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December 18, 2015

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Re: Annual Report in Docket Nos. ER01-3001-000, ER03-647-000 and
Request for Privileged Treatment of Attachments I, III, and IV

Dear Ms. Bose:

Enclosed for filing in the above-referenced dockets is the New York Independent System Operator, Inc.'s ("NYISO's") Annual Installed Capacity Report on the NYISO's Capacity Market, Possible Withholding, New Generation Projects, and Net Revenue Analysis (the "Report").¹ By Order dated February 3, 2010, the Commission directed the NYISO to file this report for informational purposes only.²

I. List of Documents Submitted

The NYISO submits with this letter, and the below request for confidential treatment, a public version of the Report, with Attachment I, III, and IV redacted. Separately, the NYISO is submitting as confidential Attachments I, III and IV (the "Confidential Attachments").

As with prior annual Installed Capacity Reports, the Report is comprised of the following separate sections: Section I: Capacity Market Report and Withholding Analysis, Section II: Report on New Generation Projects, and Section III: New Generation Projects and Net Revenue Analysis.

II. Request for Confidential Treatment of Attachments I, III, and IV

¹ *New York Indepen. Sys. Operator, Inc.*, 117 FERC ¶ 61,086 (2006); *New York Indepen. Sys. Operator, Inc.*, 103 FERC ¶ 61,201 (2003), 108 FERC ¶ 61,280 (2004), 121 FERC ¶ 61,090 (2007), 123 FERC ¶ 61,206 (2008). In Docket ER03-647, the NYISO files an annual report regarding its Demand Side Management programs on January 15, and a semi-annual report on its Demand Side Management programs and new generation projects on June 15 each year.

² *New York Indepen. Sys. Operator, Inc.*, Order, Docket Nos. ER01-3001 and ER03-647 (Feb. 3, 2010).

In accordance with Sections 388.107 and 388.112 of the Commission’s Regulations,³ Article 6 of the NYISO’s Market Administration and Control Area Services Tariff, Sections 1.0(4) and 4.0 of the NYISO’s Code of Conduct, the NYISO requests Privileged and Confidential treatment of the contents of the Confidential Attachments. The NYISO also requests that the Confidential Attachments be exempted from public disclosure under the Freedom of Information Act (“FOIA”), 5 U.S.C. §522.⁴

The Confidential Attachments contain privileged and commercially sensitive, and trade secret information that is not made public by the NYISO and that could cause competitive harm to the affected Market Participants,⁵ and could adversely affect competition in the markets administered by the NYISO, if publicly disclosed. This information includes the identity of Installed Capacity Suppliers and their respective offering behavior, and the basis therefor. This confidential, commercially sensitive information, is exempt from disclosure under 5 U.S.C. §522(b)(4). For this reason, the NYISO requests that the contents of Confidential Attachments receive Privileged and Confidential treatment and be exempt from FOIA disclosure.

A public version of the contents of Attachment I is set forth in Report Section 1.5.4.2. A public version of Confidential Attachment III, summarizing and masking the contents of Attachment III, is included in the Report as Attachment II. A masked and aggregated version of Confidential Attachment IV is set forth in Report Section 1.5.4.4.

The NYISO requests waiver of any obligation it may have under the Commission’s regulations or the Secretary’s rules to submit a redacted version of the Confidential Attachments. The NYISO incorporated into the body of Report Section I a masked or aggregated version of the information that is contained in the Confidential Attachments and thereby makes publicly available the information contained in Attachment III that is not confidential and commercially sensitive. In that regard, the NYISO has provided a redacted version of the information contained in the Confidential Attachments.

The Confidential Attachments are identified and marked in accordance with the Commission’s regulations and rules published by the Secretary’s Office for submitting Privileged information.

³ 18 C.F.R. §§ 388.107, 388.112.

⁴ The information provided by the NYISO for which the NYISO claims an exemption from FOIA disclosure is labeled “Contains Privileged Information – Do Not Release.”

⁵ Terms with initial capitalization not defined herein have the meaning set forth in the NYISO’s Market Administration and Control Area Services Tariff.

III. Correspondence

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Respectfully submitted,

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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 (2012). I have also electronically served the foregoing on all market participants, on each participant in its stakeholder committees, on the New York State Public Service Commission, and on the electric utility regulatory agency of New Jersey.

Dated at Rensselaer, NY this 18th day of December 2015.

/s/ Joy A. Zimmerlin

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2015 Annual Installed Capacity Report

*Report on the NYISO's Capacity Market, Possible Withholding,
New Generation Projects, and Net Revenue Analysis*

December 18, 2015

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I.1. Capacity Market Report

I.2. Overview

This report (the “December 2015 Report”) reviews the outcomes of the Installed Capacity (“ICAP”) market administered by the New York Independent System Operator (“NYISO”); assesses the effectiveness of the ICAP Demand Curves¹ (“Demand Curves”) in attracting investment in new generation; and examines potential withholding activity in the NYISO-administered Capacity auctions for the New York Control Area (“NYCA”) by its three Localities, New York City (“NYC”), the G-J Locality (“G-J”), and Long Island (“LI”), and the remaining area that comprises the NYCA, Rest of State (“ROS”) (referred to as “capacity areas”).² The December 2015 Report covers the Winter 2014-2015 and Summer 2015 Capability Periods, which span from November 2014 through October 2015. Similar NYISO reports filed in previous years cover earlier periods.

Capacity prices during the Winter 2014-2015 Capability Period were lower, on average, than those of the previous Winter Capability Period. The average ICAP Spot Market Auction (“Spot Market Auction”) prices over the Winter 2014-2015 Capability Period were \$2.03/kW-month, \$4.04/kW-month, \$8.36/kW-month, and \$3.14/kW-month, for NYCA, the G-J Locality, NYC, and LI, respectively. These prices compare with \$3.10/kW-month, \$9.73/kW-month and \$3.35/kW-month during the previous winter for NYCA, NYC, and LI respectively. The G-J Locality was implemented in May 2014, therefore, there are no Winter 2013-2014 prices for G-J Locality.

Capacity prices during the Summer 2015 Capability Period were lower on average than those of the previous Summer Capability Period. The average Spot Market Auction prices over the Summer 2015 Capability Period were \$3.83/kW-month, \$9.10/kW-month, \$15.38/kW-month, and \$5.72/kW-month, for NYCA, the G-J Locality, NYC, and LI, respectively. These prices compare with \$5.96/kW-month, \$12.16/kW-month, \$18.51/kW-month, and \$6.51/kW-month during the previous Summer Capability Period.

The average Spot Market Auction prices for Summer 2015 were lower than the Summer 2014 average by \$2.14/kW-month in NYCA; by \$3.07/kW-month in the G-J Locality; by \$3.12/kW-month in NYC; and by \$0.79/kW-month in LI. The changes were driven primarily by changes in the respective Locational Minimum Installed Capacity Requirements (“LCRs”), as well as by the changes in available capacity compared to the load forecast throughout NYCA. These dynamics are depicted in Chart 1.

For the Winter 2014-2015 and Summer 2015 Capability Periods, there was minimal change in the proportion of Load Serving Entity (“LSE”) Capacity requirements met through

¹ Terms in upper case not defined herein shall have the meaning set forth in the NYISO’s Market Administration and Control Area Services Tariff (“Services Tariff”), with the exception of Rest of State (“ROS”) when such term refers to a period before the Summer 2014 Capability Period. Consistent with the Services Tariff revision to establish the G-J Locality beginning with the Summer 2014 Capability Period and change the definition of Rest of State accordingly, when ROS refers to Winter 2013-2014 or a prior period, it means Load Zones A through I. Any other terms not so defined have the meaning set forth in the Open Access Transmission Tariff (“OATT”).

² The NYISO’s Capacity auctions have four Market-Clearing Prices: NYCA, New York City, Long Island and the G-J Locality. References in this report to the Rest of State are to the geographic area within the NYCA that excludes the New York City, Long Island and G-J Localities.

purchases in the NYISO-administered capacity auctions versus bilateral transactions when compared to previous Capability Periods. In the Winter 2014-2015 Capability Period, 41.44% of LSE Capacity requirements were met through bilateral transactions in Unforced Capacity (“UCAP”) terms (46.84% in the previous Winter Capability Period), while the remaining percent of LSE requirements were met through purchases in the NYISO-administered auctions. Similarly, in the Summer 2015 Capability Period, 43.31% of LSE capability requirements were met through bilateral transactions (44.1% in Summer 2014), while the remaining LSE requirements were satisfied through purchases made in the NYISO-administered auctions.

The seasonal average quantities of unoffered capacity constituted less than 0.5% of available supply in the NYC, LI, and the G-J Locality (see Chart 10). The seasonal average quantities of unsold capacity (*i.e.*, capacity that was offered but went unsold) was below 0.5% for each of the three Localities (see Chart 11).³ Total unsold and unoffered capacity quantities from ROS resources were below 1% in the Winter 2014-2015, and 0.5% in Summer 2015. The UCAP offered and purchased in NYCA and each of the three Localities exceeded the LCRs; therefore, prices were below the base reference point on the respective ICAP Demand Curves.

Overall, the Market-Clearing Prices in the ICAP Spot Market Auctions support the conclusion that the ICAP Spot Market Auctions continue to be attractive to Installed Capacity Suppliers. Previously the NYISO stated that it was difficult to correlate the effect of the ICAP Demand Curves on the level of investment in the NYCA, partially because in the past NYC has had capacity in excess of the LCR, and partially due to the lead-time required to site, develop, and construct a new generator. The ICAP Demand Curves provide transparent capacity market price signals that developers consider in their projections of anticipated future revenues when making near-term investment decisions. Since the creation of the G-J Locality and implementation of the ICAP Demand Curve for it, there has been investment in resources, *i.e.*, return to service of the Danskammer Generating Stations, Astoria Station Unit 20, and the restoration of Bowline Unit 2 to its full capacity. Capacity market outcomes are reviewed to ensure market signals are aligned with reliability needs. When market changes are identified, the NYISO works with its stakeholders on prioritizing the need for and developing a suitable market rules.

The NYISO continues to monitor potential reliability risks and other issues that may affect the reliability outlook for New York’s bulk electric system. On September 16, 2014, the NYISO Board of Directors approved the 2014 Reliability Needs Assessment (“RNA”) Report (“2014 RNA Report”),⁴ which is the first step in preparing the *2014 Comprehensive Reliability Plan*. The 2014 RNA Report’s key findings identified transmission security needs starting in 2015 in portions of the system, and potential Southeast New York Loss of Load Expectation due to inadequate resource capacity beginning in 2019. The NYISO asked parties to submit market-based, regulated backstop and alternative regulated solutions to address these Reliability Needs.⁵ On November 14, 2014, the NYISO withdrew its requests for solutions to address the

³ Section I.5 of this report provides information and analysis of the unoffered and unsold capacity.

⁴ The 2014 RNA Report is available at
<http://www.nyiso.com/public/webdocs/markets_operations/services/planning/Planning_Studies/Reliability_Planning_Studies/Reliability_Assessment_Documents/2014_RNA_final_09162014.pdf>

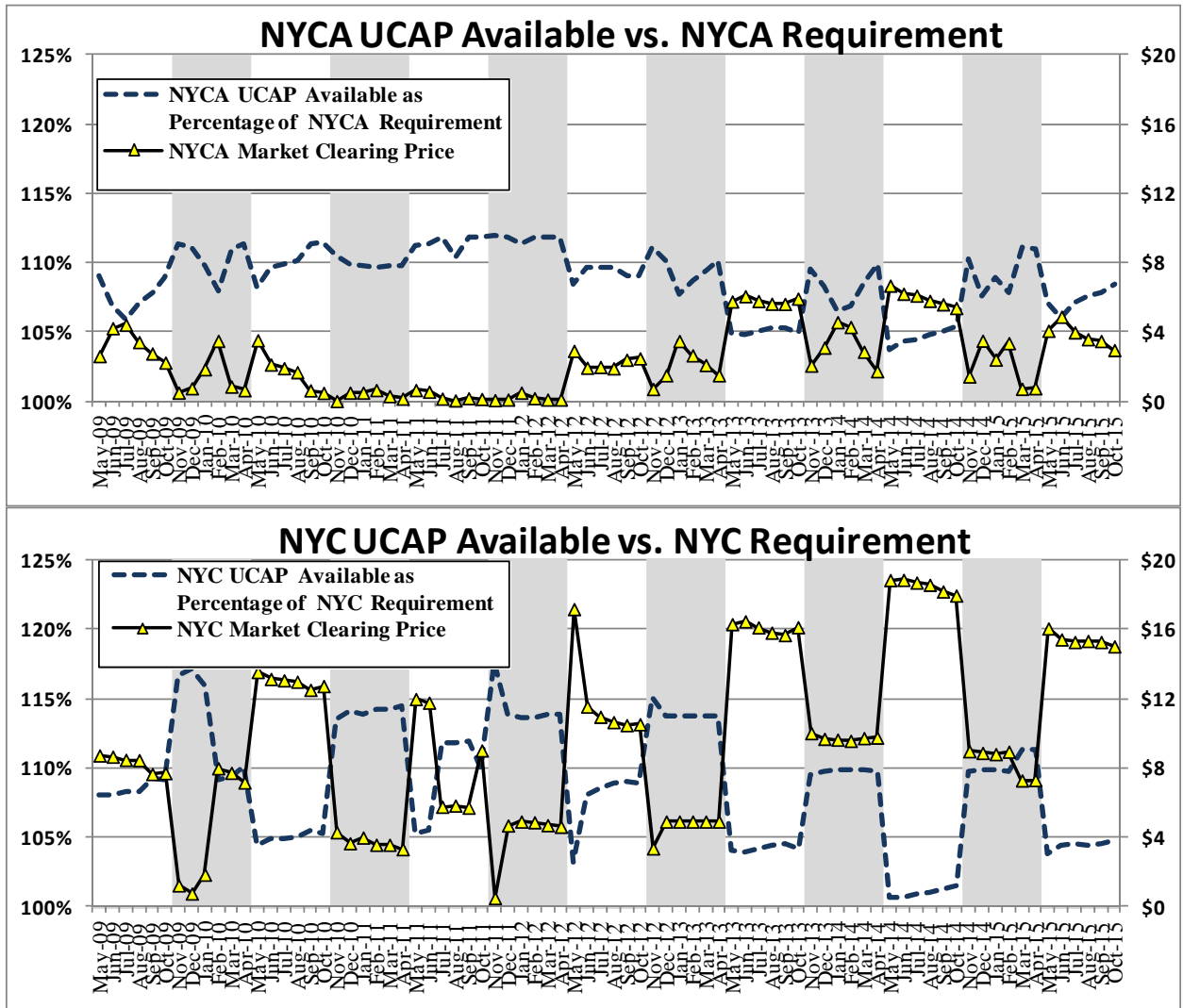
⁵ See letter from Henry Chao, Vice President, NYISO System Resource and Planning (Oct. 1, 2014.) available at:
<http://www.nyiso.com/public/webdocs/markets_operations/services/planning/Planning_Studies/Reliability_Planning_Studies/Reliability_Notices/nyiso_solicitation_letter_10012014.pdf>

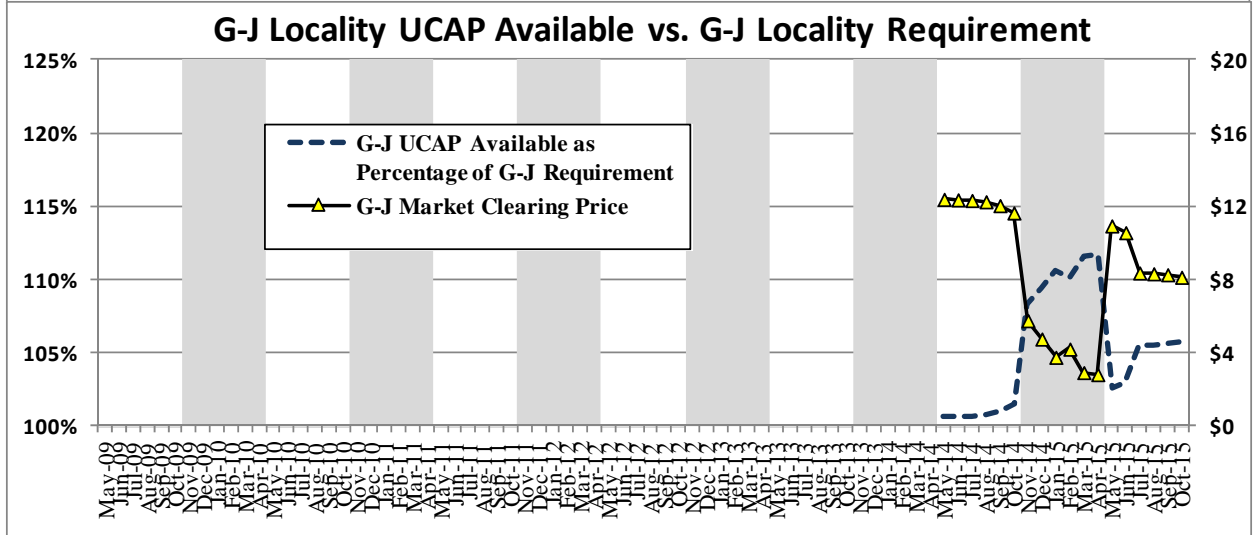
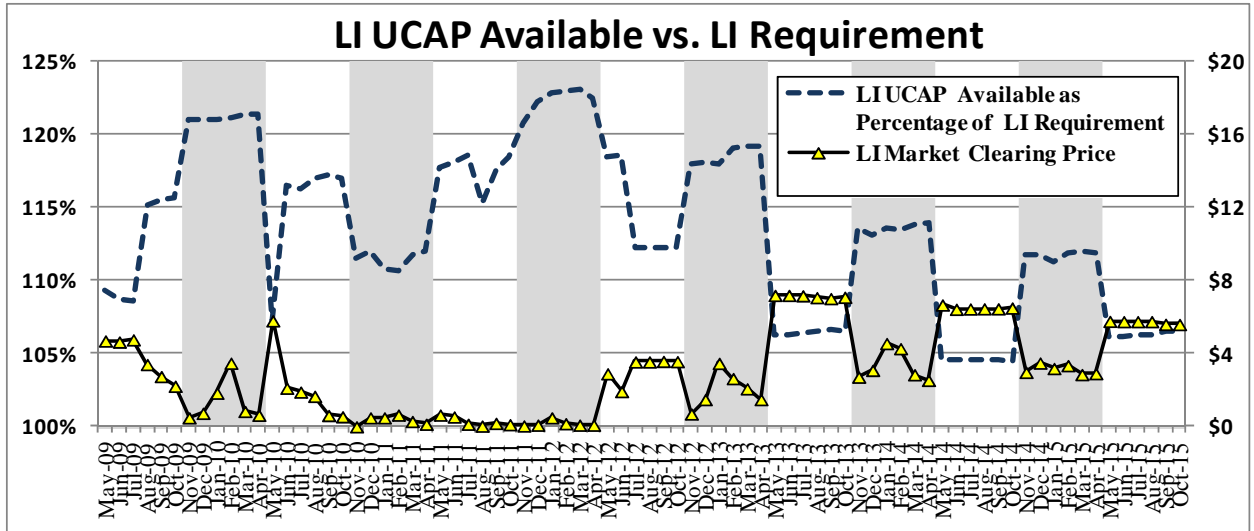
Reliability Needs identified in the 2014 RNA due to the more than 1,900 MW of returning generation resources and updates to Locational Transmission Plans (“LTPs”) that were not included in the RNA base case.⁶ The 2014 Comprehensive Reliability Plan⁷ (“CRP”), produced by the NYISO, determined that the New York bulk power system will meet all applicable reliability criteria over the 2015 through 2024 study period, and confirms that the initially identified Reliability Needs in the 2014 RNA are resolved.

