06:52:47	-213.29	17.63
05/01/2012 07:00:00	-432.24	18.87
05/01/2012 07:00:41	-432.24	18.87
05/01/2012 07:08:11	-444.41	18.87
05/01/2012 07:11:23	-448.14	18.87
05/01/2012 07:15:00	-58.73	18.87
05/01/2012 07:20:00	-58.73	18.87
05/01/2012 07:25:00	-115.33	18.87
05/01/2012 07:30:00	0.01	18.87
05/01/2012 07:35:00	0.01	18.87
05/01/2012 07:40:00	0.02	18.87
05/01/2012 07:45:00	0.02	18.87
05/01/2012 07:50:00	-57.42	18.87
05/01/2012 07:55:00	0.01	18.87
05/01/2012 09:15:00	0.02	22.17

# LONG ISLAND

Time Stamp	Original LBMP	Final LBMP
04/17/2012 09:30:00	20.36	20.63
04/17/2012 09:35:00	20.78	20.60
04/17/2012 09:40:00	20.90	20.60
04/23/2012 08:01:47	2,745.89	31.11
04/23/2012 08:03:11	0.02	31.11
05/01/2012 01:25:00	0.00	17.95
05/01/2012 01:30:00	0.01	17.95
05/01/2012 01:45:00	55.14	25.91
05/01/2012 01:49:47	-10.32	24.84
05/01/2012 02:20:00	-90.60	25.61
05/01/2012 02:25:00	0.01	25.61
05/01/2012 04:40:00	-180.94	17.77
05/01/2012 04:45:00	-107.38	17.77
05/01/2012 06:25:00	-219.07	23.21
05/01/2012 06:30:00	0.01	23.21
05/01/2012 06:32:59	0.01	25.69
05/01/2012 06:52:47	-212.08	17.55
05/01/2012 07:00:00	-447.44	31.60
05/01/2012 07:00:41	-447.44	31.60
05/01/2012 07:08:11	-466.52	31.60
05/01/2012 07:11:23	378.55	31.60
05/01/2012 07:15:00	374.27	31.60
05/01/2012 07:20:00	374.27	31.60
05/01/2012 07:25:00	407.93	31.60
05/01/2012 07:30:00	354.24	31.60
05/01/2012 07:35:00	354.24	31.60
05/01/2012 07:40:00	354.24	31.60
05/01/2012 07:45:00	354.24	31.60
05/01/2012 07:50:00	353.35	31.60
05/01/2012 07:55:00	0.01	31.60
05/01/2012 09:15:00	0.02	22.36

# MILLWOOD

Time Stamp	Original LBMP	Final LBMP
04/17/2012 09:30:00	20.29	20.63
04/17/2012 09:35:00	20.77	20.58
04/17/2012 09:40:00	20.83	20.58
04/23/2012 08:01:47	2,745.89	30.91
04/23/2012 08:03:11	0.02	30.91
05/01/2012 01:25:00	0.00	17.74
05/01/2012 01:30:00	0.01	17.74
05/01/2012 01:45:00	54.20	25.50
05/01/2012 01:49:47	-10.24	24.47
05/01/2012 02:20:00	-90.09	25.32
05/01/2012 02:25:00	0.01	25.32
05/01/2012 04:40:00	-179.40	17.56
05/01/2012 04:45:00	-106.47	17.56
05/01/2012 06:25:00	-215.42	22.45
05/01/2012 06:30:00	0.01	22.45
05/01/2012 06:32:59	0.01	25.29
05/01/2012 06:52:47	-212.29	17.53
05/01/2012 07:00:00	-432.64	18.91
05/01/2012 07:00:41	-432.64	18.91
05/01/2012 07:08:11	-445.23	18.91
05/01/2012 07:11:23	-449.38	18.91
05/01/2012 07:15:00	-58.95	18.91
05/01/2012 07:20:00	-58.95	18.91
05/01/2012 07:25:00	-115.64	18.91
05/01/2012 07:30:00	0.01	18.91
05/01/2012 07:35:00	0.01	18.91
05/01/2012 07:40:00	0.02	18.91
05/01/2012 07:45:00	0.02	18.91
05/01/2012 07:50:00	-57.63	18.91
05/01/2012 07:55:00	0.01	18.91
05/01/2012 09:15:00	0.02	22.17

