

ICAP Spot Market Bidding Requirement – Market Design Concept

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Agenda

- ◆ Background
- ◆ Current Credit Requirement to Bid in the ICAP Spot Market Auction
- ◆ Proposed Alternative to the Credit Requirement to Bid in the ICAP Spot Market Auction
- ◆ Next Steps

Background

- ◆ In 2012 Market Participants had asked the NYISO to revisit the credit requirement for bidding in the ICAP Spot Market Auction based on recent Spot Market Auction trends/activity.

- ◆ Based on Market Participant feedback, in May 2012 the NYISO presented, and the MC passed, proposed changes to the credit requirement for bidding in the ICAP Spot Market Auction.
 - *Enhancements utilize the most recent monthly auction clearing price plus a percentage margin by location.*
 - *Deployed in October 2012.*

Background

- ◆ While Market Participants agreed that the changes deployed in October 2012 better aligned the credit requirement to bid in the Spot Market Auction with market risk, they advocated for additional improvements to the credit requirements.
- ◆ At the August 2012 Credit Policy Working Group a Market Participant brought forward a presentation outlining a proposal to further enhance the credit requirement to bid in the ICAP Spot Market Auction.
- ◆ In response to the interest expressed by Market Participants the NYISO agreed to evaluate potential market design alternatives and discuss them with Market Participants in 2013.

Background

- ◆ At the September 2013 Credit Policy Working Group Market Participants requested the NYISO provide additional details regarding the methodology to the proposed alternative to the credit requirement to bid in the ICAP Spot Market Auction and examples of the NYISO's proposed concept to account for certain capacity sales prior to making its ICAP Spot Market Bidding Requirement collateral calls.

Current Credit Requirement to Bid in the ICAP Spot Market Auction

Current Credit Requirement to Bid in the ICAP Spot Market Auction

- ◆ The credit requirement to bid is calculated using the following formula:

- *The sum of the bidding requirement for all locations where the bidding requirement for each location is calculated as follows:*

- $[\text{Monthly Auction Price} + (\text{Margin} * \text{Monthly Auction Price})] * 1,000 * \text{Deficient MWs}$

plus

- $[\text{Monthly Auction Price} + (\text{Margin} * \text{Monthly Auction Price})] * 1,000 * \frac{1}{2} \text{ Spot Percent} * \text{Requirement MWs}$

Where Spot Percent currently equals 18% for Zones J and K and 12% for NYCA

- *Current ICAP Spot Market Bidding Requirement Margins:*

- ROS 100% of Monthly Price
- NYC 25% of Monthly Price
- LI 100% of Monthly Price

- ◆ If no monthly auction price exists the calculation uses the last available monthly price for that location.

Credit Requirement Change with the Deployment of the New Capacity Zone

- ◆ In January 2014 the New Capacity Zone will be deployed and the following change to the credit policy will be in effect:
 - *G-J Locality will utilize a margin of 100% of the monthly price.*
 - *The price used for calculating the credit requirement is subject to two tests:*
 - For NYC the price will equal the higher of:
 - Monthly clearing price provided by ICAP software plus margin of 25% for NYC
 - or-
 - Monthly clearing price provided by ICAP software plus margin of 100% for G-J Locality.
 - For the remaining locations the price will equal the monthly clearing price provided by the ICAP software plus the appropriate margin (i.e. 100% each).
 - The price will then equal the lower of the price calculated above or the UCAP Based Reference Price.
- ◆ Please refer to the following presentation for more details:
 - *3/8/2013 CPWG [Presentation - New Capacity Zone: Credit Policy](#)*

Proposed Alternatives to the Credit Requirement to Bid in the ICAP Spot Market Auction

Market Participant Feedback

- ◆ The primary concerns expressed by Market Participants with the credit policy deployed in October 2012 are:
 - *Based on the 2012 analysis existing margins are expected to better align credit requirements with market risk, however, they do not appropriately set capacity requirements over the entire range of capacity market outcomes.*
 - *Existing rules do not account for capacity sales.*

Current ICAP Spot Market Bidding Requirement Credit Coverage

- ◆ The following example summarizes the current credit requirement coverage to bid in the ICAP Spot Market Auction:

| Location | Total Payments Due to NYISO | Total Credit Held by NYISO | Total Uncovered Payment | % Covered by Credit Held |
|------------------------------|-----------------------------|----------------------------|-------------------------|--------------------------|
| NYC | \$ 1,192,579,118.13 | \$ 1,563,503,185.50 | \$ 28,781,049.14 | 97.59% |
| ROS | \$ 539,218,812.72 | \$ 900,176,480.80 | \$ 17,084,701.97 | 96.83% |
| LI | \$ 69,253,373.17 | \$ 102,189,499.83 | \$ 4,117,741.49 | 94.05% |
| Total - All Locations | \$ 1,801,051,304.02 | \$ 2,565,869,166.13 | \$ 49,983,492.60 | 97.22% |