⁶ See letter from Henry Chao, Vice President, NYISO System Resource and Planning (Nov. 14, 2014) available at: <
http://www.nyiso.com/public/webdocs/markets_operations/services/planning/Planning_Studies/Reliability_Planning_Studies/Reliability_Notices/NYISO%20Letter%20Withdrawing%20Solicitation%20of%20Solutions%20November%2014%202014.pdf>.

⁷ See New York Independent System Operator “2014 Comprehensive Reliability Plan” Issued on July 21, 2015, available at: <
http://www.nyiso.com/public/webdocs/markets_operations/services/planning/Planning_Studies/Reliability_Planning_Studies/Reliability_Assessment_Documents/2014CRP_Final_20150721.pdf>.

Chart 1: UCAP Available Reserve and Spot Market Clearing Prices





I.3. Market Design and Regulatory Developments

Over the past year there have been several ICAP market design initiatives and regulatory developments pertaining to the NYISO's Installed Capacity market. The most significant developments include buyer-side mitigation market power rules ("BSM Rules")⁸ revisions to add a "competitive entry exemption" and rules regarding the testing of "Additional CRIS"; the "Outage States" tariff enhancements; the filing of a "Reliability Must Run" tariff proposal; and the development of a "Behind-the-Meter Net Generation" proposal.

I.3.1. Competitive Entry Exemption

In December 2014, Consolidated Edison Company of New York, *et al*, filed a complaint arguing that the BSM Rules were unjust and unreasonable absent an exemption for new entrants that were not subsidized by a load-size interest, among other attributes, *i.e.*, "competitive entry exemption" under the BSM Rules. The proposed rules filed with the complaint were substantially the same as those the NYISO developed in the stakeholder process but for which it did not achieve the requisite supermajority vote for a filing pursuant to Section 205 of the Federal Power Act. In February 2015 the Commission issued an order granting the complaint in large part,⁹ and the NYISO subsequently filed tariff revisions. In August 2015, the Commission accepted the NYISO's compliance tariff revisions.¹⁰

I.3.2. Additional Capacity Resource Interconnection Service

In March 2015, the NYISO submitted to the Commission pursuant to Section 205 of the Federal Power Act proposed revisions to the BSM Rules to govern the BSM Rule examination and exemptions of requests for increases in Capacity Resource Interconnection Service ("CRIS") for existing generators and UDR facilities. These rules were developed in the NYISO's stakeholder process. In May 2015, the Commission accepted the proposed tariff revisions effective as of May 12, 2016.¹¹

I.3.3. Outage States Compliance Filing

The Commission accepted revisions to the Services Tariff and OATT that clarify the market rules surrounding generator outage states, and further specify when generators in a Forced Outage cease being eligible to participate in the ICAP market, and when they are in an outage are required to respond to reliability needs.¹² These revisions also establish a new formula by which the Equivalent Forced Outage Rate on Demand is calculated under certain circumstances for units returning to service from an outage.

⁸ The BSM Rules are contained in Section 23.4.5.7 *et. seq.* of the Services Tariff.

⁹ *Consolidated Edison Company of New York, Inc., v. New York Indepen. Sys. Operator, Inc.*, 150 FERC ¶ 61,139 (2015).

¹⁰ *Consolidated Edison Company of New York, Inc., v. New York Indepen. Sys. Operator, Inc.*, 152 FERC ¶ 61,110 (2015); *Consolidated Edison Company of New York, Inc., v. New York Indepen. Sys. Operator, Inc.*; Letter Order, Docket No. ER15-1498-001 (November 18, 2015).

¹¹ *New York Indepen. Sys. Operator, Inc.*, Letter Order, Docket No. ER15-1281-000 (May 6, 2015).

¹² *New York Indepen. Sys. Operator, Inc.*, 151 FERC ¶ 61,075 (2015); *New York Indep. Sys. Operator, Inc.*, Letter Order, Docket No. ER14-2518-03 (October 15, 2015).

I.3.4. Credit Management System (CMS) Enhancements

The Credit Management System (CMS) is an automated system that tracks the credit position of each Financially Responsible Party (FRP) on a daily basis. At the request of Market Participants, the NYISO proposed and the Commission accepted tariff revisions to better align Market Participant's credit requirements for capacity requirements with their respective market positions.¹³ The NYISO revised its software in October 2015 to effectuate the change in the requirements and the information displayed.

I.3.5. Review of Potential Need for Mitigation of New Entry in Rest of State and Repowering Pursuant to Agreements with Certain Characteristics

In compliance with a Commission Order,¹⁴ on June 17, 2015, the NYISO filed a report with analysis, describing that it did not see a compelling need for buyer-side market power mitigation of new entry in Rest of State at present. The NYISO also described its analysis conducted regarding uneconomic retention and repowering pursuant to agreements similar in nature to the "Dunkirk" agreement. As to this issue, the NYISO reported that although there may be concerns, the NYISO would address issues regarding units needed for reliability in the October 19, 2015 "Reliability Must Run" compliance filing, and regarding units not needed for reliability, after completion of its analysis and the submission of a further report on January 19, 2016. The NYISO's Reliability Must Run filing described how it addressed the potential issue of uneconomic retention of units needed for reliability. On November 16, 2015, the Commission requested additional information, and directed the NYISO to complete its analysis and file its further report on December 16, 2015.¹⁵ Since the November 16 Commission request, and as of the date of this report, the NYISO has made a series of presentations on three separate dates, describing further analysis and discussing issues with stakeholders. On December 16, 2015, the NYISO filed its further report with accompanying analyses.

I.3.6. Reliability Must Run (RMR) Filing

On October 19, 2015, the NYISO filed tariff language for the implementation of rules to govern units needed to address a reliability need.¹⁶ This filing was made in response to a Commission Order issued February 19, 2015.¹⁷ On November 30, 2015, parties filed protests and comments. The NYISO requested that the proposed tariff revisions be made effective on October 19, 2015. This matter is presently pending before the Commission.

¹³ *New York Indepen. Sys. Operator, Inc.*, Letter Order, Docket No. ER15-2349-000 (September 17, 2015).

¹⁴ *Indepen. Power Producers of New York, Inc. v. New York Indepen. Syst. Operator Inc.*, 150 FERC ¶ 61,139 (2015).

¹⁵ *Indepen. Power Producers of New York, Inc. v. New York Indepen. Sys. Operator Inc.*, Docket No. EL13-62-001-002, Letter from Kurt M. Longo, Dir., FERC Div. of Electric Power Regulation-East to NYISO (November 16, 2015)(requesting additional information in connection with the Compliance Report submitted on June 17, 2015).

¹⁶ *New York Indepen. Sys. Operator, Inc.*, Compliance Filing to Establish Reliability Must Run Tariff Provisions, Docket No. EL15-37-002 (October 19, 2015).

¹⁷ *New York Indepen. Sys. Operator, Inc.*, Order Instituting Section 206 Proceeding and Directing Filing to Establish Reliability Must Run Tariff Provisions, Docket No. EL15-37-000 (February 19, 2015).

I.3.7. Behind-the-Meter Net Generation

The NYISO developed through its stakeholder process proposed tariff revisions to allow certain “behind the meter generators to participate in the capacity market, referred to as “Behind-the-Meter Net Generation.” Under this proposal, a generator that is serving host load will be allowed to provide its net energy and capacity to the NYISO markets. On December 17, 2015 the Management Committee approved, and recommended to the NYISO’s Board of Directors that it direct the NYISO staff to file pursuant to Section 2015 of the Federal Power Act, the proposed tariff provisions to implement this proposal.

I.3.8. Renewable & Self Supply Exemption

In May of 2015, the New York Power Authority, the New York State Public Service Commission, and the New York State Energy Research and Development Authority jointly filed a complaint pursuant to Federal Power Act Section 206 arguing that the BSM Rules in the Services Tariff were unjust and unreasonable without certain exemptions. The NYISO indicated that it could support an exemption with certain parameters. October 9, 2015, the Commission issued an order stating that in some cases the rules were unnecessarily applied to certain renewable and self-supply resources,¹⁸ and directed the NYISO to file revisions to provide an exemption for them. It rejected the balance of petitioners’ complaint. The NYISO’s filing on compliance is due February 22, 2015.¹⁹ As of the date of this filing, the NYISO has presented to and discussed with stakeholders the potential rules.

I.3.9. Additional Items of Note

In the fall of 2015, the NYISO selected the independent consultant to review the ICAP Demand Curves for the Capability Period beginning May 2017. The review process has commenced. Along with this process, the consultant will analyze potential adjustments to the periodicity of the Demand Curve reset.

¹⁸ See *New York Pub. Serv. Comm’n et al. v. New York Indepen. Sys. Operator, Inc.*, 153 FERC ¶ 61,022 (2015).

¹⁹ *New York Pub. Serv. Comm’n et al. v. New York Indepen. Sys. Operator, Inc.*, Notice of Extension of Time, Docket No. EL15-64 (December 16, 2015).

I.4. Recent Installed Capacity Auction Results

Capacity committed through self-supply, bilateral transactions, and the NYISO-administered auctions (referred to herein as “committed” capacity) remains above the NYCA Minimum Installed Capacity Requirement and above each Locality’s LCRs. In general, the amount of capacity available from many generators in the NYCA increases in the Winter Capability Period because of higher possible output at lower ambient temperatures. Capacity imports from External Control Areas fluctuate both seasonally and monthly. The NYCA Demand Curve price can decline to zero when supply exceeds the NYCA Minimum Installed Capacity Requirement by 17 percent or more. Accordingly, the NYCA Market-Clearing Prices have been consistently at or above a quarter of the NYCA ICAP Demand Curve reference price, particularly in the Winter Capability Period when prices were consistently about \$2.00/kW-month on average.

The amount of Capacity committed to the NYCA, including imports, continues to be high relative to the minimum requirements. The monthly average import levels into the entire NYCA were about 2,000 MW in the Winter 2014-2015 Capability Period and 2,243 MW in the Summer 2015 Capability Period. Those values represent approximately 250 MW increase in monthly average over the amount imported in the previous Winter Capability Period and a 200 MW monthly average decrease relative to the 2014 Summer Capability Period.

ICAP Market-Clearing Prices and auction activity levels from November 1999 through October 2015 for the NYCA, G-J Locality, NYC, and LI are summarized in tabular form in Attachment VII. Market-Clearing Prices are depicted graphically in Chart 2, Chart 4, Chart 6 and Chart 8; and the amount of capacity committed, MW that were offered, and unsold MW are depicted in Chart 3, Chart 5, Chart 7, and Chart 9.