# MOHAWK VALLEY

Time Stamp	Original LBMP	Final LBMP
04/17/2012 09:30:00	19.47	19.87
04/17/2012 09:35:00	19.95	19.84
04/17/2012 09:40:00	19.99	19.84
04/23/2012 08:01:47	2,686.92	30.02
04/23/2012 08:03:11	0.02	30.02
05/01/2012 01:25:00	0.00	17.10
05/01/2012 01:30:00	0.01	17.10
05/01/2012 01:45:00	52.91	24.65
05/01/2012 01:49:47	-9.89	23.75
05/01/2012 02:20:00	-88.54	24.70
05/01/2012 02:25:00	0.01	24.70
05/01/2012 04:40:00	-172.77	16.89
05/01/2012 04:45:00	-102.73	16.89
05/01/2012 06:25:00	-207.51	21.61
05/01/2012 06:30:00	0.01	21.61
05/01/2012 06:32:59	0.01	24.35
05/01/2012 06:52:47	-208.06	17.10
05/01/2012 07:00:00	-412.62	18.25
05/01/2012 07:00:41	-412.62	18.25
05/01/2012 07:08:11	-421.89	18.25
05/01/2012 07:11:23	-425.08	18.25
05/01/2012 07:15:00	-55.40	18.25
05/01/2012 07:20:00	-55.40	18.25
05/01/2012 07:25:00	-109.20	18.25
05/01/2012 07:30:00	0.01	18.25
05/01/2012 07:35:00	0.01	18.25
05/01/2012 07:40:00	0.02	18.25
05/01/2012 07:45:00	0.02	18.25
05/01/2012 07:50:00	-54.02	18.25
05/01/2012 07:55:00	0.01	18.25
05/01/2012 09:15:00	0.02	21.56

# NEW YORK CITY

Time Stamp	Original LBMP	Final LBMP
04/17/2012 09:30:00	20.55	20.78
04/17/2012 09:35:00	20.98	20.74
04/17/2012 09:40:00	21.04	20.74
04/23/2012 08:01:47	2,641.09	30.18
04/23/2012 08:03:11	0.02	30.18
05/01/2012 01:25:00	0.00	17.74
05/01/2012 01:30:00	0.01	17.74
05/01/2012 01:45:00	54.05	25.55
05/01/2012 01:49:47	-10.23	24.52
05/01/2012 02:20:00	-89.91	25.32
05/01/2012 02:25:00	0.01	25.32
05/01/2012 04:40:00	-178.89	17.52
05/01/2012 04:45:00	-106.17	17.52
05/01/2012 06:25:00	-215.82	22.47
05/01/2012 06:30:00	0.01	22.47
05/01/2012 06:32:59	0.01	25.31
05/01/2012 06:52:47	-212.69	17.60
05/01/2012 07:00:00	-435.04	19.06
05/01/2012 07:00:41	-435.04	19.06
05/01/2012 07:08:11	-448.51	19.06
05/01/2012 07:11:23	-454.32	19.06
05/01/2012 07:15:00	-59.54	19.06
05/01/2012 07:20:00	-59.54	19.06
05/01/2012 07:25:00	-116.91	19.06
05/01/2012 07:30:00	0.01	19.06
05/01/2012 07:35:00	0.01	19.06
05/01/2012 07:40:00	0.02	19.06
05/01/2012 07:45:00	0.03	19.06
05/01/2012 07:50:00	-58.31	19.06
05/01/2012 07:55:00	0.01	19.06
05/01/2012 09:15:00	0.02	22.32

# NORTH

Time Stamp	Original LBMP	Final LBMP
04/17/2012 09:30:00	-98.97	18.25
04/17/2012 09:35:00	-78.86	18.23
04/17/2012 09:40:00	-68.95	18.23
04/23/2012 08:01:47	2,471.55	27.66
04/23/2012 08:03:11	0.01	27.66
05/01/2012 01:25:00	0.00	16.31
05/01/2012 01:30:00	0.01	16.31
05/01/2012 01:45:00	50.37	23.68
05/01/2012 01:49:47	-9.51	22.86
05/01/2012 02:20:00	-83.89	23.37
05/01/2012 02:25:00	0.01	23.37
05/01/2012 04:40:00	-166.47	16.18
05/01/2012 04:45:00	-98.79	16.18
05/01/2012 06:25:00	-195.13	20.12
05/01/2012 06:30:00	0.01	20.12
05/01/2012 06:32:59	0.01	22.65
05/01/2012 06:52:47	-192.95	15.81
05/01/2012 07:00:00	-384.21	16.76
05/01/2012 07:00:41	-384.21	16.76
05/01/2012 07:08:11	-393.62	16.76
05/01/2012 07:11:23	-395.83	16.76
05/01/2012 07:15:00	-51.42	16.76
05/01/2012 07:20:00	-51.42	16.76
05/01/2012 07:25:00	-100.95	16.76
05/01/2012 07:30:00	0.01	16.76
05/01/2012 07:35:00	0.01	16.76
05/01/2012 07:40:00	0.02	16.76
05/01/2012 07:45:00	0.02	16.76
05/01/2012 07:50:00	-50.14	16.76
05/01/2012 07:55:00	0.01	16.76
05/01/2012 09:15:00	0.02	19.46