- *Analysis uses historical ICAP portfolios over the period 2009-2012.*
- *Analysis does not account for capacity offers.*

Proposed Alternative to the ICAP Spot Market Bidding Requirement

- ◆ The alternative conceptual approach is designed to address two limitations of the current credit rules:
 - *First, the current coverage requirement includes a percentage margin based on the monthly auction price. The potential exists for the calculated dollar per MW amount to be too large when capacity prices are very high and too small when capacity prices are very low.*
 - *Second, the current rule has two components designed to cover the purchase obligation, one to cover the cost of purchasing the requirement amount of capacity and a second to cover the cost of purchasing capacity in excess of the requirement.*
 - For Market Participants with a deficiency relative to their capacity requirement, the credit coverage required for buying the requirement amount of capacity at a high price has the potential to be more than enough to cover purchasing the requirement amount of capacity plus excess capacity at a low price.

Proposed Alternative to the ICAP Spot Market Bidding Requirement

- ◆ The alternative approach addresses the first limitation by defining a margin which varies from month to month based on the monthly auction price, with a lower percentage margin applied if the auction price is high and a higher percentage margin applied if the auction price is low.
- ◆ The alternative approach addresses the second limitation by defining a coverage requirement that is sufficient to cover the purchase obligation if the spot auction price is higher than the monthly auction price and another if the spot auction price is lower than the monthly auction price, and only applying the higher of the two.

Proposed Alternative to the ICAP Spot Market Bidding Requirement

- The following example summarizes what the coverage would have been utilizing the proposed alternative:

| Location | Total Payments Due to NYISO | Total Credit Held by NYISO | Total Uncovered Payment | % Covered by Credit Held |
|------------------------------|-----------------------------|----------------------------|-------------------------|--------------------------|
| NYC | \$ 1,192,579,118.13 | \$ 1,425,531,296.25 | \$ 22,027,345.52 | 98.15% |
| ROS | \$ 539,218,812.72 | \$ 792,113,452.01 | \$ 11,315,656.77 | 97.90% |
| LI | \$ 69,253,373.17 | \$ 129,895,885.02 | \$ 1,201,503.91 | 98.27% |
| Total - All Locations | \$ 1,801,051,304.02 | \$ 2,347,540,633.28 | \$ 34,544,506.20 | 98.08% |

- Credit held by the NYISO decreases by ~\$218M while total uncovered payments decrease by ~\$15M.*
 - Analysis uses historical ICAP portfolios over the period 2009-2012.*
 - Analysis does not account for capacity offers.*
- The analysis will need to be re-evaluated once enough data is accumulated after the deployment of the credit rules for the New Capacity Zone.

Proposed Alternative to the ICAP Spot Market Bidding Requirement

- ◆ The conceptual approach behind the proposed alternative sets the Spot Market Bidding Requirement at the higher of the levels determined by the application of B and C ratios that vary month to month depending on the on the range of the Monthly Auction Price in relation to the UCAP Based Reference Price by location in the monthly auction.
 - *The B ratio was determined by calculating the percentage margin over the projected payment due that would be required to cover the load serving entity payment obligation if the spot auction price was 1 standard deviation above the monthly auction price for each ICAP location, time period, monthly auction price and prior level of capacity purchases.*
 - *The C ratio was determined by calculating the difference between the actual and projected payment due if the spot auction price was 1 standard deviation below the monthly auction price for each ICAP location, time period, monthly auction price and prior level of capacity purchases.*

Proposed Alternative to the ICAP Spot Market Bidding Requirement

- ◆ The proposed credit requirement to bid is calculated using the following formula:
 - *The sum of the bidding requirement for all locations where the bidding requirement for each location is calculated as follows: (higher of B or C):*
 - (B) [Monthly Auction Price + (Margin * Monthly Auction Price)] * 1,000 * Deficient MWs*
 - Or*
 - (C) (Margin * Monthly Auction Price) * 1,000 * Capacity Requirement*
- ◆ The proposed margin is dependent on the range of the Monthly Auction Price in relation to the UCAP Based Reference Price.
- ◆ If no monthly auction price exists the calculation uses the last available monthly price for that location.

Proposed Alternative to the ICAP Spot Market Bidding Requirement

◆ Example 1:

Determine the margin, which is dependent on the range of the Monthly Auction Price in relation to the UCAP Based Reference Price:

ROS Monthly Price = \$5.55

ROS UCAP Based Reference Price = \$10.05

(B) Using the proposed ratio table on the following slide, assuming ROS Summer, if the monthly auction price is \$5.55 and the UCAP Based Reference Price is \$10.05, the margin used would be 1.11.