Chart 2: NYCA Market Clearing Prices

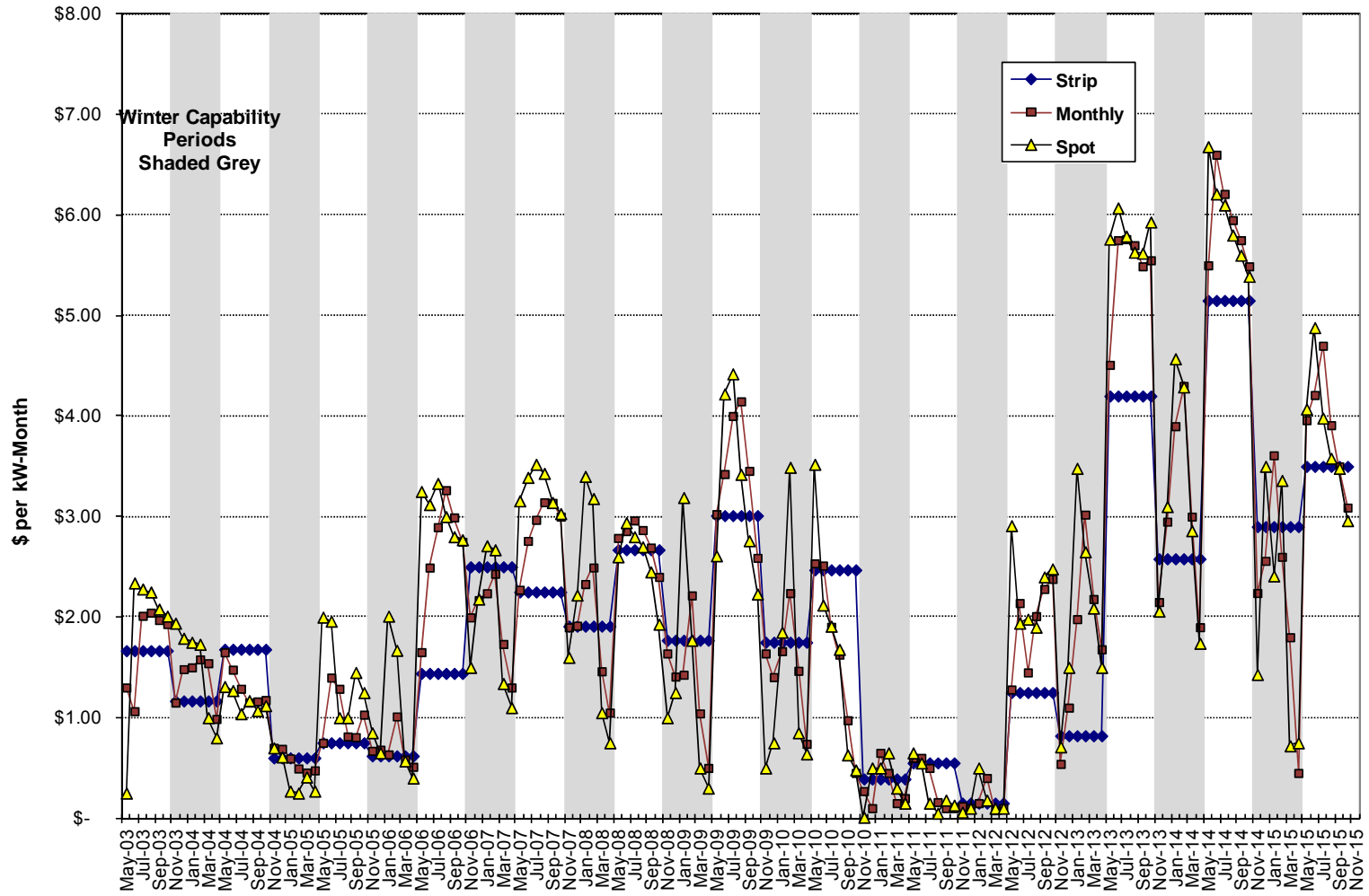


Chart 3: NYCA Offered MW

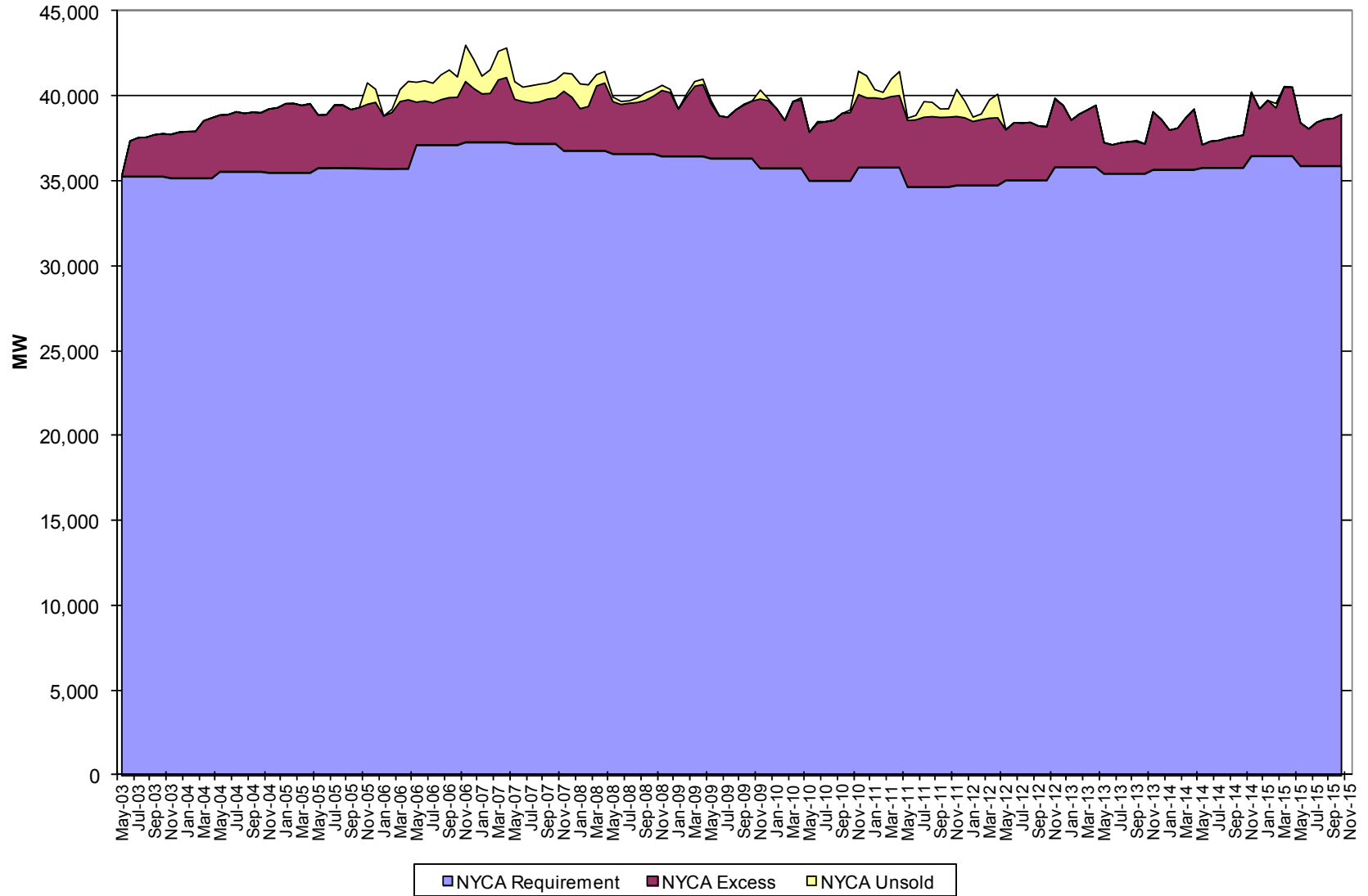


Chart 4: NYC Market Clearing Prices

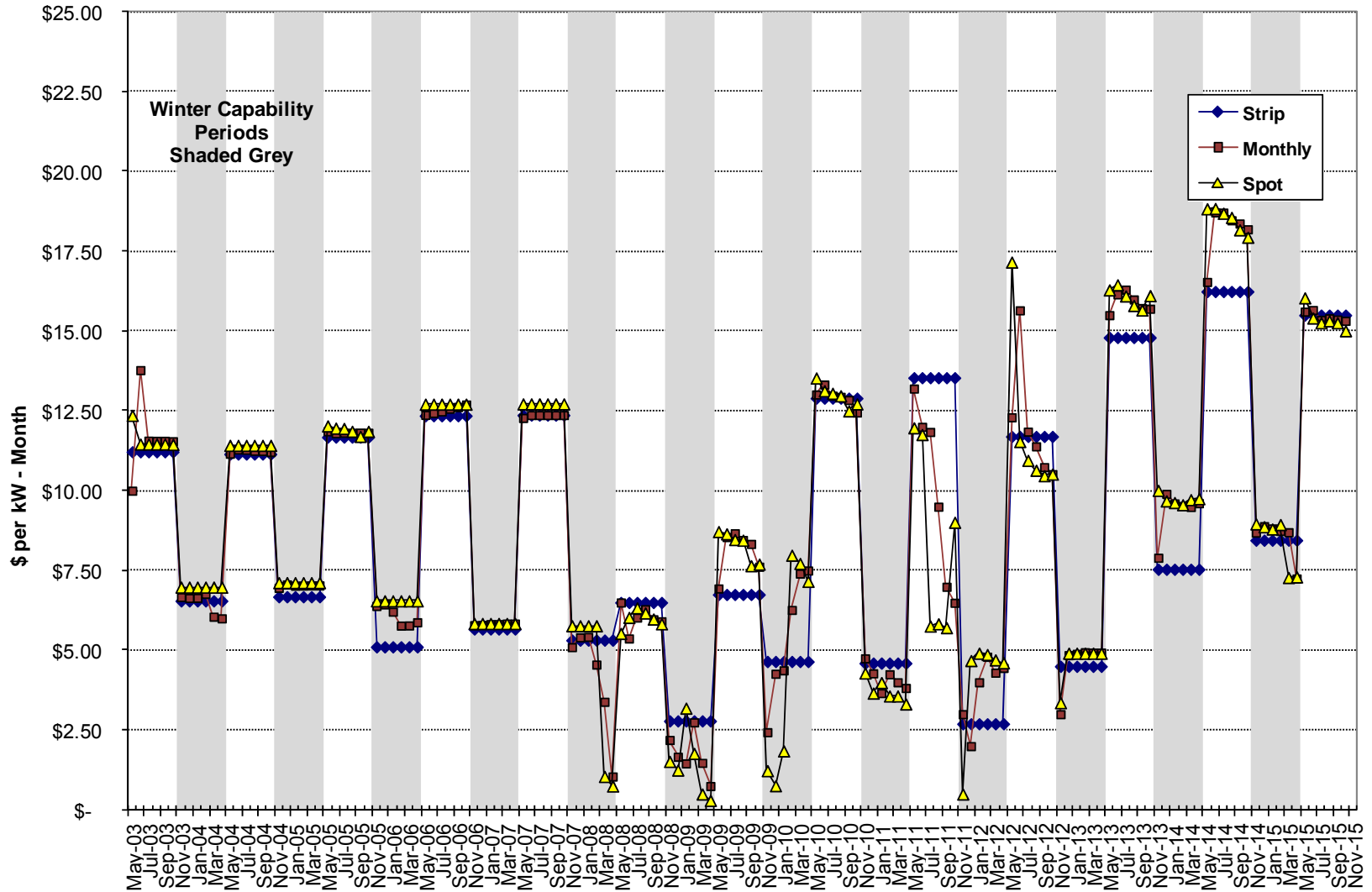


Chart 5: NYC Offered MW

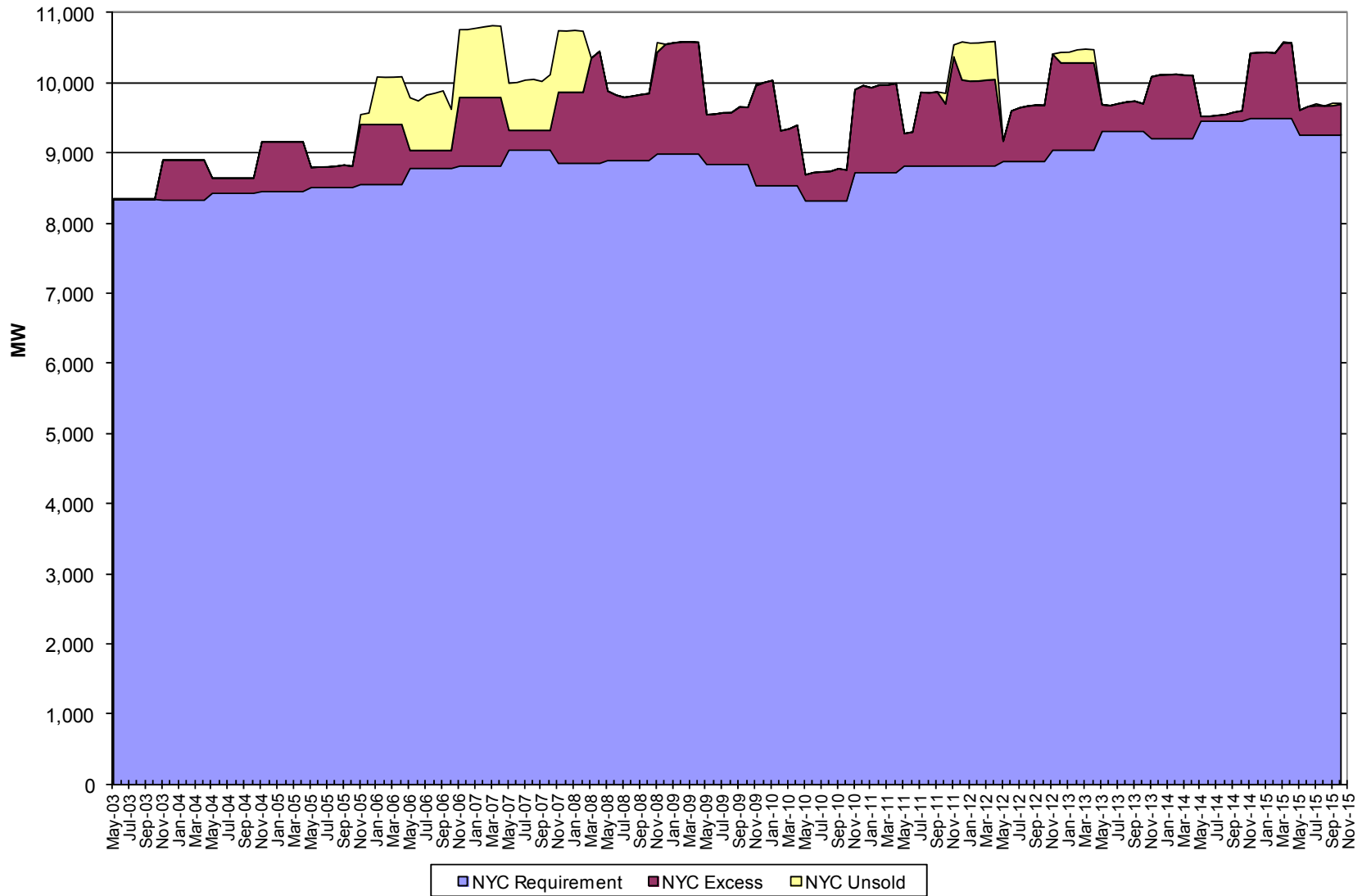


Chart 6: G-J Locality Market Clearing Prices

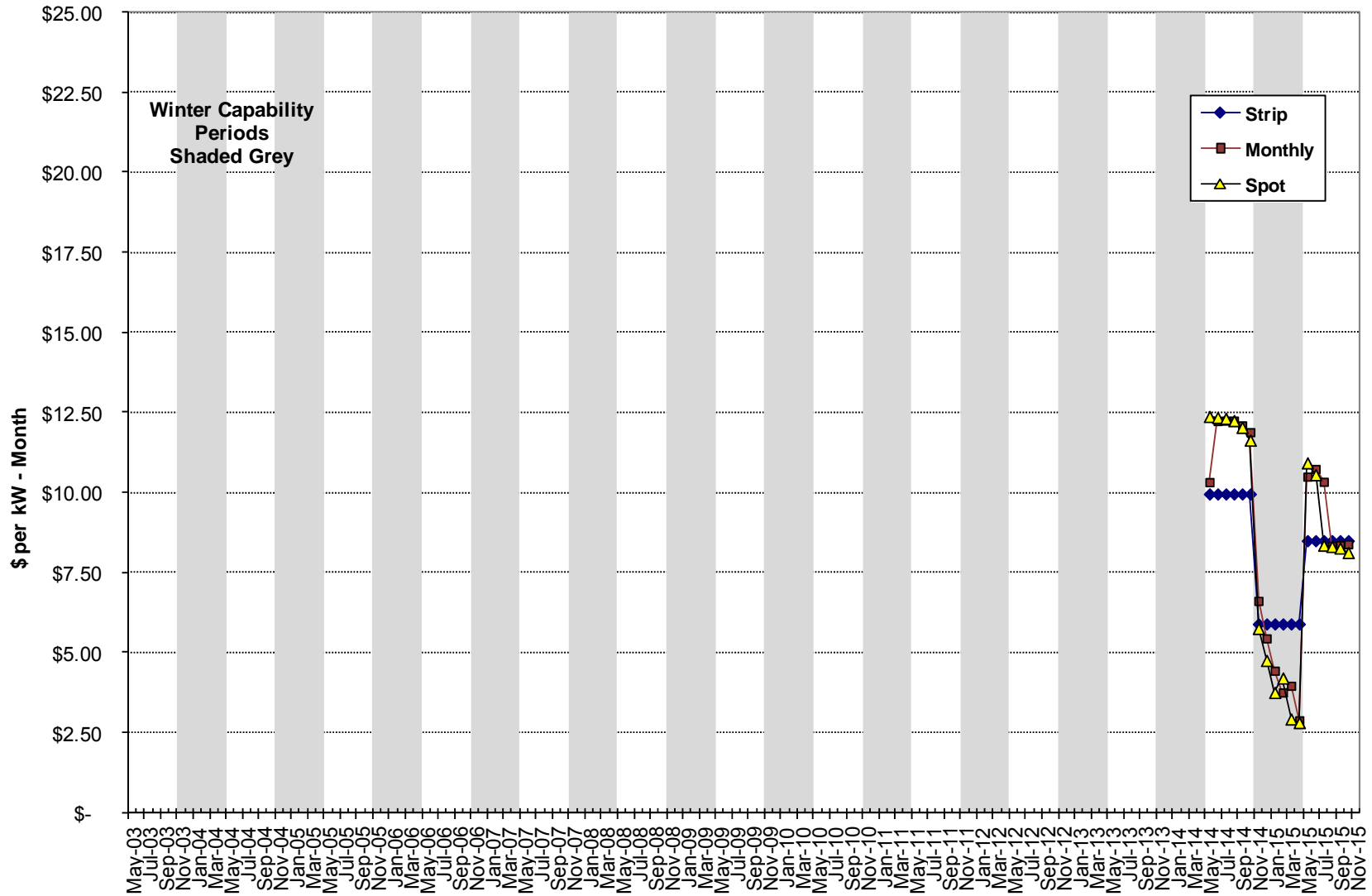


Chart 7: G-J Locality Offered MW

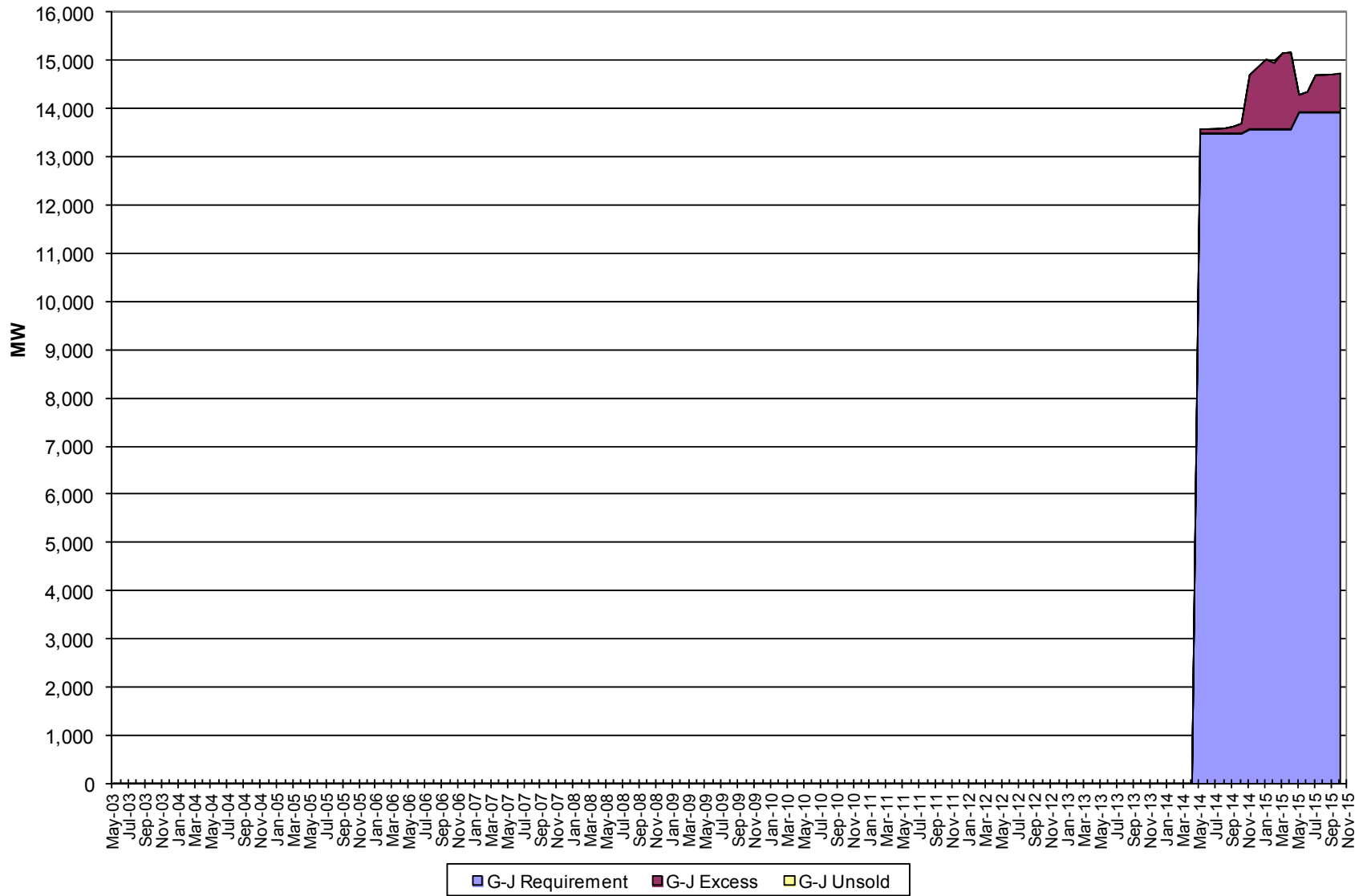


Chart 8: Long Island Market Clearing Prices

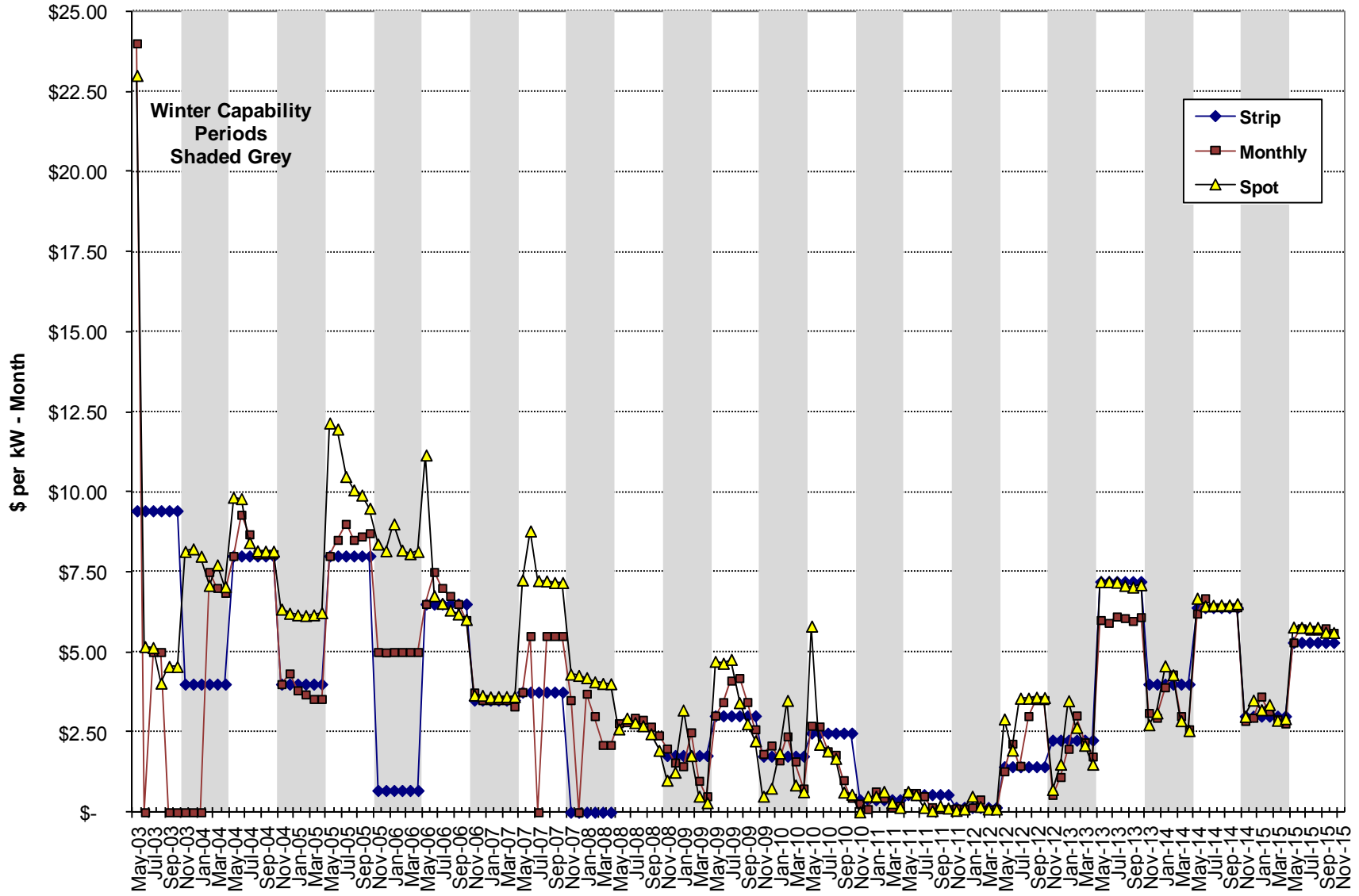
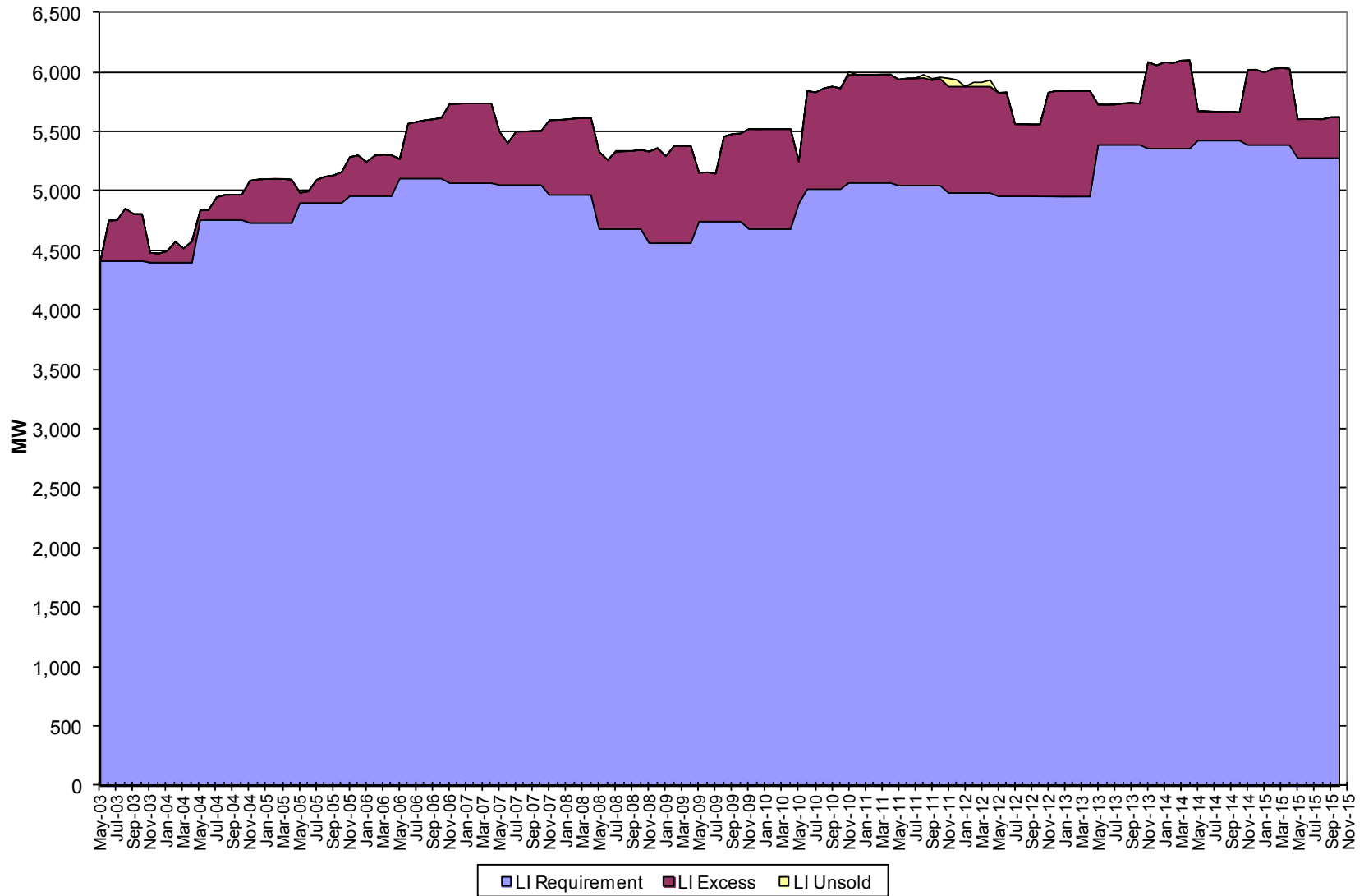


Chart 9: Long Island Offered MW



Error! Reference source not found. summarizes amount of generating capacity throughout the NYCA either mothballed or retired during the Winter 2009/2010 through - the Summer 2015 Capability Period. Over the last eleven Capability Periods, there were 41 generators that were retired, laid-up, or mothballed, totaling about 3,943 MW, with ten of them – totaling about 860MW – returned to service. Particularly, for the period of November 2014 through October 2015, three units returned to service (totaling 550 MW).

Due to increased emission restrictions in environmental regulations, the age of generators in the NYCA fleet, and the low price of natural gas compared to other fossil fuels, this trend of older, less efficient generators ceasing operation is anticipated to continue.

Table 1: List of Mothballed and Retired Units²⁰

Organization Name	Unit Name	Zone	MW ²¹	Status ²²	Period
AES Eastern Energy LP	AES Greenidge Unit 3	C	52.8	R	Winter 2009 - 2010
AES Eastern Energy LP	AES Westover Unit 7	C	43.5	R	Winter 2009 - 2010
New York Power Authority	NYPA Poletti	J	891.0	R	Winter 2009 - 2010
Energy Systems North East LLC	Energy Systems North East	A	82.0	R	Winter 2010 - 2011
Project Orange Associates	Project Orange_1	C	43.6	R	Winter 2010 - 2011
Project Orange Associates	Project Orange_2	C	44.0	R	Winter 2010 - 2011
Long Island Power Authority	Barrett 07	K	17.3	R	Summer 2011
TC Ravenswood	TC Ravenswood GT 3-4	J	35.8	M	Summer 2011
Rochester Gas & Electric Corp.	Beebee GT	B	15.0	R	Winter 2011 - 2012
Binghamton BOP, LLC	Binghamton Cogen Plant	C	43.8	R	Winter 2011 - 2012
Long Island Power Authority	Far Rockaway_4	K	110.6	R	Summer 2012
Long Island Power Authority	Glenwood_4	K	118.7	R	Summer 2012
Long Island Power Authority	Glenwood_5	K	122.0	R	Summer 2012
New York Power Authority	Kensico Hydro Project	I	1.8	R	Summer 2012
Astoria Generating Company, LP	Astoria Station Unit 20	J	177.0	M	Summer 2012
Astoria Generating Company, LP	Astoria Station Unit 40	J	375.6	M	Summer 2012
AES Eastern Energy LP	AES Greenidge Unit 4	C	106.1	R	Summer 2012
NRG Power Marketing LLC	Astoria GT 10	J	24.9	M	Summer 2012
NRG Power Marketing LLC	Astoria GT 11	J	23.6	M	Summer 2012
Dynegy Danskammer, LLC ²³	Danskammer 1	G	67.0	R	Summer 2012
Dynegy Danskammer, LLC	Danskammer 2	G	62.7	R	Summer 2012
Dynegy Danskammer, LLC	Danskammer 3	G	137.2	R	Summer 2012
Dynegy Danskammer, LLC	Danskammer 4	G	236.5	R	Summer 2012
Dynegy Danskammer, LLC	Danskammer Diesel (5&6)	G	5.0	R	Summer 2012
NRG Energy, Inc. (Dunkirk Power LLC)	Dunkirk 3	A	201.4	M	Summer 2012
NRG Energy, Inc. (Dunkirk Power LLC)	Dunkirk 4	A	199.1	M	Summer 2012
AES Eastern Energy LP	Westover Unit 8	C	83.8	R	Summer 2012
Cayuga Operating Company, LLC	Cayuga 1	C	154.1	M	Winter 2012 - 2013
Cayuga Operating Company, LLC	Cayuga 2	C	154.7	M	Winter 2012 - 2013
Rochester Gas & Electric	Rochester Station 9 Unit 2 CT	B	15.8	R	Winter 2012 - 2013
NRG Energy, Inc. (Dunkirk Power LLC)	Dunkirk 1 (23563)	A	96.2	M	Summer 2013
NRG Power Marketing LLC	Astoria GT 10	J	(24.9)	RTS	Summer 2013
NRG Power Marketing LLC	Astoria GT 11	J	(23.6)	RTS	Summer 2013
Freeport Electric Municipality	Freeport Electric ²⁴	K	1.5	R	Summer 2013
National Grid Generation LLC	Montauk 2	K	2.0	R	Summer 2013
National Grid Generation LLC	Montauk 3	K	2.0	R	Summer 2013
National Grid Generation LLC	Montauk 4 (23721)	K	2.0	R	Summer 2013
Niagara Generation, LLC	Niagara Generation Biomass Facility	A	50.5	M	Summer 2013
ReEnergy Chateaugay LLC	ReEnergy Biomass-to-Energy	D	18.6	M	Summer 2013
Syracuse Energy Corporation	Syracuse Energy ST1	C	11.0	R	Summer 2013
Syracuse Energy Corporation	Syracuse Energy ST2	C	58.9	R	Summer 2013
Niagara Generation, LLC	Niagara Generation Biomass Facility	A	(50.5)	RTS	Winter 2013 - 2014
TC Ravenswood, LLC	TC Ravenswood GT-7	J	16.5	M	Winter 2013 - 2014
Danskammer Energy, LLC	Danskammer 1	G	(67.0)	RTS	Summer 2014
Danskammer Energy, LLC	Danskammer 2	G	(62.7)	RTS	Summer 2014