# WEST

Time Stamp	Original LBMP	Final LBMP
04/17/2012 09:30:00	18.16	18.61
04/17/2012 09:35:00	18.63	18.61
04/17/2012 09:40:00	18.65	18.61
04/23/2012 08:01:47	2,489.50	27.49
04/23/2012 08:03:11	0.02	27.49
05/01/2012 01:25:00	0.00	17.03
05/01/2012 01:30:00	0.01	17.03
05/01/2012 01:45:00	52.49	24.38
05/01/2012 01:49:47	-9.96	23.58
05/01/2012 02:20:00	-87.33	23.83
05/01/2012 02:25:00	0.01	23.83
05/01/2012 04:40:00	-171.57	16.66
05/01/2012 04:45:00	-101.92	16.66
05/01/2012 06:25:00	-205.48	20.56
05/01/2012 06:30:00	0.01	20.56
05/01/2012 06:32:59	0.01	22.95
05/01/2012 06:52:47	-202.01	16.93
05/01/2012 07:00:00	-377.81	16.94
05/01/2012 07:00:41	-377.81	16.94
05/01/2012 07:08:11	-378.06	16.94
05/01/2012 07:11:23	-378.12	16.94
05/01/2012 07:15:00	-49.48	16.94
05/01/2012 07:20:00	-49.48	16.94
05/01/2012 07:25:00	-97.89	16.94
05/01/2012 07:30:00	0.01	16.94
05/01/2012 07:35:00	0.01	16.94
05/01/2012 07:40:00	0.02	16.94
05/01/2012 07:45:00	0.02	16.94
05/01/2012 07:50:00	-47.36	16.94
05/01/2012 07:55:00	0.01	16.94
05/01/2012 09:15:00	0.02	20.18



HQ		
Time Stamp	Original LBMP	Final LBMP
04/17/2012 09:30:00	-99.68	18.50
04/17/2012 09:35:00	-79.39	18.48
04/17/2012 09:40:00	-69.43	18.48
04/23/2012 08:01:47	2,492.06	27.86
04/23/2012 08:03:11	0.01	27.86
05/01/2012 01:25:00	0.00	16.39
05/01/2012 01:30:00	0.01	16.39
05/01/2012 01:45:00	50.68	23.75
05/01/2012 01:49:47	-9.56	22.88
05/01/2012 02:20:00	-84.24	23.54
05/01/2012 02:25:00	0.01	23.54
05/01/2012 04:40:00	-166.98	16.26
05/01/2012 04:45:00	-99.09	16.26
05/01/2012 06:25:00	-197.57	20.41
05/01/2012 06:30:00	0.01	20.41
05/01/2012 07:00:41	-389.41	17.04
05/01/2012 07:08:11	-398.95	17.04
05/01/2012 07:11:23	-400.78	17.04
05/01/2012 07:15:00	-52.23	17.04
05/01/2012 07:20:00	-52.23	17.04
05/01/2012 07:25:00	-102.64	17.04
05/01/2012 07:30:00	0.01	17.04
05/01/2012 07:35:00	0.01	17.04
05/01/2012 07:40:00	0.02	17.04
05/01/2012 07:45:00	0.02	17.04

NPX		
Time Stamp	Original LBMP	Final LBMP
04/17/2012 09:30:00	19.86	20.21
04/17/2012 09:35:00	20.33	20.17
04/17/2012 09:40:00	20.37	20.17
04/23/2012 08:01:47	2,717.69	30.51
04/23/2012 08:03:11	0.02	30.51
05/01/2012 01:25:00	0.00	17.62
05/01/2012 01:30:00	0.01	17.62
05/01/2012 01:45:00	53.94	25.40
05/01/2012 01:49:47	-10.20	24.35
05/01/2012 02:20:00	-89.83	25.18
05/01/2012 02:25:00	0.01	25.18
05/01/2012 06:25:00	-214.00	22.18
05/01/2012 06:30:00	0.01	22.18
05/01/2012 06:32:59	0.01	24.96
05/01/2012 06:52:47	-211.28	17.42
05/01/2012 07:00:00	-427.43	18.68
05/01/2012 07:00:41	-427.43	18.68
05/01/2012 07:08:11	-439.91	18.68
05/01/2012 07:11:23	-442.79	18.68
05/01/2012 07:15:00	-58.09	18.68
05/01/2012 07:20:00	-58.09	18.68
05/01/2012 07:25:00	-114.06	18.68
05/01/2012 07:30:00	0.01	18.68
05/01/2012 07:35:00	0.01	18.68
05/01/2012 07:40:00	0.02	18.68
05/01/2012 07:45:00	0.02	18.68
05/01/2012 07:50:00	-56.64	18.68
05/01/2012 07:55:00	0.01	18.68
05/01/2012 09:15:00	0.02	21.78