*(5.55/10.05) *100 = 55%, which falls within the 50% to 60% range.*

(C) Using the proposed ratio table on the following slide, assuming ROS Summer, if the monthly auction price is \$5.55 and the UCAP Based Reference Price is \$10.05, the margin used would be .006.

*(5.55/10.05) *100 = 55% which falls within the 50% to 60% range.*

Proposed Alternative to the ICAP Spot Market Bidding Requirement

Proposed ICAP Spot Market Bidding Requirement B and C Ratios

| Monthly/Reference Ratio | Rest of State | | | | | | New York City | | Long Island | | | | | |
|-------------------------|---------------|--------|-------|--------|--------|-------|---------------|--------|-------------|--------|-------|--------|--------|--------|
| | Winter | | May | | Summer | | All | | Winter | | May | | Summer | |
| | B | C | B | C | B | C | B | C | B | C | B | C | B | C |
| >100% | 1.12 | 0.01 | 1.159 | 0.013 | 1.07 | 0.009 | 1.05 | 0.0094 | 1.15 | 0.028 | 1.2 | 0.035 | 1.13 | 0.025 |
| 90%<X<=100% | 1.13 | 0.009 | 1.176 | 0.012 | 1.07 | 0.008 | 1.05 | 0.0098 | 1.17 | 0.026 | 1.22 | 0.032 | 1.14 | 0.023 |
| 80%<X<=90% | 1.14 | 0.009 | 1.197 | 0.012 | 1.08 | 0.008 | 1.06 | 0.0095 | 1.18 | 0.024 | 1.26 | 0.03 | 1.16 | 0.021 |
| 70%<X<=80% | 1.15 | 0.008 | 1.223 | 0.011 | 1.09 | 0.007 | 1.07 | 0.0093 | 1.21 | 0.022 | 1.29 | 0.027 | 1.17 | 0.019 |
| 60%<X<=70% | 1.17 | 0.008 | 1.258 | 0.011 | 1.1 | 0.006 | 1.09 | 0.009 | 1.24 | 0.02 | 1.34 | 0.024 | 1.19 | 0.017 |
| 50%<X<=60% | 1.2 | 0.007 | 1.306 | 0.01 | 1.11 | 0.006 | 1.11 | 0.0086 | 1.28 | 0.018 | 1.41 | 0.021 | 1.22 | 0.015 |
| 40%<X<=50% | 1.24 | 0.006 | 1.378 | 0.009 | 1.12 | 0.005 | 1.14 | 0.0082 | 1.34 | 0.015 | 1.52 | 0.016 | 1.26 | 0.013 |
| 30%<X<=40% | 1.3 | 0.005 | 1.497 | 0.008 | 1.14 | 0.004 | 1.19 | 0.0076 | 1.44 | 0.012 | 1.69 | 0.009 | 1.32 | 0.011 |
| 25%<X<=30% | 1.34 | 0.005 | 1.592 | 0.007 | 1.16 | 0.004 | 1.23 | 0.0072 | 1.52 | 0.01 | 1.83 | 0.004 | 1.37 | 0.01 |
| 20%<X<=25% | 1.42 | 0.005 | 1.735 | 0.006 | 1.19 | 0.003 | 1.28 | 0.0066 | 1.64 | 0.007 | 2.03 | 0.0002 | 1.44 | 0.008 |
| 18%<X<=20% | 1.45 | 0.004 | 1.813 | 0.005 | 1.2 | 0.003 | 1.32 | 0.0062 | 1.7 | 0.006 | 2.14 | 0.0002 | 1.48 | 0.007 |
| 16%<X<=18% | 1.5 | 0.004 | 1.912 | 0.004 | 1.21 | 0.003 | 1.36 | 0.0058 | 1.78 | 0.004 | 2.29 | 0.0002 | 1.52 | 0.006 |
| 14%<X<=16% | 1.56 | 0.004 | 2.038 | 0.003 | 1.23 | 0.003 | 1.41 | 0.0053 | 1.89 | 0.0008 | 2.47 | 0.0002 | 1.58 | 0.005 |
| 12%<X<=14% | 1.65 | 0.003 | 2.207 | 0.002 | 1.26 | 0.003 | 1.48 | 0.0047 | 2.02 | 0.0001 | 2.71 | 0.0003 | 1.66 | 0.004 |
| 10%<X<=12% | 1.76 | 0.003 | 2.443 | 0.0002 | 1.29 | 0.002 | 1.58 | 0.0037 | 2.21 | 0.0002 | 3.05 | 0.0003 | 1.77 | 0.003 |
| 8%<X<=10% | 1.93 | 0.002 | 2.797 | 0.0001 | 1.34 | 0.002 | 1.72 | 0.0001 | 2.5 | 0.0002 | 3.56 | 0.0004 | 1.93 | 0.0006 |
| 6%<X<=8% | 2.21 | 0.001 | 3.386 | 0.0002 | 1.41 | 0.002 | 1.97 | 0 | 2.98 | 0.0003 | 4.41 | 0.0005 | 2.19 | 0.0002 |
| 4%<X<=6% | 2.78 | 0.0001 | 4.565 | 0.0003 | 1.56 | 0.001 | 2.46 | 0 | 3.93 | 0.0004 | 6.1 | 0.0007 | 2.72 | 0.0002 |
| 0%<X<=4% | 4.48 | 0.0003 | 8.1 | 0.0005 | 1.98 | 0 | 3.92 | 0 | 6.8 | 0.0008 | 11.19 | 0.001 | 4.29 | 0.0005 |