TC Ravenswood, LLC	TC Ravenswood GT 3-3	J	37.7	M	Summer 2014

²⁰ The tariff revisions accepted in the Outage States filing described in Section I.3 above establish new defined terms including Force Outage, Mothball, Retire, and ICAP Ineligible Forced Outage. Those terms apply to outages on and after May 1, 2015. Therefore, the status shown in this table does not necessarily correspond to these newly defined terms.

²¹ The capacity values listed are the CRIS MW values stated in the NYISO's Load and Capacity Data Report (referred to as the "Gold Book").

²² "R" indicates "retired", "M" indicates "mothballed", and "RTS" indicates "Retuned to Service after being mothballed or retired"

²³ The Notice of Intent to Retire Danskammer Units was posted in March 2013; while these units have been out of service since October 2012.

²⁴ 1.5 MW of Summer Capacity per the 2013 Gold book Table III-2

Organization Name	Unit Name	Zone	MW ²¹	Status ²²	Period
TC Ravenswood, LLC	TC Ravenswood GT 3-4	J	(38.6)	RTS	Summer 2014
Danskammer Energy, LLC	Danskammer 3	G	(137.20)	RTS	Winter 2014-2015
Danskammer Energy, LLC	Danskammer 4	G	(236.50)	RTS	Winter 2014-2015
Astoria Generating Company, LP	Astoria Station Unit 20	J	(177.00)	RTS	Winter 2014-2015
Binghamton BOP, LLC	Binghamton Cogen Plant	C	(43.8)	RTS	Winter 2014-2015

I.5. Capacity Withholding Analysis

I.5.1. All Capacity Areas in the NYCA

This section of the report addresses potential withholding issues in the NYISO-administered capacity auctions for all four capacity areas during the period of November 2014 to October 2015: ROS, NYC, the G-J Locality, and LI. For the purposes of this report, in order to identify whether any potential withholding occurred, the NYISO analyzed the differences between available capacity²⁵ and the supply committed through self-supply, bilateral transactions, and the NYISO-administered auctions. In particular, the NYISO examined:

- The NYCA capacity that was available to be offered into the ICAP Spot Market Auctions, but was not offered (“unoffered capacity”),
- Available NYCA capacity that was offered into the ICAP Spot Market Auctions but was not sold (“unsold capacity”),
- Unoffered capacity as a percentage of available capacity, and
- Unsold capacity as a percentage of offered capacity.

When capacity is available but not offered, it is an indication that physical withholding may have occurred. Similarly, if available capacity is offered at a price that causes it to not clear, it is an indication of possible economic withholding. The amounts of unoffered and unsold capacity are determined from the ICAP Spot Market Auction results because this auction is the last opportunity for an Installed Capacity Supplier to sell its capacity. The existence of unoffered and unsold capacity, however, does not necessarily imply the intent to manipulate market prices.

As reflected in the NYISO’s previous reports on the Installed Capacity Demand Curves, patterns of unsold capacity have varied across the three Localities and the NYCA. For the entire NYCA, there generally has been more unsold capacity in Winter months than Summer months, due in part to lower prices in the Winter months. The seasonal monthly average of unsold MW for the Winter 2014-2015 Capability Period for the entire NYCA was 24 MW compared to 2 MW in the Winter 2013-2014 Capability Period. The seasonal monthly average amount of unsold MW for the Summer 2015 Capability Period for the entire NYCA was about 3 MW, while it was near zero in the Summer 2014 Capability Period.

In Long Island, historical levels of unsold capacity have averaged near zero. There was 1 MW in the Winter 2014-2015 Capability Period, compared to 2.5 MW in the Winter 2013-2014 Capability Period; and only 2.9 MW in the Summer 2014 Capability Period compared to 3 MW in the Summer 2014 Capability Period.

In NYC, the seasonal monthly average amount of unsold MW for the Winter 2012-2013 Capability Period was 144 MW, for Winter 2013-2014 was zero MW, and Winter 2014-2015 Capability Period was 12.4 MW total. For the Summer 2012, 2013, and 2014 Capability Periods that number is zero MW, and almost 12 MW in the Summer 2015.

²⁵ Available capacity is defined as the lesser of the NYISO-accepted DMNC and the Capacity Resource Interconnection Service (“CRIS”) MW value, with the Equivalent Demand Forced Outage Rates (“EFORd”) reduction applied.

In the G-J Locality there was no unsold MW in Summer 2014 and Summer 2015 Capability Periods; the seasonal monthly average amount of unsold MW for the Winter 2014-2015 Capability Period was 8 MW.