# OH

Time Stamp	Original LBMP	Final LBMP
04/17/2012 09:30:00	17.90	18.34
04/17/2012 09:35:00	18.34	18.33
04/17/2012 09:40:00	18.38	18.33
04/23/2012 08:01:47	2,443.35	27.06
04/23/2012 08:03:11	0.02	27.06
05/01/2012 01:25:00	0.00	16.76
05/01/2012 01:30:00	0.01	16.76
05/01/2012 01:45:00	51.77	24.09
05/01/2012 01:49:47	-9.80	23.28
05/01/2012 02:20:00	-85.96	23.52
05/01/2012 02:25:00	0.01	23.52
05/01/2012 06:25:00	-201.42	20.21
05/01/2012 06:30:00	0.01	20.21
05/01/2012 06:32:59	0.01	22.58
05/01/2012 06:52:47	-198.39	16.62
05/01/2012 07:00:00	-372.60	16.68
05/01/2012 07:00:41	-372.60	16.68
05/01/2012 07:08:11	-374.78	16.68
05/01/2012 07:11:23	-374.41	16.68
05/01/2012 07:15:00	-49.00	16.68
05/01/2012 07:20:00	-49.00	16.68
05/01/2012 07:25:00	-96.93	16.68
05/01/2012 07:30:00	0.01	16.68
05/01/2012 07:35:00	0.01	16.68
05/01/2012 07:40:00	0.02	16.68
05/01/2012 07:45:00	0.02	16.68
05/01/2012 07:50:00	-46.94	16.68
05/01/2012 07:55:00	0.01	16.68
05/01/2012 09:15:00	0.02	19.77

PJM		
Time Stamp	Original LBMP	Final LBMP
04/17/2012 09:30:00	19.00	19.37
04/17/2012 09:35:00	19.44	19.35
04/17/2012 09:40:00	19.54	19.35
04/23/2012 08:01:47	2,579.24	28.64
04/23/2012 08:03:11	0.02	28.64
05/01/2012 01:25:00	0.00	17.30
05/01/2012 01:30:00	0.01	17.30
05/01/2012 01:45:00	53.17	24.87
05/01/2012 01:49:47	-9.97	23.96
05/01/2012 02:20:00	-87.85	24.41
05/01/2012 02:25:00	0.01	24.41
05/01/2012 06:25:00	-208.11	21.32
05/01/2012 06:30:00	0.01	21.32
05/01/2012 06:32:59	0.01	23.92
05/01/2012 06:52:47	-206.85	17.17
05/01/2012 07:00:00	-401.42	17.82
05/01/2012 07:00:41	-401.42	17.82
05/01/2012 07:08:11	-410.83	17.82
05/01/2012 07:11:23	-411.90	17.82
05/01/2012 07:15:00	-54.00	17.82
05/01/2012 07:20:00	-54.00	17.82
05/01/2012 07:25:00	-106.34	17.82
05/01/2012 07:30:00	0.01	17.82
05/01/2012 07:35:00	0.01	17.82
05/01/2012 07:40:00	0.02	17.82
05/01/2012 07:45:00	0.02	17.82
05/01/2012 07:50:00	-52.08	17.82
05/01/2012 07:55:00	0.01	17.82
05/01/2012 09:15:00	0.02	20.94
05/21/2012 14:05:00	3,871.89	773.26
05/21/2012 14:08:47	3,871.89	295.96
05/21/2012 14:10:11	3,871.89	70.65
05/21/2012 14:15:00	3,871.89	32.05
05/21/2012 14:20:00	47.08	32.05
05/21/2012 14:25:00	47.08	37.32
05/21/2012 14:30:00	47.08	37.55
05/21/2012 14:35:00	43.26	40.87
05/21/2012 14:40:00	43.26	37.73
05/21/2012 14:45:00	43.26	37.70
05/21/2012 14:50:00	37.77	37.62
05/21/2012 14:55:00	37.77	37.65
05/21/2012 15:00:00	37.77	40.08

## **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 Rules of Practice and Procedure, 18 C.F.R. §385.2010.

Dated at Rensselaer, NY this 31<sup>st</sup> day of July, 2012.

/s/ Joy A. Zimmerlin

Joy A. Zimmerlin  
New York Independent System Operator, Inc  
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Rensselaer, NY 12144  
(518) 356-6207