Proposed Alternative to the ICAP Spot Market Bidding Requirement

- ◆ Example 1 continued:

Apply the margin to the proposed ICAP Spot Market Bidding Requirement (assumes a 50 MW Capacity Requirement and 25 MW Deficiency):

The sum of the bidding requirement for all locations where the bidding requirement for each location is calculated as follows: (higher of B or C):

$$(B) [5.55 + (11\% * 5.55)] * 1,000 * 25MW = \$154,012.50$$

or

$$(C) (0.60\% * 5.55) * 1,000 * 50MW = \$1,665.00$$

The proposed ICAP Spot Market Bidding Requirement = \$154,012.50

Proposed Alternative to the ICAP Spot Market Bidding Requirement

◆ Example 2:

Determine the margin, which is dependent on the range of the Monthly Auction Price in relation to the UCAP Based Reference Price:

ROS Monthly Price = \$9.50

ROS UCAP Based Reference Price = \$10.05

(B) Using the proposed ratio table, assuming ROS Summer, if the monthly auction price is \$9.50 and the UCAP Based Reference Price is \$10.05, the margin used would be 1.07.

*(9.50/10.05) * 100 = 95% which falls within the 90% to 100% range.*

(C) Using the proposed ratio table, assuming ROS Summer, if the monthly auction price is \$9.50 and the UCAP Based Reference Price is \$10.05, the margin used would be .008.

*(9.50/10.05) * 100 = 95% which falls within the 90% to 100% range.*

Proposed Alternative to the ICAP Spot Market Bidding Requirement

- ◆ Example 2 continued:

Apply the margin to the proposed ICAP Spot Market Bidding Requirement (assumes a 50 MW Capacity Requirement and 20 MW Deficiency):

The sum of the bidding requirement for all locations where the bidding requirement for each location is calculated as follows: (higher of B or C):

$$(B) [9.50 + (7\% * 9.50)] * 1,000 * 20MW = \$203,300.00$$

or

$$(C) (0.80\% * 9.50) * 1,000 * 50MW = \$3,800.00$$

The proposed ICAP Spot Market Bidding Requirement = \$203,300.00

Proposed Concept to Account for Capacity Sales

Proposed Concept to Account for Capacity Sales

- ◆ Currently, deficiencies do not account for capacity sales, which may unnecessarily increase credit held by the NYISO prior to the ICAP Spot Market Auction.