There are three types of capacity auctions in each Capability Period: a Capability Period Auction (also referred to as the “strip auction”), six Monthly Auctions, and six ICAP Spot Market Auctions. Available capacity may be offered into any or all of the auctions. There are three distinct minimum ICAP requirements: one each for the NYC, G-J, and LI Localities, as well as one for the NYCA as a whole. LSEs with Load in NYC, G-J, or LI Localities are required to procure minimum levels of capacity that is electrically located within the respective Locality – the “LCRs”. Such capacity is also credited toward each NYC and Long Island LSE’s overall NYCA obligation. The NYISO establishes the NYCA Minimum Installed Capacity Requirement and the LCRs annually.

The Services Tariff does not require Installed Capacity Suppliers to offer UCAP into the ICAP markets except for certain suppliers in Mitigated Capacity Zones (*i.e.*, NYC and the G-J Locality). Until the implementation of the ICAP market power mitigation measures set forth in Attachment H of the Services Tariff, which were effectuated in May 2008, the majority of capacity in NYC – that of the “Divested Generation Owners” – had been subject to Commission-approved ICAP mitigation measures that imposed bid caps and required the units’ capacity to be offered into the ICAP auctions. The Commission’s March 7, 2008 Order²⁶ removed the requirements unique to the Divested Generation Owners and approved mitigation measures applicable to all In-City capacity. The March 7, 2008 Order effectuated new In-City mitigation measures, based on Pivotal Supplier determinations combined with offering conduct and price impact thresholds, to determine whether market power had been exercised. ICAP market power mitigation measures became effective for the G-J Locality concurrent with its implementation. These measures for NYC and G-J Locality are set forth in Section 23 (Attachment H) of the Services Tariff (as revised over time, “Supply-side Mitigation Measures”).

In developing the information for this report, the NYISO examined auction outcomes of the Capability Periods from Summer 2007, which began May 1, 2007, through Summer 2015, which ended October 31, 2015. Since the capacity product transacted in the NYISO-administered ICAP auctions is UCAP, the following information was examined:

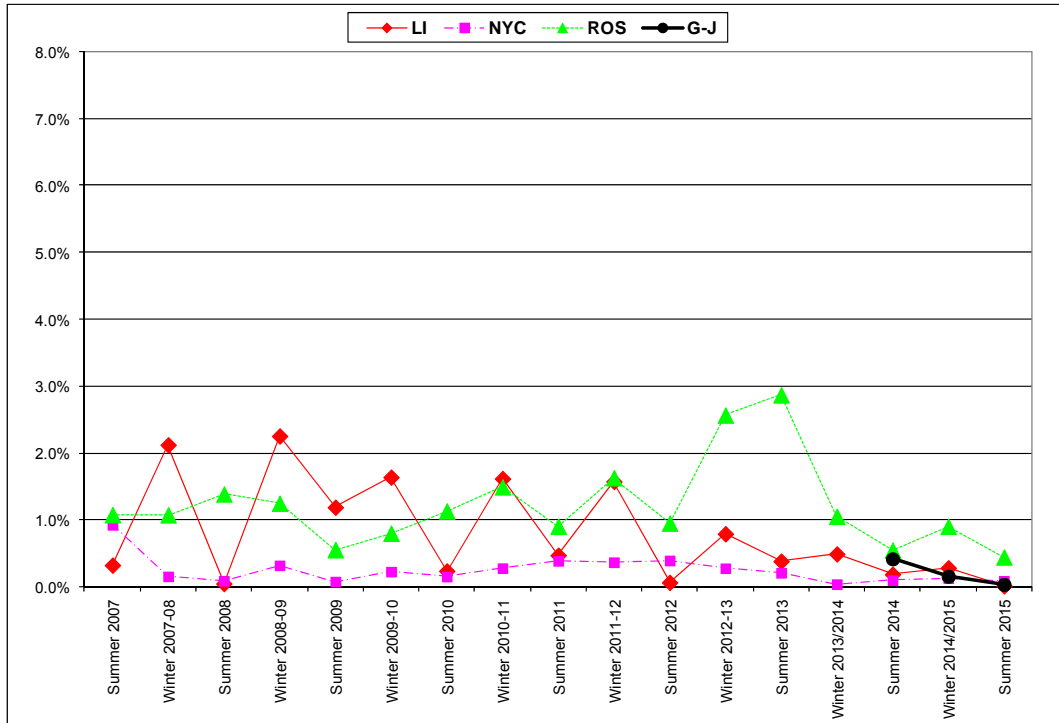
- Certification data, reflecting the certified MW of UCAP from all the Resources physically located within New York available to supply capacity to the NYCA. The analysis did not include resources physically located outside of the NYCA.
- Certification data, reflecting the certified MW of UCAP from all the Resources within the G-J Locality (Load Zones G, H, I, and J) available to supply capacity to the NYCA. The analysis did not include resources physically located outside of the NYCA.
- The amount of UCAP supplied, which includes UCAP sold in any of the NYISO ICAP auctions, UCAP certified as self-supplied against an LSE’s Unforced Capacity obligation, and UCAP committed through bilateral transactions.

²⁶ See *New York Independent System Operator, Inc.*, Docket No. EL07-39-000, Order Conditionally Approving Proposal, 122 FERC ¶ 61,211 (2008).

I.5.2. Unoffered and Unsold Capacity

Chart 10 presents seasonal averages of unoffered capacity as a percentage of available Capacity for each of the three capacity areas.

Chart 10: Average Percent of Unoffered MW



The LI Locality has fairly consistent seasonal fluctuations in the amounts of unoffered capacity, which can be seen in Chart 10. The LI Locality is characterized by procurement chiefly through bilateral transactions and self-supply. While the amount of unoffered capacity in the LI Locality fluctuates between 0.01% and 2.3%, much of the unoffered capacity is not actually available due, in some instances, to site permit restrictions.

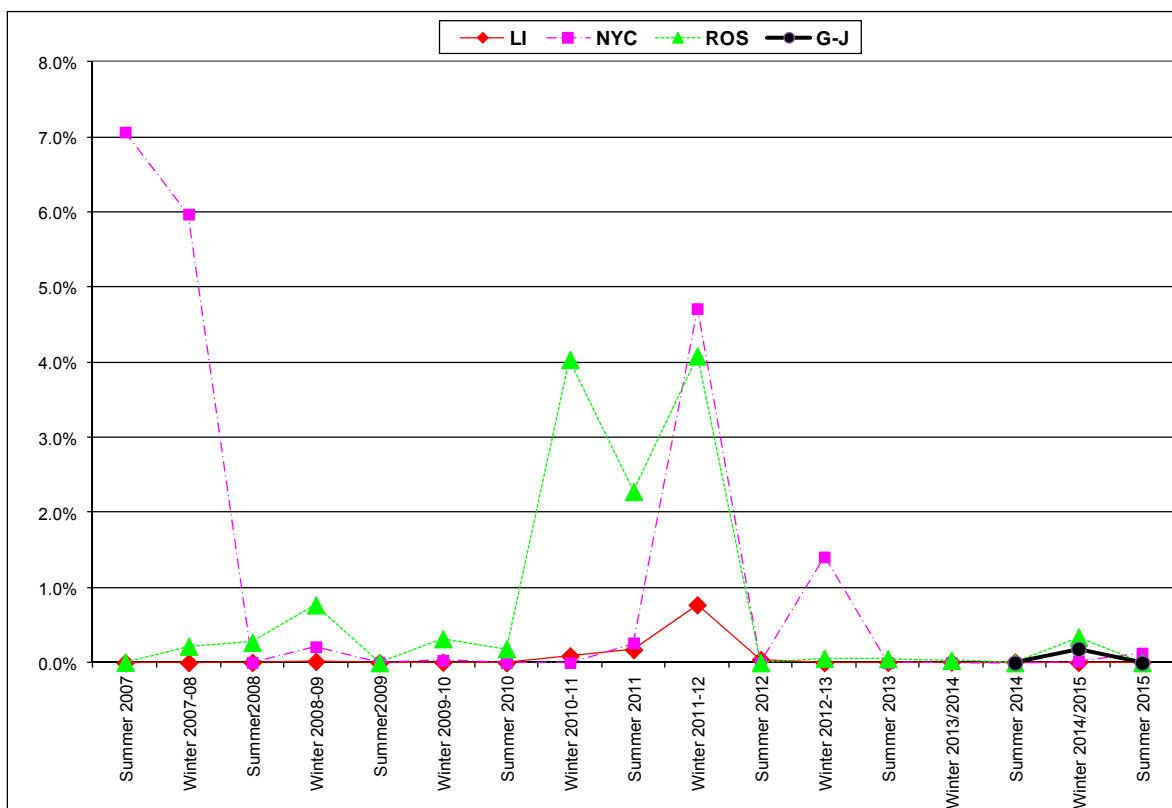
In the NYC Locality, prior to the Summer 2008 Capability Period, the low level of unoffered capacity was principally due to the offer requirement applicable to the Divested Generation Owners. Beginning with the Summer 2008 Capability Period, the near absence of unoffered capacity can be attributed to the Supply-side Mitigation Measures effectuated in 2008.

In the G-J Locality, the new capacity zone became effective beginning in May 2014. Initially, the level of unoffered capacity was at the magnitude of that in ROS initially, but fell to near zero. In ROS the unoffered MW for the Winter 2014-2015 and Summer 2015 Capability Periods was consistently below 1%.²⁷

²⁷ As noted in n. 1, the definition of Rest of State prior to the Summer 2014 Capability Period was Load Zones A through I, and beginning with the Summer 2014 Capability Period is Load Zones A through F.

Chart 11 displays unsold capacity as a percent of available UCAP in each of the four capacity areas, which has been at or near zero for the past four Capability Periods.²⁸

Chart 11: Average Percent of Unsold MW



For all Capability Periods beginning with the Summer 2007 Capability Period, nearly all Long Island offered capacity was sold. In NYC, the average amount of unsold capacity as a percentage of available capacity trended at near zero levels from the start of the Summer 2008 Capability Period, except for the Winter 2011-2012, and Winter 2012-2013 Capability Periods when some offered capacity did not clear because it was offered at a price greater than the UCAP Offer Reference Level. The UCAP Offer Reference Level is the price at which the ICAP Spot Market Auction would clear if all available capacity was offered and sold. For the Winter 2014-2015 and Summer 2015 Capability Periods, nearly all of the capacity offered in NYCA auctions was sold. The G-J Locality had zero unsold MW in the Summer 2015 Capability Period, and the average amount of unsold capacity as a percentage of available capacity was slightly above zero in Winter 2014-2015.

The increased NYCA Minimum Installed Capacity Requirement and LCRs contributed to lower amounts of unsold MW, year-over-year. Table 2 summarizes these values for NYCA and the three Localities over the past eight years.

²⁸ Section I.5.4.3 of this report provides information and analysis of the unsold capacity in ROS.

Table 2: Minimum Installed Capacity Requirements (%)²⁹

Capability Year	NYC	G-J	LI	NYCA
2007/2008	80.0	-	99.0	116.5
2008/2009	80.0	-	94.0	115.0
2009/2010	80.0	-	97.5	116.5
2010/2011 (May)	80.0	-	102.0	118.0
2010/2011 (June-April)	80.0	-	104.5	118.0
2011/2012	81.0	-	101.5	115.5
2012/2013	83.0		99.0	116.0
2013/2014	86.0	-	105.0	117.0
2014/2015	85.0	88.0	107.0	117.0

Table 3 displays the breakdown of unsold and unoffered capacity for each Locality and ROS. As part of the NYISO's August 24, 2010 ICAP compliance filing,³⁰ the NYISO stated that it would include unoffered and unsold capacity in the NYC Locality in its annual Installed Capacity Demand Curves reports. The unoffered and unsold capacity values for NYC, G-J Locality, LI, and ROS are included to give a full representation of the data that underlies this report.

The amount of unsold MW in NYC, and LI were very low and there were no unsold MW in ROS in the Summer 2015. See Section I.5.4.3 for analysis of unsold MW in ROS. Beginning with the Winter 2014-2015 Capability Period, the amount of unoffered MW stayed very low in NYC, LI, and G-J Locality. Section I.5.4.2 for provides explanations on unoffered MW in ROS.

Table 3: Unoffered and Unsold MW

Month	Unoffered				Unsold			
	NYC	GHI	LI	ROS	NYC	GHI	LI	ROS
Nov-14	8.9	5.2	9.2	154.5	0	0	0	49.3
Dec-14	5.7	3.4	9.1	195	0	0	0	0
Jan-15	4.6	5.2	32.5	190.3	0	0	0	0
Feb-15	19.9	14.5	15.9	147.2	0	50	0	260
Mar-15	14.1	7.7	9.1	141.6	12.4	0	1	44.5
Apr-15	27.4	7.4	15.2	189	0	0	0	29.9
May-15	5.9	0.7	0.6	104.2	0.3	0	0.6	0
Jun-15	4.2	0.3	0.5	110.5	0	0	0.2	0
Jul-15	5.7	5.9	0.3	55.7	25.4	0	0	0
Aug-15	10.9	1.5	2.3	43.2	0	0	0	0
Sep-15	7.7	1.4	1	61.9	35	0	1.1	0
Oct-15	16.9	1.4	0.5	97.6	11.2	0	0	0

²⁹ The New York State Reliability Council issues an annual IRM Study Report, which presents the lowest feasible amount of capacity for the NYCA. Each report includes a comparison of the IRM and LCR values to the previous year along with an explanation of each parameter that contributed to the changes. The NYISO determines the actual LCRs for each Locality taking into consideration changes that have occurred since the Reliability Council approved the IRM Study Report. The IRM Study Report for the 2013/2014 Capability Year is available at: <http://www.nysrc.org/pdf/MeetingMaterial/ICSMaterial/ICS_Agenda144/LCR2014_OC_report_V4c.pdf>.

³⁰ See *New York Independent System Operator, Inc.*, Resubmission of August 24, 2010 Filing, Docket Nos. ER10-2210-000, EL07-39-000, and ER08-695-0004 at p. 16.

I.5.3. New York City and G-J Localities

To administer the Supply-side Mitigation Measures, the NYISO identifies Pivotal Suppliers by examining the NYC UCAP and G-J Locality UCAP that each ICAP Supplier, along with its Affiliated Entities, Controls in excess of the pivotal control threshold.³¹ The UCAP under the Control of Pivotal Suppliers (“Mitigated UCAP”) must be offered into the ICAP Spot Market Auction at a price at or below the lesser of the UCAP Offer Reference Level or the ICAP Supplier’s Going-Forward Costs determined by the NYISO (“GFCs”). Chart 12 and Chart 14 illustrate the effects of the Supply-side Mitigation Measures. The UCAP Offer Reference Level, as shown in these Charts, becomes the price cap that the Pivotal Supplier must offer at or below in the ICAP Spot Market Auction, unless the Pivotal Supplier’s GFCs are higher.

The level of unoffered and unsold MW can be inferred from Chart 12 and Chart 14 by comparing the Locality Spot Market Auction price to the UCAP Offer Reference Level, while Chart 13 and Chart 15 depict the levels of available generator and SCR UCAP in the Locality. The difference between the ICAP Spot Market Auction clearing price and UCAP Offer Reference Level can be attributed to Locality capacity that is either not offered or is offered at a price above the UCAP Offer Reference Level. Note that the Locality Spot Market Auction price will diverge from the UCAP Offer Reference Level when the NYCA ICAP Spot Market Auction sets the Locality ICAP Spot Market Auction price. This divergence is the result of the auction rules, and is not caused by unoffered or unsold Locality Capacity.

³¹ See Services Tariff Sections 23.2.1 and 23.4.5.