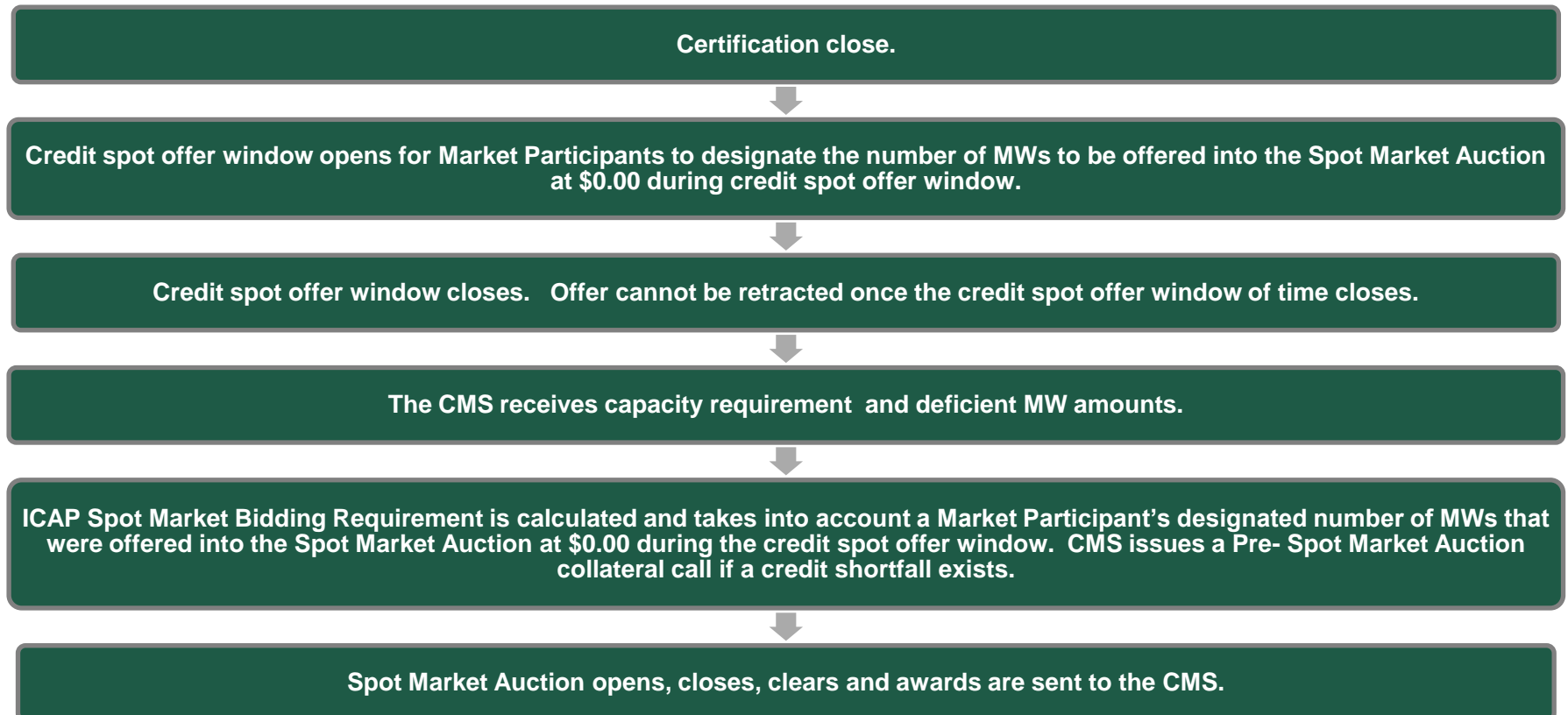
- ◆ NYISO proposes a concept to account for those capacity sales prior to making its collateral calls.
 - *Allow the MWs associated with capacity offers to net against any deficient MWs for that Market Participant.*

 - *Market Participants would have a short window of time, after certification close, to specify the number of MWs they would offer into the Spot Market Auction.*
 - The price associated with the capacity offer must be \$0.00.
 - The offer cannot be retracted once the window of time is closed.

 - *Timing of this process is still to be determined.*

Proposed Concept to Account for Capacity Sales

- ◆ The following is an example of the process by which the NYISO's proposed concept will account for capacity sales prior to making its collateral calls.
 - *Actual timing of this process is still to be determined.*



Proposed Concept to Account for Capacity Sales

- The following is an example of the proposed method to account for capacity offers to net against any deficient MWs and/or excess MWs for a Market Participant prior to the NYISO making its Spot Market Bidding Requirement.

| Locality | LSE Requirement MWs | Total LSE MWs available | LSE Deficient MWs | LSE Excess MWs calculated at 1/2 of 12% of LSE Requirement MWs | <u>Current Rule</u> ICAP Spot Market Bidding Requirement Deficient MWs to be used in Spot Market Bidding Requirement calculation | <u>Current Rule</u> ICAP Spot Market Bidding Requirement Excess MWs to be used in Spot Market Bidding Requirement calculation | MWs offered at \$0.00 into Spot Auction during Credit spot offer window. | <u>Proposed Rule</u> ICAP Spot Market Bidding Requirement Deficient MWs to be used in Spot Market Bidding Requirement calculation | <u>Proposed Rule</u> ICAP Spot Market Bidding Requirement Excess MWs to be used in Spot Market Bidding Requirement calculation |
|----------|---------------------|-------------------------|-------------------|--|---|--|--|--|---|
| ROS | 100 | 106 | 0 | 6 | 0 | 6 | 6 | 0 | 0 |
| ROS | 100 | 100 | 0 | 6 | 0 | 6 | 0 | 0 | 6 |
| ROS | 100 | 75 | 25 | 6 | 25 | 6 | 0 | 25 | 6 |
| ROS | 100 | 106 | 100* | 6 | 100 | 6 | 106 | 0 | 0 |

* Represents a failure to certify

Next Steps

- ◆ Please provide feedback and suggestions by December 20, 2013 to jscheckton@nyiso.com.
- ◆ Additional discussion at a future CPWG.