Chart 12: NYC Mitigation Results³²

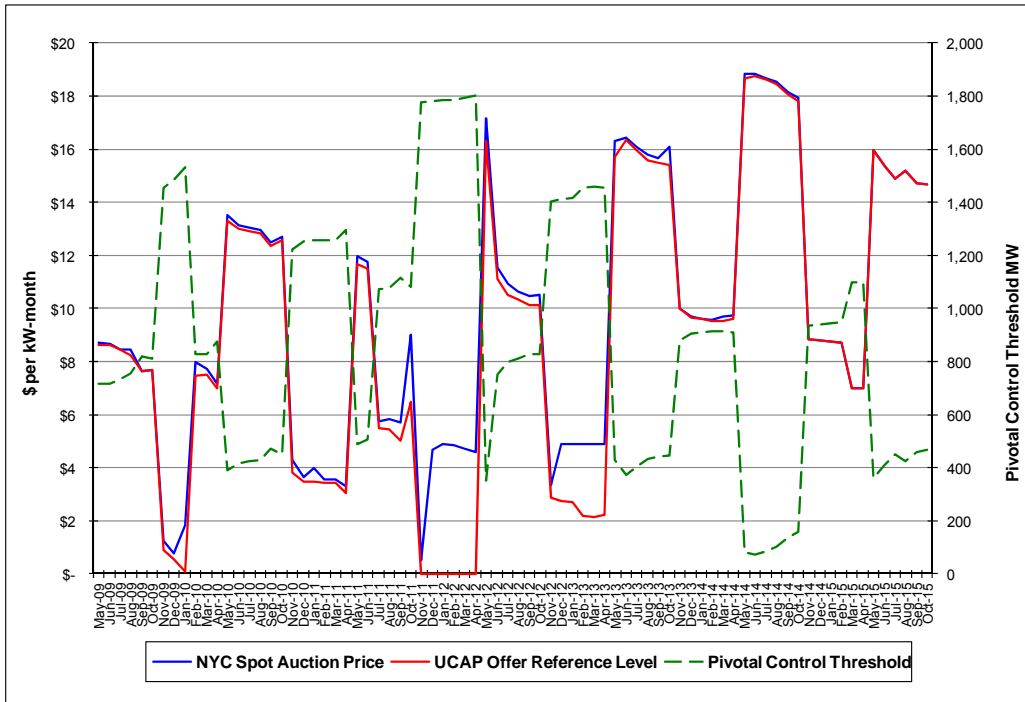
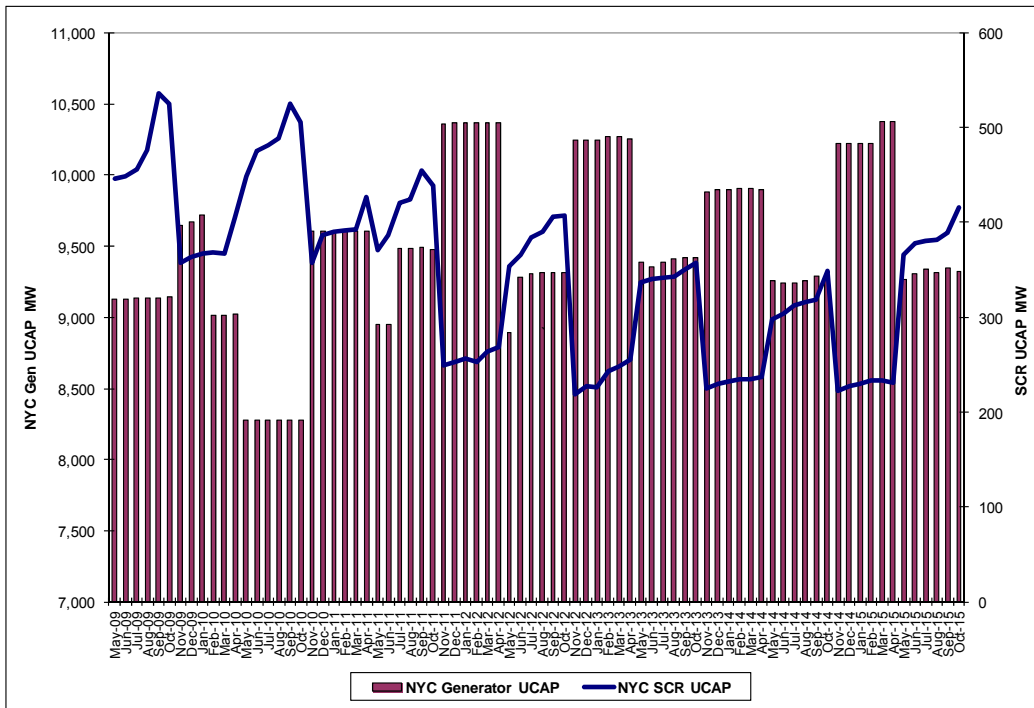


Chart 13: NYC Generator and SCR UCAP



³² Per Services Tariff Section 23.2, a “Pivotal Supplier” in NYC needs to control at least 500 MW of Unforced Capacity, and a specified portion of the capacity necessary to meet the NYC LCR in an ICAP Spot Market Auction.

Chart 14: G-J Locality Mitigation Results³³

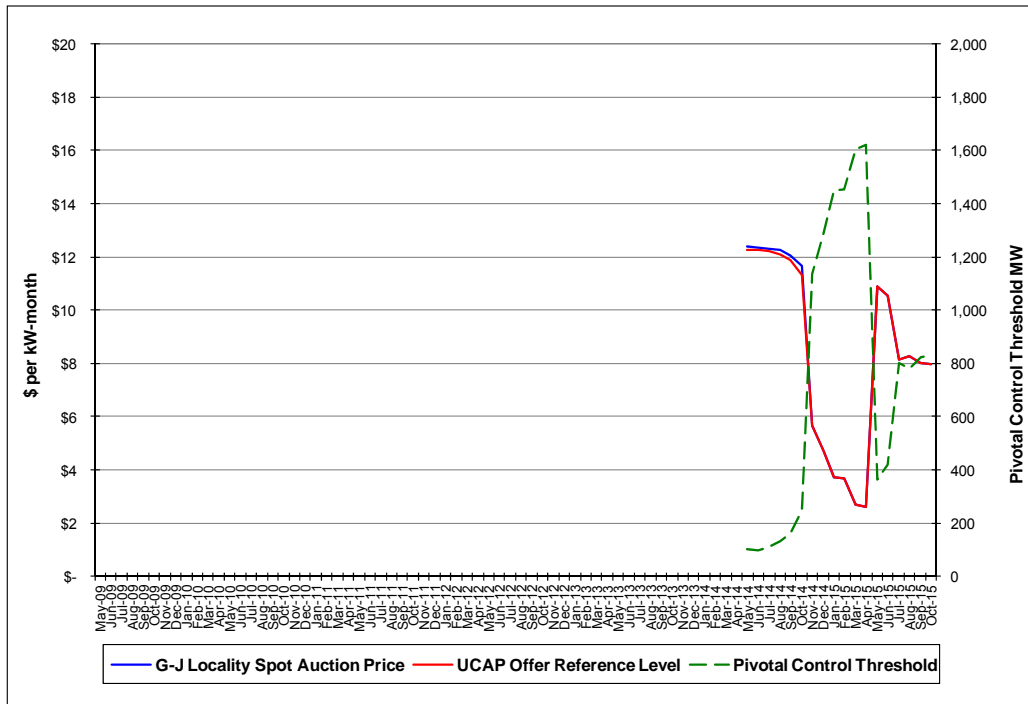
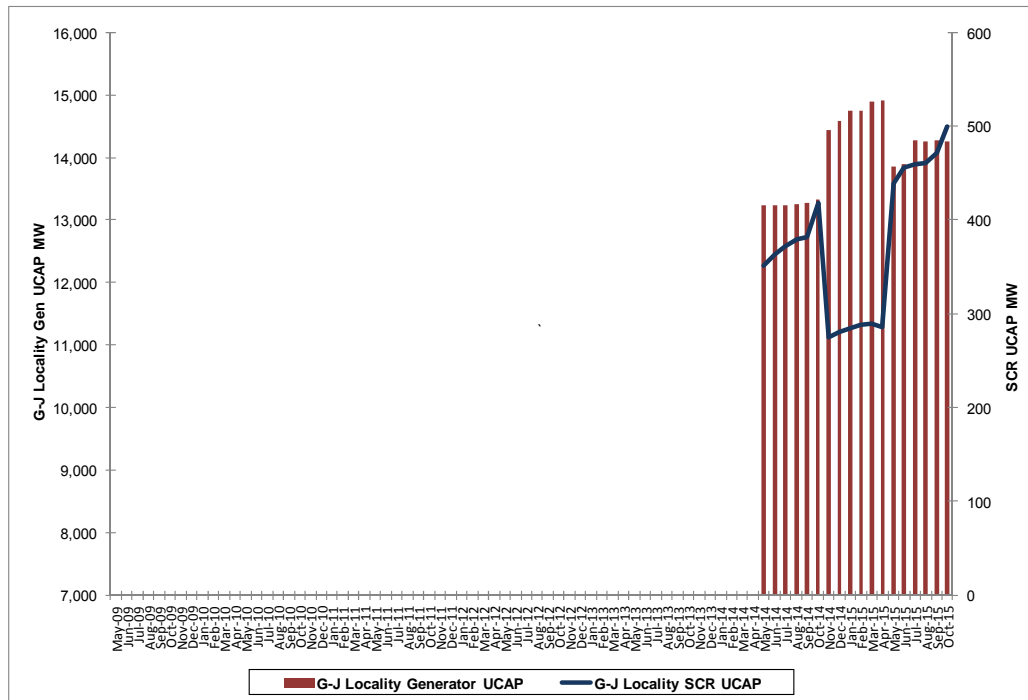


Chart 15: G-J Locality Generator and SCR UCAP



³³ Per Services Tariff Section 23.2, a “Pivotal Supplier” in the G-J Locality needs to control at least 650 MW of Unforced Capacity, and a specified portion of the capacity necessary to meet the G-J Locality LCR in an ICAP Spot Market Auction.

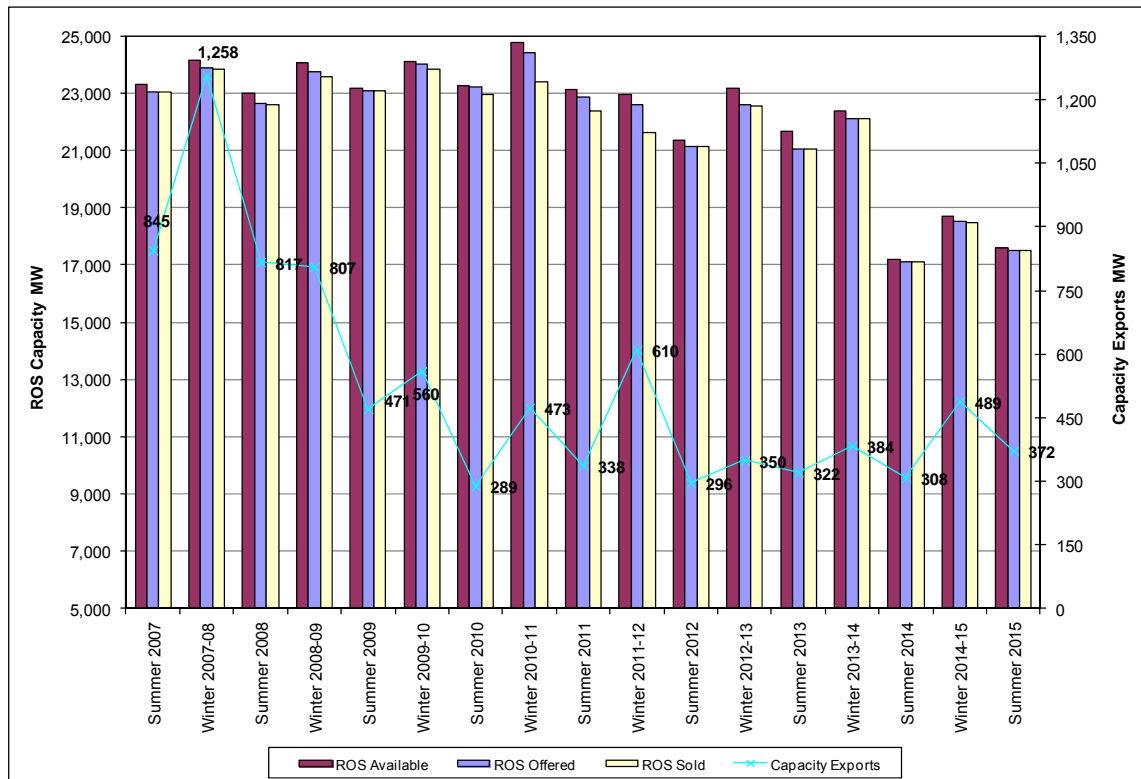
I.5.4. Rest of State

I.5.4.1. Overview

This section of the report addresses possible withholding of Capacity located in the Rest of State³⁴ from November 2014 through October 2015. For this review, the NYISO conducted a detailed analysis of unoffered and unsold capacity. This section of the report pertains primarily to the NYCA but also contains some explanations for unoffered capacity in NYC, the G-J Locality, and Long Island.

Chart 16 shows the monthly average values over each Capability Period for four ROS capacity types: available, offered, sold, and exported MW.

Chart 16: Rest of State Capacity Available, Offered, Sold and Exported



Examination of Rest of State capacity data pertaining to individual Market Participants revealed general patterns in unsold and unoffered capacity. The patterns suggest a three-way classification of suppliers by market sector: all generation-owning transmission owners, ROS generation owners, and other suppliers (a category which includes SCRs.) Table 4 of this December 2015 Report summarizes the monthly averages of unoffered and unsold capacity for each Capability Period since the Summer 2008. The data in Table 4 for all Capability Periods

³⁴ Prior to the Summer 2014 Capability Period, ROS consists of transmission zones A through I; starting May 2014, ROS is defined as transmission zones A through F.

reflect the new classifications and thus may be different from the data presented in prior ICAP annual reports.

Table 4: ROS Unoffered and Unsold Capacity MW by Type of Market Participant

ROS Monthly Average Unoffered Capacity MW by Type of Market Participant							
	GenCo	% of GenCo	Others	% Other	TO	% TO	Capability Period Monthly Average
Summer 2008	114.2	32.74%	30.32	8.69%	204.37	58.57%	114.2
Summer 2009	49.2	41.06%	1.42	1.18%	69.25	57.76%	49.2
Summer 2010	98.1	37.13%	7.87	2.98%	158.22	59.90%	98.1
Summer 2011	54.1	25.80%	76.70	36.56%	78.97	37.64%	54.1
Summer 2012	60.1	29.48%	75.32	36.96%	68.40	33.56%	60.1
Summer 2013	486.6	78.28%	64.20	10.33%	70.77	11.39%	486.6
Summer 2014	58.9	62.03%	24.23	25.52%	11.82	12.45%	58.9
Summer 2015	21.3	26.97%	30.73	38.98%	26.85	34.05%	21.3

ROS Monthly Average Unoffered Capacity MW by Type of Market Participant							
	GenCo	% of GenCo	Others	% Other	TO	% TO	Capability Period Monthly Average
Winter 2008-2009	236.8	78.54%	0.57	0.19%	64.13	21.27%	301.50
Winter 2009-2010	93.3	48.14%	9.45	4.88%	91.02	46.98%	193.73
Winter 2010-2011	212.6	57.39%	30.35	8.19%	127.45	34.41%	370.35
Winter 2011-2012	138.5	36.98%	93.65	25.00%	142.42	38.02%	374.60
Winter 2012-2013	437.3	73.43%	20.98	3.52%	137.25	23.05%	595.53
Winter 2013-2014	118.2	50.12%	54.12	22.94%	63.55	26.94%	235.90
Winter 2014-2015	70.6	41.63%	47.02	27.72%	51.98	30.65%	169.60

ROS Monthly Average Unsold Capacity MW by Type of Market Participant							
	GenCo	% of GenCo	TO	% TO	Others	% Other	Capability Period Monthly Average
Summer 2008	61.6	99.49%	0.3	0.51%	0	0%	61.9
Summer 2009	0	0%	0	0%	0	0%	0
Summer 2010	15.4	35.56%	27.8	64.44%	0	0%	43.2
Summer 2011	479.9	91.01%	44.9	8.52%	2.5	0.47%	527.3
Summer 2012	0	0%	0	0%	0	0%	0
Summer 2013	11.6	100%	0	0%	0	0%	11.6
Summer 2014	0	0%	0	0%	0	0%	0
Summer 2015	0	0%	0	0%	0	0%	0

ROS Monthly Average Unsold Capacity MW by Type of Market Participant							
	GenCo	% of GenCo	TO	% TO	Others	% Other	Capability Period Monthly Average
Winter 2008-2009	178.7	97.65%	4.3	2.35%	0	0%	183.0
Winter 2009-2010	73.4	95.30%	3.6	4.70%	0	0%	77.0
Winter 2010-2011	895.6	89.53%	104.7	10.47%	0	0%	1000.3
Winter 2011-2012	811.3	86.49%	88.4	9.43%	38.35	4.09%	938.0
Winter 2012-2013	8.3	60.98%	5.3	39.02%	0	0%	13.7
Winter 2013-2014	0	0%	7.0	100%	0	0%	7.0
Winter 2014-2015	5.0	7.79%	59.0	92.21%	0	0%	64.0

Salient facts from the above tables are:

- The group of all ROS generation-owning Transmission Owners consistently had unoffered capacity which ranged from 11% to 60% of total unoffered capacity.
- The group of all ROS generation-owning Transmission Owners had up to 4.1% of offered and unsold capacity.

- The group of generation owners consistently had unoffered capacity which ranged from 25% to 79% of total unoffered capacity.
- The group of generation owners had unsold capacity which accounted for 0% to 100% of total capacity that was offered and unsold capacity.
- The group of all others including SCRs consistently had unoffered capacity that ranged from 0% to 39% of total unoffered capacity.
- The group of all others including SCRs had capacity that was offered and unsold capacity that ranged from 0% to 100%.

I.5.4.2. Analysis of ROS Unoffered Capacity

This section provides a detailed analysis of the unoffered capacity located in the ROS. The section also presents the maximum price impact of the unoffered capacity, in each month and averaged over the six months of each Capability Period. Market Participants with a significant amount of unoffered capacity were provided an opportunity to justify their unoffered MW. Generally, responses suggest that the Installed Capacity Suppliers' reasons for not offering the Capacity were benign, and none of the instances evidence behavior intended to artificially raise prices.

Instances of unoffered capacity in Mitigated Capacity Zones are potentially subject to a non-discretionary penalty assessment (Services Tariff section 23.4.5.4.2), and are not included in this section.

The NYISO contacted each Installed Capacity Supplier with at least 15 MW of unoffered capacity in any one month in either Winter 2014-2015 or Summer 2015 for an explanation of why it did not offer all of its capacity. There were seven Market Participants with at least 15 MW of unoffered capacity in any given month in ROS, and the NYISO sought and received explanations from each of them.³⁵

- Two Market Participants reported that their failure to offer capacity into the ICAP market was due to an administrative oversight. Each instance was limited to a single month, and the average unoffered capacity of these instances is 18 MW. These responses cited procedural and human error as causes. Market Participants reported that new procedures would be put in place to avoid failing to offer capacity in the future.
- Five Market Participants reported economic, environmental, and/or physical conditions as the reason for not offering capacity. These instances ranged from three to twelve not necessarily consecutive months. The Market Participant average unoffered capacity ranged from 9 MW to 37 MW. Responses detailed causes including conservative operating strategies, environmental limits and conditions, and rules enforced by a third party such as another Market Participant or Independent System Operator.

Table 5 shows the maximum price impact of the unoffered capacity (15 MW or higher per incident) based on the slopes of the ICAP Demand Curves for the relevant Capability Periods. The maximum price impact is calculated as the lesser of (1) the product of the monthly unsold MW and the slope of the ICAP Demand Curve and (2) the ICAP Spot Market Auction Market-Clearing Price, since the price impact cannot exceed the auction price. Monthly values and seasonal averages of the maximum price impact are reported. The maximum price impact

³⁵ Confidential Attachment I provides a detailed summary of the Market Participants' explanations for having unoffered capacity.

of the unoffered capacity, averaged over the six months of the Winter 2014-2015 and Summer 2015 Capability Periods, was \$0.24/kW-month (ranging from \$0.17/kW-month to \$0.31/kW-month) and \$0.08/kW-month (ranging from \$0.00/kW-month to \$0.18/kW-month), respectively.

Table 5: Maximum Price Impact of ROS Unoffered Capacity (15MW+)³⁶

Month	Total Unoffered MW	Monthly Maximum Price Impact	Seasonal Average Maximum Price Impact
Nov-14	107.3	\$0.23	\$0.24
Dec-14	129.3	\$0.28	
Jan-15	141.0	\$0.31	
Feb-15	76.9	\$0.17	
Mar-15	78.5	\$0.17	
Apr-15	122.5	\$0.27	
May-15	58.2	\$0.13	\$0.08
Jun-15	77.4	\$0.18	
Jul-15	0.0	\$0.00	
Aug-15	0.0	\$0.00	
Sep-15	0.0	\$0.00	
Oct-15	63.0	\$0.14	

I.5.4.3. Analysis of ROS Unsold Capacity

This section of the report analyzes and reports on ROS unsold capacity in the ICAP Spot Market Auction. Attachment II summarizes masked unsold capacity offers.³⁷ This section also presents the maximum price impact of the ROS unsold capacity, in any one month and the price impact average for the six months of the Capability Period.

The process utilized by the NYISO in performing this analysis includes contacting each Installed Capacity Supplier that was a generator (*i.e.*, not SCRs) for an explanation of its behavior if: (a) the class of generators that it was in had equal or more than 15 MW of unsold capacity in a given month; (b) monthly average price impact over the capability period is greater than or equal to \$0.20/kW-month or \$0.35/kW-month in any month; and (c) if the generator had a ICAP Spot Market Auction offer that was greater than the generator's class average Net GFC with half net revenues.³⁸ In addition to calculating the monthly maximum and average maximum price impacts, the following metrics can be calculated for the analysis period:

- Class average GFCs, with and without a risk adjustment;
- Estimated monthly price impacts of unsold capacity associated with offers above class average GFCs.

³⁶ The price impact of *all* ROS unoffered capacity average \$0.37/kW-month for the Winter 2014-2015, and \$0.18/kW-month for the Summer 2015. The monthly price impact cannot exceed the ICAP Spot Market Auction clearing price for that month.

³⁷ Attachment III is a redacted version of the unsold capacity offers.

³⁸ Going Forward Cost terminology and elements for purposes of ROS unsold capacity analysis were discussed in detail at Table 7 in the 2012 Annual Installed Capacity Report. See 2012 Annual Report at Table 7, filed in FERC Docket Nos. ER01-3001-000, E03-647-000.

I.5.4.4. Monthly Price Impacts

Table 6 includes the average monthly maximum price impact of unsold capacity for each Capability Period. The average price impacts were \$0.14/kW-month in Winter 2014-2015 and \$0.00/kW-month in the Summer 2014. Monthly maximum price impact was \$0.57/kW-month for February 2015 which exceeds the \$0.35/kW-month threshold. Confidential Attachment IV summarizes the results of investigation performed for purposes of this report.

Table 6: Maximum Price Impact of ROS Unsold MW

Month	Total Unsold MW	Monthly Maximum Price Impact	Seasonal Average Maximum Price Impact
Nov-14	49.3	\$0.11	\$0.14
Dec-14	0.0	\$0.00	
Jan-15	0.0	\$0.00	
Feb-15	260.0	\$0.57	
Mar-15	44.5	\$0.10	
Apr-15	29.9	\$0.07	
May-15	0.0	\$0.00	\$0.00
Jun-15	0.0	\$0.00	
Jul-15	0.0	\$0.00	
Aug-15	0.0	\$0.00	
Sep-15	0.0	\$0.00	
Oct-15	0.0	\$0.00	

II. NYISO Report on New Generation Projects

In its October 23, 2006 order, the Commission ordered the NYISO to submit “a list of investments in new generation projects in New York (including a description and current status of each such project), regardless of the stage of project development at the time of the filing.”³⁹ The NYISO keeps a list of Interconnection Requests and Transmission Projects for the New York Control Area that includes information about all generation projects in the State that have requested interconnection.

The NYISO interconnection process is described in two attachments of the NYISO OATT: OATT Attachment X entitled, “Standard Large Facility Interconnection Procedures,” and OATT Attachment Z entitled, “Small Generator Interconnection Procedures.” OATT Attachment X applies to Generating Facilities that exceed 20 MW in size and to Merchant Transmission Facilities, collectively referred to as “Large Facilities.” OATT Attachment Z applies to Generating Facilities no larger than 20 MW.

Under OATT Attachment X, Developers of Large Facilities must submit an Interconnection Request to the NYISO. The NYISO assigns a Queue Position to all valid Interconnection Requests. Under OATT Attachment X, proposed generation and merchant transmission projects undergo up to three studies: the Feasibility Study, the System Reliability Impact Study, and the Class Year Interconnection Facilities Study. The Class Year Interconnection Facilities Study is performed on a Class Year basis for a group of eligible projects pursuant to the requirements of Attachment S of the NYISO OATT. Under OATT Attachment Z, proposed small generators undergo a process that is similar, but with different paths and options that are dependent on the specific circumstances of the project.

Proposed generation and transmission projects currently in the NYISO interconnection process are listed on the list of Interconnection Requests and Transmission Projects for the New York Control Area (“NYISO Interconnection Queue”). The generation projects on that list are shown in Attachment V to this report, which is dated November 30, 2015. The NYISO updates the NYISO Interconnection Queue on at least a monthly basis and posts the most recent list on the NYISO’s public web site⁴⁰ at the “Planning Documents and Resources”, underneath the “Interconnection Studies” section.

The status of each project on the NYISO Interconnection Queue is shown in the column labeled “S.” An explanation of this column is provided in Attachment VI to this report. Also, note that the proposed In-Service Date for each project is the date provided to the NYISO by the respective Owner/Developer, is updated only on a periodic basis, and is subject to change.

³⁹ See *New York Independent System Operator Inc.*, 117 FERC ¶ 61,086, at P 14 (2006).

⁴⁰ See <http://www.nyiso.com/public/markets_operations/services/planning/documents/index.jsp>.

III. New Generation Projects and Net Revenue Analysis

III.1. Overview

The ICAP Demand Curves are designed to send efficient price signals to developers to build new generation and to generation owners to invest in existing generation when and where it is needed. In past ICAP annual reports, the NYISO stated that it is difficult to relate the investment in new generation to the ICAP Demand Curves given the lead-time required to site, develop, and construct new generation, and to address other barriers to new entry; however, the ICAP Demand Curves provide transparency for projecting Spot Market capacity price signals that developers and owners consider prior to making investment decisions. Further, since the creation of the new G-J Locality (encompassing Load Zones G, H, I and J) and the implementation of the ICAP Demand Curves for it, there has been investment in resources in Load Zones G, H, I, and J. Publicly announced investments in the G-J Locality include the return to service of the Danskammer Generating Station, Astoria Generating Station 20, and the restoration of Bowline Unit 2 to its full capacity. In 2014, the NYISO reviewed the methodology used in past reports to complete this section of the report. The NYISO determined that in light of the recent implementation of new ICAP Demand Curves and their updated parameters it would be informative for this section of the report to provide net revenue analysis on a comparable basis to that used in the prior reports. Thus, Summer 2014 was used to establish information on the G-J Locality that was relatively comparable to information presented in past reports. Winter 2014/2015 and Summer 2015 data on the G-J locality were available for the preparation of this report.

III.2. Market Design Developments to Enhance ICAP Demand Curve Performance

On January 28, 2014, FERC accepted the proposed tariff revisions that implemented the new ICAP Demand Curves, including the first ICAP Demand Curve for the G-J Locality (the “January 28 Order”).⁴¹ The January 28 Order accepted the NYISO’s proposal to use the dual-fuel F-class frame combustion turbine (Siemens SGT6-5000(F)) with selective catalytic reduction emission controls (“selective catalytic reduction”) to develop the Demand Curves for NYC, LI, and the G-J Locality. This “proxy” plant replaced the LMS100 technology that was used for NYC and LI Demand Curves in the previous ICAP Demand Curves; *i.e.*, the curves that applied from the October 2011 through the Winter 2013/14 Capability Periods. A gas-only F-class frame combustion turbine with an operational limit in lieu of selective catalytic reduction was again selected as the proxy plant for the NYCA ICAP Demand Curve; however, the proxy plant used to develop the current NYCA ICAP Demand Curve is a single Siemens SGT6-5000(F) unit with a reduced operating limit of 950 hours to meet identified annual emission levels. These new ICAP Demand Curves and the creation of the G-J Locality are sending appropriate price signals. The review of the ICAP Demand Curves for the Capability Period beginning May 2017 is underway to evaluate going forward needs.

⁴¹ *New York Independent System Operator, Inc.*, 146 FERC ¶ 61,043 (2014).

III.3. Interconnection Queue Projects

The NYISO’s interconnection queue lists the projects that are being and will be evaluated in the interconnection study processes. In-service dates stated on the interconnection queue for projects are provided by the developers, and the NYISO periodically updates the queue (Attachment IV). Chart 17 was compiled using data from Attachment IV. Chart 17 depicts the amount of generation listed on the NYISO’s interconnection queue since 2003 in NYC, LI, and Rest of State (“ROS”), and starting with Summer 2014 it includes the G-J Locality. Wind projects are depicted separately from generation projects with other fuel types. The ROS depiction in Chart 17 does account for the change in its composition starting in Summer 2014 with the creation of the G-J Locality (“G-J”). From 2003 through April 2014, ROS was comprised of Load Zones A through I. It is now comprised of Load Zones A through F.

Chart 17: NYISO Interconnection Queue Projects

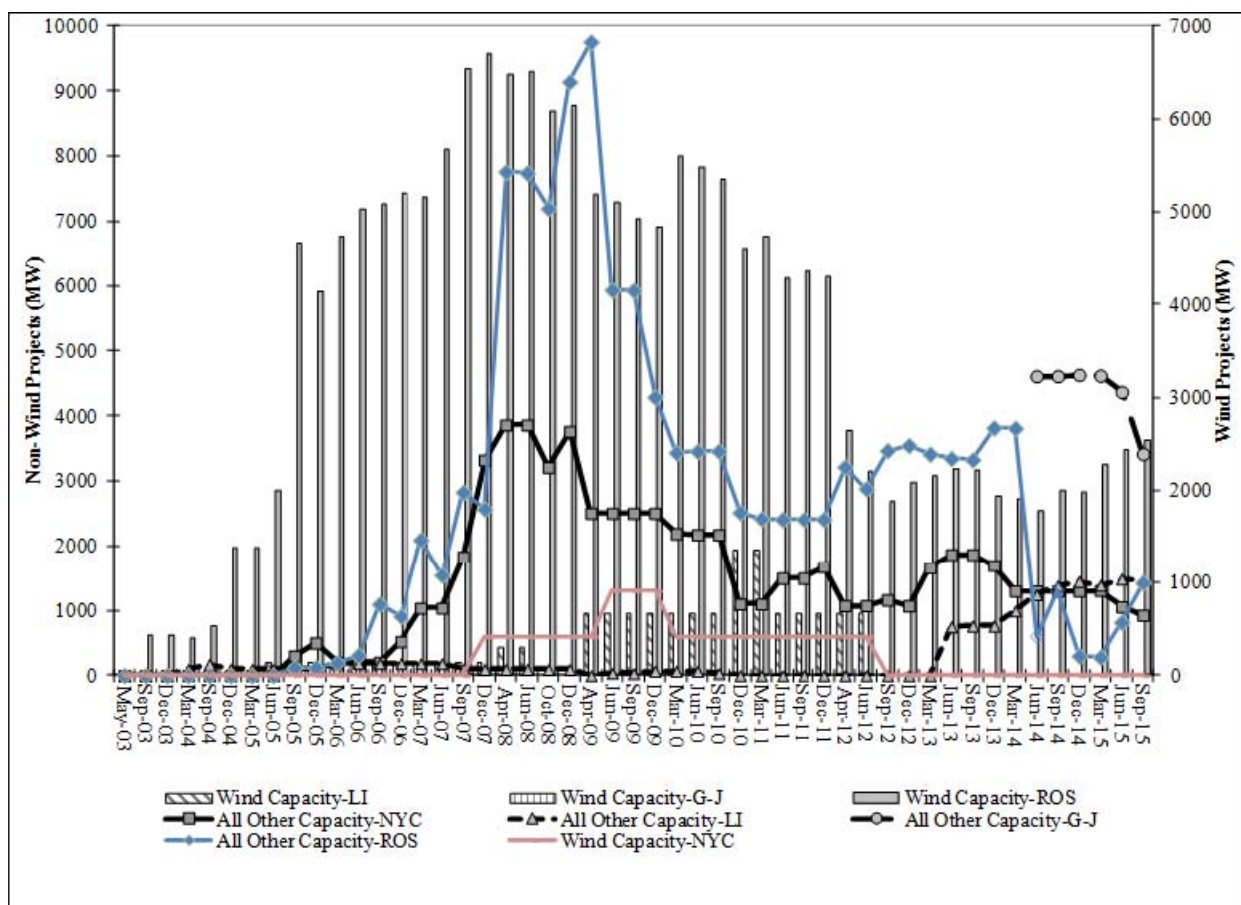


Chart 17 reports only those projects that were placed in the queue after May 1, 2003.⁴² Since the queue includes projects at various stages, for purposes of the analysis for this section

⁴² Each project in the queue is provided a status code that identifies its position in the study process that ranges from the initial scoping meeting to entering service. Prior to 2005, each project was provided a status-code based on the NYISO System Reliability Impact Study from the following: *P=Pending, A=Active, I=Inactive, R=Under Review, C=Completed, W=Withdrawn*. Starting in 2005, the classification system was changed and status-codes were based on the standard steps in the NYISO’s interconnection process as follows: *1=Scoping Meeting Pending,*

of the report, the NYISO included those projects that are identified as active. Accordingly, pre-2005 period projects with codes ‘I’, ‘W’, or ‘C’ were excluded; and for 2005 and beyond projects, status codes 0, 1, 12, 13, and 14 were omitted.

The number of generation projects and the amount of MW in the interconnection process has increased since the ICAP Demand Curves became effective in May 2003. The number of MW associated with projects based on technologies other than wind (measured on the left Y-axis, above) did not increase significantly until the summer of 2005. Chart 17 shows that beginning with the Winter 2007-2008 Capability Period, the number of MW listed in the interconnection queue for the Rest of State rose sharply, particularly new non-wind projects. By the end of 2011, this trend had largely reversed to pre-Winter 2007-2008 levels. Since the 2013 Annual Installed Capacity Report of the projects in the interconnection queue, the total amount of Rest-of-State non-wind generation in Winter 2013-2014 increased. The sharp decrease in ROS non-wind generation shown in Chart 17, beginning with the Summer 2014, is indicative of Load Zones G, H, I no longer being part of ROS. Wind generation in newly defined ROS (Load Zones A through F), and non-wind generation in NYC have decreased while LI non-wind generation has increased. No wind projects were proposed in NYC, LI and G-J in 2014 or 2015.

In addition to the proposed projects reflected in Chart 17, there are proposed HVDC transmission lines. Two of the projects are from External Control Areas, one project with a terminus in NYC, and the other project with a terminus in LI. A third project is proposed to be a connection between Load Zone F (in the ROS) and Load Zone H (in the G-J Locality). If these projects receive Unforced Capacity Deliverability Rights (“UDRs”), the UCAP associated with the UDRs can be used to satisfy the LCR.

III.4. Proposed Resource Additions in Response to Reliability Needs Assessment

On September 16, 2014, the NYISO Board of Directors approved the 2014 Reliability Needs Assessment Report (RNA).⁴³ This report assessed resource adequacy and both transmission security and adequacy of the New York Control Area (NYCA) bulk power transmission system from years 2015 through 2024.

Similar to the 2012 RNA, the 2014 RNA report identified resource adequacy violations in SENY beginning in 2019 through 2024 and transmission security violations in Zones A, B, C, E, and F beginning in 2015, some of which were similar to those found in the 2012 RNA. The 2014 RNA stated that the amount of resources needed to maintain reliability below the UPNY-SENY interface throughout the study period is approximately 100 MW in 2019, increasing to 1,200 MW in 2024, which could be addressed by transmission or capacity resources. The large decrease of the NYCA capacity margin (the total capacity less the peak load forecast) is the most significant difference between the 2012 RNA and the 2014 RNA. Potential reliability

2=FES Pending, 3=FES in Progress, 4=SRIS Pending, 5=SRIS in Progress, 6=SRIS Approved, 7=FS Pending, 8=Rejected Cost Allocation/Next FS Pending, 9=FS in Progress, 10=Accepted Cost Allocation/IA in Progress, 11=IA Completed, 12=Under Construction, 13=In Service for Test, 14=In Service Commercial, 0=Withdrawn, where FES=Feasibility Study, SRIS=System Reliability Impact Study, FS=Facilities Study.