Appendix

Appendix A

- ◆ Appendix A demonstrates the performance of the proposed rules vs. the current rules in:
 - *NYC* (see Appendix A-1)
 - *LI* (see Appendix A-2)
 - *ROS* (see Appendix A-3)

- ◆ The analysis uses historical ICAP portfolios over the period 2009-2012.

- ◆ % Covered by Credit Held = $\frac{[\text{Total Payments Due to NYISO} - \text{Total Uncovered Payment}]}{[\text{Total Payments Due to NYISO}]}$

- ◆ Rest of State (ROS) May and Rest of State (ROS) Winter were analyzed using different deviation rules to account for price volatility during those periods.

Appendix A-1 – New York City

| Monthly Price as a percentage of the UCAP Based Reference Price | Total Payments Due to NYISO | Total Credit Held by NYISO | | Total Uncovered Payment | | % Covered by Credit Held | |
|---|-----------------------------|----------------------------|----------------------------|-------------------------|-------------------------|--------------------------|---------------|
| | | Proposed Rule | Current Rule | Proposed Rule | Current Rule | Proposed Rule | Current Rule |
| 4-6% | \$ 1,126,612.13 | \$ 6,833,910.00 | \$ 2,793,099.50 | \$ - | \$ - | 100.00% | 100.00% |
| 8-10% | \$ 18,573,836.00 | \$ 14,376,056.00 | \$ 8,852,675.00 | \$ 4,197,780.47 | \$ 9,721,161.00 | 77.40% | 47.66% |
| 10-12% | \$ 14,007,362.00 | \$ 17,428,554.50 | \$ 11,427,112.00 | \$ 2,925,120.05 | \$ 6,039,121.50 | 79.12% | 56.89% |
| 14-16% | \$ 22,087,126.00 | \$ 48,580,019.50 | \$ 37,162,325.00 | \$ - | \$ 565,430.94 | 100.00% | 97.44% |
| 18-20% | \$ 26,138,872.00 | \$ 34,220,403.00 | \$ 28,293,807.75 | \$ - | \$ 1,720,894.50 | 100.00% | 93.42% |
| 20-25% | \$ 140,395,129.00 | \$ 185,760,568.00 | \$ 160,879,906.00 | \$ - | \$ 3,949,761.25 | 100.00% | 97.19% |
| 25-30% | \$ 30,367,117.00 | \$ 65,209,185.75 | \$ 60,297,919.25 | \$ - | \$ 95,352.70 | 100.00% | 99.69% |
| 30-40% | \$ 67,879,714.00 | \$ 63,555,540.50 | \$ 63,071,473.00 | \$ 4,409,935.06 | \$ 4,808,241.75 | 93.50% | 92.92% |
| 40-50% | \$ 140,104,030.00 | \$ 155,712,283.00 | \$ 167,363,180.00 | \$ 2,765,596.88 | \$ 22,477.50 | 98.03% | 99.98% |
| 50-60% | \$ 329,675,516.00 | \$ 372,565,696.00 | \$ 428,656,712.00 | \$ 7,262,990.06 | \$ 1,858,608.00 | 97.80% | 99.44% |
| 60-70% | \$ 39,791,352.00 | \$ 42,757,536.00 | \$ 53,518,504.00 | \$ - | \$ - | 100.00% | 100.00% |
| 70-80% | \$ 362,432,452.00 | \$ 418,531,544.00 | \$ 541,186,472.00 | \$ 465,923.00 | \$ - | 99.87% | 100.00% |
| Total | \$ 1,192,579,118.13 | \$ 1,425,531,296.25 | \$ 1,563,503,185.50 | \$ 22,027,345.52 | \$ 28,781,049.14 | 98.15% | 97.59% |

Appendix A-2 – Long Island

| Monthly Price as a percentage of the UCAP Based Reference Price | Total Payments Due to NYISO | Total Credit Held by NYISO | | Total Uncovered Payment | | % Covered by Credit Held | |
|---|-----------------------------|----------------------------|--------------------------|-------------------------|------------------------|--------------------------|---------------|
| | | Proposed Rule | Current Rule | Proposed Rule | Current Rule | Proposed Rule | Current Rule |
| <4% | \$ 3,844,829.81 | \$ 20,913,177.55 | \$ 4,816,918.88 | \$ - | \$ 1,222,593.16 | 100.00% | 68.20% |
| 4-6% | \$ 3,463,666.38 | \$ 11,701,838.38 | \$ 4,927,732.50 | \$ - | \$ 25,505.26 | 100.00% | 99.26% |
| 6-8% | \$ 2,683,918.00 | \$ 9,285,747.38 | \$ 4,359,631.76 | \$ - | \$ 350.93 | 100.00% | 99.99% |
| 8-10% | \$ 2,736,931.00 | \$ 5,627,425.50 | \$ 3,189,431.25 | \$ - | \$ 15,876.75 | 100.00% | 99.42% |
| 10-12% | \$ 5,384,250.44 | \$ 10,188,574.14 | \$ 6,131,871.56 | \$ - | \$ 1,031,595.88 | 100.00% | 80.84% |
| 12-14% | \$ 4,740,137.50 | \$ 3,610,220.00 | \$ 3,390,387.00 | \$ 1,129,917.63 | \$ 1,349,750.63 | 76.16% | 71.53% |
| 16-18% | \$ 3,877,325.75 | \$ 6,009,497.91 | \$ 4,216,578.25 | \$ 70,891.08 | \$ 471,740.88 | 98.17% | 87.83% |
| 18-20% | \$ 8,331,578.16 | \$ 14,401,324.50 | \$ 14,922,480.00 | \$ - | \$ - | 100.00% | 100.00% |
| 20-25% | \$ 605,552.00 | \$ 2,337,441.00 | \$ 1,891,344.13 | \$ - | \$ - | 100.00% | 100.00% |
| 25-30% | \$ 14,764,750.50 | \$ 20,868,244.05 | \$ 22,369,634.75 | \$ 695.20 | \$ 328.00 | 100.00% | 100.00% |
| 30-40% | \$ 15,069,700.88 | \$ 20,107,958.25 | \$ 24,878,408.75 | \$ - | \$ - | 100.00% | 100.00% |
| 40-50% | \$ 3,750,732.75 | \$ 4,844,436.36 | \$ 7,095,081.00 | \$ - | \$ - | 100.00% | 100.00% |
| Total | \$ 69,253,373.17 | \$ 129,895,885.02 | \$ 102,189,499.83 | \$ 1,201,503.91 | \$ 4,117,741.49 | 98.27% | 94.05% |

Appendix A-3 – Rest of State

ROS Summer (except for May)

| Monthly Price as a percentage of the UCAP Based Reference Price | Total Payments Due to NYISO | Total Credit Held by NYISO | | Total Uncovered Payment | | % Covered by Credit Held | |
|---|-----------------------------|----------------------------|--------------------------|-------------------------|----------------------|--------------------------|---------------|
| | | Proposed Rule | Current Rule | Proposed Rule | Current Rule | Proposed Rule | Current Rule |
| <10% | \$ 16,928,420.25 | \$ 39,321,073.13 | \$ 33,762,815.00 | \$ 18,340.63 | \$ 320,074.09 | 99.89% | 98.11% |
| 10-15% | \$ 30,326,236.00 | \$ 35,622,311.75 | \$ 42,485,922.00 | \$ - | \$ 233,473.75 | 100.00% | 99.23% |
| 15-20% | \$ 16,460,919.00 | \$ 20,477,492.50 | \$ 27,531,448.00 | \$ - | \$ - | 100.00% | 100.00% |
| 20-25% | \$ 93,766,856.00 | \$ 116,307,170.00 | \$ 169,215,408.00 | \$ - | \$ - | 100.00% | 100.00% |
| 25-30% | \$ 15,810,220.00 | \$ 20,645,272.50 | \$ 30,504,730.00 | \$ - | \$ - | 100.00% | 100.00% |
| 30-40% | \$ 57,027,916.00 | \$ 62,048,959.50 | \$ 101,602,468.00 | \$ 2,144,431.47 | \$ - | 96.24% | 100.00% |
| 40-50% | \$ 57,900,144.00 | \$ 64,797,828.75 | \$ 112,559,648.00 | \$ 86,830.94 | \$ - | 99.85% | 100.00% |
| Total | \$ 288,220,711.25 | \$ 359,220,108.13 | \$ 517,662,439.00 | \$ 2,249,603.04 | \$ 553,547.84 | 99.22% | 99.81% |

Appendix A-3 – Rest of State

ROS Winter

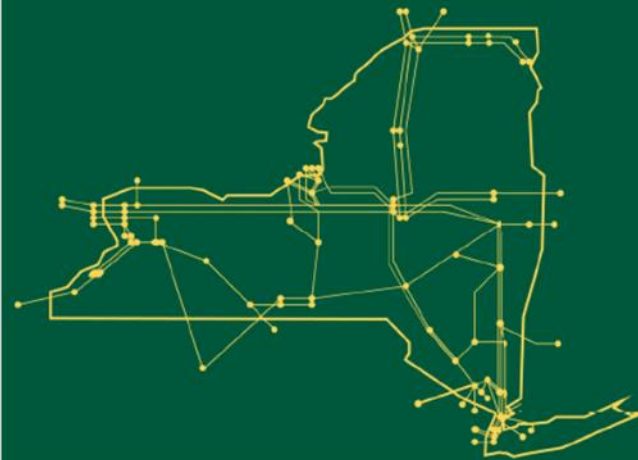
| Monthly Price as a percentage of the UCAP Based Reference Price | Total Payments Due to NYISO | Total Credit Held by NYISO | | Total Uncovered Payment | | % Covered by Credit Held | |
|---|-----------------------------|----------------------------|--------------------------|-------------------------|-------------------------|--------------------------|---------------|
| | | Proposed Rule | Current Rule | Proposed Rule | Current Rule | Proposed Rule | Current Rule |
| <4% | \$ 15,979,621.00 | \$ 51,641,735.88 | \$ 17,479,465.00 | \$ 306,865.88 | \$ 5,993,775.00 | 98.08% | 88.39% |
| 4-6% | \$ 18,152,734.00 | \$ 50,930,674.25 | \$ 28,814,722.00 | \$ - | \$ 367,866.59 | 100.00% | 99.28% |
| 6-8% | \$ 10,268,661.00 | \$ 28,013,680.81 | \$ 19,843,022.00 | \$ - | \$ - | 100.00% | 100.00% |
| 10-12% | \$ 20,039,702.00 | \$ 35,821,737.88 | \$ 33,122,996.00 | \$ - | \$ 215,415.86 | 100.00% | 99.40% |
| 12-14% | \$ 6,353,205.50 | \$ 19,043,564.00 | \$ 18,600,450.00 | \$ - | \$ - | 100.00% | 100.00% |
| 14-16% | \$ 6,978,654.00 | \$ 18,456,108.88 | \$ 18,888,964.00 | \$ - | \$ - | 100.00% | 100.00% |
| 16-18% | \$ 47,920,736.00 | \$ 63,954,731.63 | \$ 70,961,536.00 | \$ 6,801,186.62 | \$ 4,473,577.00 | 85.81% | 93.01% |
| 20-25% | \$ 29,334,547.00 | \$ 28,627,977.63 | \$ 34,690,960.00 | \$ 949,908.81 | \$ 28,169.44 | 96.76% | 99.90% |
| 25-30% | \$ 14,601,530.00 | \$ 24,047,103.41 | \$ 30,848,036.00 | \$ - | \$ - | 100.00% | 100.00% |
| Total | \$ 169,629,390.50 | \$ 320,537,314.37 | \$ 273,250,151.00 | \$ 8,057,961.31 | \$ 11,078,803.89 | 95.25% | 93.47% |

Appendix A-3 – Rest of State

ROS May

| Monthly Price as a percentage of the UCAP Based Reference Price | Total Payments Due to NYISO | Total Credit Held by NYISO | | Total Uncovered Payment | | % Covered by Credit Held | |
|---|-----------------------------|----------------------------|--------------------------|-------------------------|------------------------|--------------------------|---------------|
| | | Proposed Rule | Current Rule | Proposed Rule | Current Rule | Proposed Rule | Current Rule |
| 4-6% | \$ 4,894,784.70 | \$ 20,678,747.13 | \$ 6,840,404.60 | \$ - | \$ 13,457.74 | 100.00% | 99.73% |
| 12-14% | \$ 26,759,541.00 | \$ 27,935,297.75 | \$ 21,320,648.00 | \$ 54,256.31 | \$ 5,438,892.50 | 99.80% | 79.67% |
| 20-25% | \$ 27,553,566.00 | \$ 36,145,589.63 | \$ 35,913,152.00 | \$ - | \$ - | 100.00% | 100.00% |
| 30-40% | \$ 22,160,819.00 | \$ 37,675,225.94 | \$ 45,189,686.00 | \$ - | \$ - | 100.00% | 100.00% |
| Total | \$ 81,368,710.70 | \$ 122,434,860.45 | \$ 109,263,890.60 | \$ 54,256.31 | \$ 5,452,350.24 | 99.93% | 93.30% |

The New York Independent System Operator (NYISO) is a not-for-profit corporation responsible for operating the state's bulk electricity grid, administering New York's competitive wholesale electricity markets, conducting comprehensive long-term planning for the state's electric power system, and advancing the technological infrastructure of the electric system serving the Empire State.



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