⁴³ The 2014 RNA study is available at http://www.nyiso.com/public/webdocs/markets_operations/services/planning/Planning_Studies/Reliability_Planning_Studies/Reliability_Assessment_Documents/2014_RNA_final_09162014.pdf.

solutions were formally solicited by the NYISO on October 1, 2014 for analysis in the 2014 Comprehensive Reliability Plan (“CRP”).

As mentioned above, the G-J Locality is providing the market signals for resources to locate or return to service in this area. For example, Danskammer generating units returned to service; and Bowline 2 was restored to its full capacity. These actions are a direct response to the price signal provided by the new Demand Curves for the G-J Locality. Other units in the NYCA are also returning to service or withdrawing their notices of intent to mothball their units, and Con Edison is planning to add more demand response and other resources in New York City. These resource additions are summarized in Table 7.

Upon the completion of the 2014 RNA, the NYISO reviewed the notices and information submitted by Market Participants since April 2014, and identified more than 1,700 MW of additional resources when developing the CRP base case. The additional capacity identified in this process is described in Table 7 **Error! Reference source not found.** Combined with the updated Local Transmission Owner Plans submitted by the Transmission Owners, the NYISO has determined that the resource adequacy and transmission security needs identified in the 2014 RNA would be fully mitigated. On November 14, 2014, the NYISO withdrew its requests for solutions to address the Reliability Needs identified in the 2014 RNA.⁴⁴

Table 7: Capacity Resource Additions since the April 2014 RNA Base Case

Generating plant or unit			
Plant or unit	MW ⁽¹⁾	Zone	Status
Selkirk	347.7	F	Notice of Intent to mothball withdrawn
Binghamton BOP	41.3	C	Returned to service
Danskammer	493.6	G	Returned to service
Astoria 20	177.0	J	Returned to service
Ravenswood 3-4	31.7	J	Returned to service
Bowline 2 ⁽²⁾	557.4	G	Restoration complete
DR/EE/CHP program			
ConEd	125.0	J	Case 12-E-0503, NYPSC order effective Nov. 4, 2013
Total Incremental MW ⁽³⁾	1773.7		

(1) Based on 2014 Gold Book, MW values representing CRIS-adjusted DNMC for existing generators, anticipated capacity for units returning to service, and Con Edison’s program total for the DR/EE/CHP program

(2) Derated to 179.9 MW based on 2014 Gold Book

(3) MW number reflects the incremental MW only, not the sum of full capacity MW for all resources

⁴⁴ See NYISO notice, available at:

<http://www.nyiso.com/public/webdocs/markets_operations/services/planning/Planning_Studies/Reliability_Planning_Studies/Reliability_Notices/NYISO%20Letter%20Withdrawing%20Solicitation%20of%20Solutions%20November%2014%202014.pdf>.

Table 8 presents the market-based solutions and Transmission Owners' plans that were submitted in response to previous requests for solutions. These solutions were included in the 2012 CRP. In addition to these solutions, there are a number of other projects in the NYISO Interconnection Queue that are moving forward through the interconnection process.

Table 8: Current Status of Tracked Market-Based Solutions and Transmission Owner Plans

Queue position	Project	Submitted	Zone	Original In-Service Date	Name Plate (MW)	CRIS (MW)	Summer (MW)	Proposal Type	Current Status	Included in 2014 RNA Base Case?
69	Empire Generation Project	CRP 2008	F	Q1 2010	670	592.4	577.1	Resource Proposal	In-Service	Yes
206	Back-to-Back HVDC, AC Line HTP	alternative regulated proposal in CRP 2005; CRP 2007, CRP 2008,	PJM to NYC	Q2 2011	660	660	660	Transmission Proposal	In-Service	Yes
153	ConEd M29 Project	CRP 2005	J	May-10	N/A	N/A	N/A	TO's Plans	In-Service	Yes
-	Sta 80 xfmr replacement	CRP 2012	B	2014	N/A	N/A	N/A	TO's Plans	In-Service	Yes
-	Ramapo Protection Addition	CRP2012	G	2013	N/A	N/A	N/A	TO's Plans	In-Service	Yes
-On Track for 12/31/2015	5 Mile Road Substation	CRP2012	A	-	N/A	N/A	N/A	TO's Plans	Winter 2015 (under construction as of this Report)	Yes
201, 224 Withdrawn from queue (7/2015)	Gas Turbine NRG Astoria re-powering	CRP 2005, CRP 2007, CRP 2008, CRP 2012	J	Jun-10	278.9	155	250	Resource Proposal	Withdrawn	No
339 (installed in phases between end of 2016 with the final phase(lines) installed by 2020	Station 255	CRP 2012	B	-	N/A	N/A	N/A	TO's Plans	2020	Yes
- winter 2017	Clay – Teall #10 115kV	CRP2012	C	2016	N/A	N/A	N/A	TO's Plans	Q4 2017	Yes

III.5. Revenue Analysis

The FERC's order directing the NYISO to submit an annual ICAP report stated that the NYISO should include a complete net revenue analysis to provide information about whether NYISO market revenues are adequate to incent new capacity resources in regions where capacity is needed. Where there is growing pressure on existing capacity, e.g., the reserve margin is shrinking; there should be a rise in combined revenues from energy and capacity markets.

As in the prior annual reports, the NYISO examined the level of "need" for additional capacity by looking at the percentage of capacity in excess of the applicable minimum Installed Capacity requirement. The NYISO then looked at possible revenues from the capacity, energy, and ancillary services markets for a hypothetical gas turbine which is similar to what was used to complete the revenue analysis in the prior reports. This analysis shows, in general, that there is a tendency for revenues to increase as the percentage of excess capacity decreases and vice versa.

III.5.1. Quantification of "Need"

For purposes of this analysis, the excess of capacity relative to the minimum requirement was used as a proxy for need. Capacity margin is calculated as:

$$\text{Capacity margin \%} = \frac{\text{Availability}}{\text{Requirement}} \times 100$$

Using this definition, a value in excess of 100% reflects an excess capacity margin. A relatively high value indicates less of a need for additional capacity and, conversely, declining values suggest an increased need.⁴⁵ The following Table 9 displays the required and available amounts of UCAP as calculated from detailed data from monthly certified capacity, auction offers, and sales awards.

⁴⁵ The use of "need" in this context is based on the revenue analysis and is not intended to infer whether there may be a system-specific need.

Table 9: Available Capacity vs. Required Capacity

		2011	2012	2013	2014	2015
NYCA	Requirement (MW)	34,684	35,076	35,467	35,812	35,920
	Available Cap. (MW)	38,041	37,881	36,177	36,081	37,340
	Capacity margin %	109.7%	108.0%	102.0%	100.7%	104.0%
NYC	Requirement (MW)	8,832	8,897	9,325	9,471	9,272
	Available Cap. (MW)	9,660	9,696	9,721	9,568	9,680
	Capacity margin %	109.4%	109.0%	104.2%	101.0%	104.4%
LI	Requirement (MW)	5,052	4,961	5,394	5,431	5,284
	Available Cap. (MW)	5,952	5,858	5,740	5,675	5,618
	Capacity margin %	117.8%	118.1%	106.4%	104.5%	106.3%
G-J	Requirement (MW)	n/a	n/a	n/a	13,495	13,934
	Available Cap. (MW)	n/a	n/a	n/a	13,610	14,581
	Capacity margin %	n/a	n/a	n/a	100.9%	104.6%

In Table 9, the required NYCA UCAP is based on the annual NYCA Minimum Installed Capacity Requirement, and for each of the NYC, LI, and G-J Localities it is based on the respective Locational Minimum Installed Capacity Requirement. “Available Capacity” reflects the aggregate of UCAP ratings excluding the amount of imported capacity via external transactions.⁴⁶ The increase of 143 MW in NYC available capacity from 2014 to 2015 is tied to the return to service of Astoria Unit 20 and Ravenswood GT3-4. The increase in available capacity in the G-J Locality from 2014 to 2015 of 971 MW was due to the return of the Danskammer units and Bowline 2, as well as Astoria Unit 20 and Ravenswood GT 3-4. The NYCA available capacity increase from 2014 to 2015 of 1,420 MW was due to the aforementioned units, as well as Binghamton BOP.⁴⁷

III.5.2. Measure of Revenues

For the period of November 2014 through October 2015, the ICAP Demand Curves have been revised to use a different proxy plant than that used to establish prior curves. For 2014 figures, the NYISO assumed a revenue requirement based on the proxy plant used for the analysis in the 2013 annual report; i.e., the respective proxy plant used to establish the ICAP Demand Curves for the 2013-2014 Capability Year. This representation provided a direct comparison of the revenues and revenue margins for the twelve months of market outcomes prior to 2014-2015 Capability Year to those previously reported here by the NYISO. For consistency, the hypothetical unit used in the 2014 analysis for the G-J Locality is based upon cost assumptions for the LMS100 used in the NYCA region and scaled up based upon information taken from the current ICAP Demand Curve reset.

Table 10 shows the annual revenue requirement for the hypothetical plants based on the assumptions used in the previous ICAP Demand Curves. For the G-J Locality the annual revenue requirements for 2014 have been adjusted for six months only — the 2014 Summer

⁴⁶ In contrast to the forecasted figures used in the Gold Book, this table reflects data based on realized outcomes over the Summer Capability Periods.

⁴⁷ See Table 7, 2014 RNA Report.

Capability Period — the period that corresponds with the implementation for the ICAP Demand Curves for the G-J Locality. The notional figures used for the New York City, LI, and G-J Localities are based on an LMS100 technology, and for NYCA, figures are based on GE 7FA combustion turbine without selective catalytic reduction for the years 2011 to 2014. For 2015 figures, a Frame 7 unit with selective catalytic reduction was used as the peaking unit for the G-J, J, and K Localities. A Frame 7 unit without selective catalytic reduction was used for Rest of State.

Table 10: Annual Revenue Requirements in UCAP terms (\$/MW)

	2011	2012	2013	2014	2015
NYCA	\$110,577	\$122,650	\$124,094	\$126,111	\$113,738
NYC	\$233,486	\$282,388	\$284,578	\$288,371	\$217,390
LI	\$214,785	\$263,070	\$262,912	\$263,455	\$176,031
G-J	n/a	n/a	n/a	\$116,966	\$154,522

Note to Table 10: As with prior annual reports, this table is based on November of the year prior to the year stated in the first row, through October of the year stated, except that the Annual Revenue Requirements for the G-J Locality for 2014 are based on the six month revenue requirement calculated for the Summer 2014 Capability Period.

Table 11 shows the revenues for individual markets (*i.e.*, the Energy, Ancillary Services (A/S)), and the ICAP Spot Market Auction that the identified hypothetical peaking plant may have received based on actual LBMPs, natural gas prices, and other reasonable parameters used to calculate variable costs.⁴⁸ Only Summer 2014 revenues were calculated for units located in the G-J Locality for 2014 Annual Revenue Requirements to coincide with the creation of this Locality.

For this and previous reports, a model was used to calculate the Energy and Ancillary Services revenue for the respective hypothetical proxy plants: net Energy revenues are earned in hours when the Day-Ahead Market LBMP exceeds the calculated variable cost; otherwise, Day-Ahead Ancillary Services revenues are earned. This approach is similar to the “standard method” used by the Market Monitoring Unit for the NYISO in its annual State of the Market reports.

In annual ICAP reports prior to 2011, Ancillary Services revenues were based on 10-Minute Non-Synchronized Reserve prices. For 2011, 2012, 2013 and Winter 2013/2014, the Ancillary Services revenues earned by the hypothetical LMS100 technology were based upon 10-Minute Non-Synchronized Reserve prices, whereas Ancillary Service revenues for the hypothetical NYCA peaking plant were based on Day-Ahead 30-Minute Reserve prices. For the Capability Year beginning May 2014, the Frame 7 Combustion Turbine technology Ancillary

⁴⁸ The assumed parameters for the 2013 ICAP Demand Curve benchmark combustion turbine are based on the NERA Demand Curve report (15 November 2010). See *New York Independent System Operator, Inc., Errata Filing, Docket No. ER11-2224-000 (filed December 3, 2010)* at Attachment 1 “Independent Study to Establish Parameters of the ICAP Demand Curve for the New York Independent System Operator,” September 3, 2012 (Revised September 7, 2010, November 15, 2010), prepared by NERA Economic Consulting. The NERA report is available at:

<http://www.nyiso.com/public/webdocs/markets_operations/committees/bic_icapwg/meeting_materials/2010-12-01/Demand_Curve_Study_Report_11-15-10_Revised.pdf>. For NYCA, Heat Rate = 10,206 Btu/kWh, Variable Operating & Maintenance Costs (VOM) = \$1/MWh, and Forced Outage Rate = 3%; For NYC, LI, and Zone G Heat Rate = 9023 Btu/kWh, VOM = \$5/MWh, and Forced Outage Rate = 3.84%

Services revenues were based upon Day-Ahead 30-Minute Reserve prices. Because Table 12 and Chart 18 utilize data from Table 11, the adjustment reflected in Chart 18 also affected the corresponding NYCA revenue margins in Table 12 and Chart 18 for years 2011-2015.

ICAP Markets revenues were based on the ICAP Spot Market clearing prices for each Locality.

Table 11: Benchmark Annual Revenues in UCAP terms (\$/MW)⁴⁹

		Revenue Elements in \$					Revenue Elements as % of Total ⁵⁰				
		2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
NYCA ⁵¹	Energy	\$16,646	\$35,147	\$42,916	\$72,191	\$38,006	39%	70%	47%	56%	50%
	A/S	\$22,488	\$666	\$1,873	\$2,342	\$3,602	52%	1%	2%	2%	5%
	Capacity	\$3,820	\$14,650	\$46,730	\$54,400	\$35,120	9%	29%	51%	42%	46%
	Total	\$42,953	\$50,463	\$91,519	\$128,933	\$76,729	100%	100%	100%	100%	100%
NYC	Energy	\$59,028	\$55,634	\$59,779	\$67,397	\$27,493	41%	35%	31%	27%	16%
	A/S	\$12,892	\$9,300	\$10,366	\$14,722	\$4,123	9%	6%	5%	6%	2%
	Capacity	\$72,440	\$95,550	\$124,320	\$169,380	\$142,450	50%	60%	64%	67%	82%
	Total	\$144,360	\$160,483	\$194,465	\$251,499	\$174,066	100%	100%	100%	100%	100%
Long Island	Energy	\$95,780	\$117,016	\$130,905	\$137,433	\$70,875	86%	81%	68%	67%	56%
	A/S	\$11,400	\$6,971	\$6,388	\$9,322	\$2,840	10%	5%	3%	5%	2%
	Capacity	\$3,840	\$20,180	\$54,720	\$59,130	\$53,160	3%	14%	28%	29%	42%
	Total	\$111,020	\$144,168	\$192,013	\$205,885	\$126,875	100%	100%	100%	100%	100%
G-J	Energy	n/a	n/a	n/a	\$5,174	\$14,591	n/a	n/a	n/a	6%	15%
	A/S	n/a	n/a	n/a	\$11,162	\$5,219	n/a	n/a	n/a	12%	5%
	Capacity	n/a	n/a	n/a	\$72,980	\$78,810	n/a	n/a	n/a	82%	80%
	Total	n/a	n/a	n/a	\$89,316	\$98,620	n/a	n/a	n/a	100%	100%

Note to Table 11: As with prior annual reports, this table is based on November of the year prior to the year stated in the first row, through October of the year stated, except for the G-J Locality, which is based on the six months of revenues calculated for the Summer 2014 Capability Period

In order to assess revenue adequacy for purposes of this report, “Revenue Margin” is the metric used. “Revenue Margin” is Benchmark Revenues expressed as a percentage of Required Revenues. Revenue Margins are calculated as:

$$\text{Revenue Margin \%} = \frac{\text{Benchmark Revenue}}{\text{Required Revenue}} \times 100$$

A higher value indicates a greater degree of adequacy of revenues using this approach. The following table displays the values of Revenue Margins for the hypothetical proxy plant.

⁴⁹ Because of the change in methodology beginning with the 2011 annual ICAP report, the Ancillary Services revenues shown in Table 10 for the NYCA were recast from those shown in the 2001 – 2010 annual reports, so all Table 11 data was determined utilizing the same methodology.

⁵⁰ Values may not sum to 100% due to rounding

⁵¹ These values are for the Capital Zone (Zone F), which is used as a representation for revenues in the NYCA.

Table 12: Revenue Margins

	2011	2012	2013	2014	2015
NYCA	19%	41%	74%	102%	67%
NYC	62%	57%	68%	87%	80%
LI	52%	55%	73%	78%	72%
G-J	n/a	n/a	n/a	76%	64%

Note to Table 12: As with prior annual reports, this table is based on November of the year prior to the year stated in the first row, through October of the year stated; except for the G-J Locality for 2014, which is based on the six months of revenues and revenue requirement calculated for the Summer 2014.

In 2015, Revenue Margins decreased from prior levels in NYCA, NYC and LI, largely due to the decrease in energy revenues. To assess whether the revenue streams for the hypothetical plant are adequate in relation to the level of need for new capacity, data from Table 9 and Table 12 are graphed below, showing revenue (Chart 18) and Capacity (Chart 19) margins.

The capacity revenue component of the total net revenue as a percentage of the cost of new entry in the NYCA and in each Locality is depicted in Chart 20. The amount of excess capacity peaked in NYCA, NYC, and LI in 2011, and as a result, the capacity market revenues relative to the CONE requirements shown in this chart dropped precipitously, thereby appropriately signaling to the market that sufficient capacity already existed.⁵² As the amount of excess capacity above requirements continues to shrink, capacity market revenues increase. The effect of the increased level of excess is reflected in lower revenue margins in 2015.

⁵² 2011 State of Market Report, p. A-13.

Chart 18: UCAP-based Revenue Margins

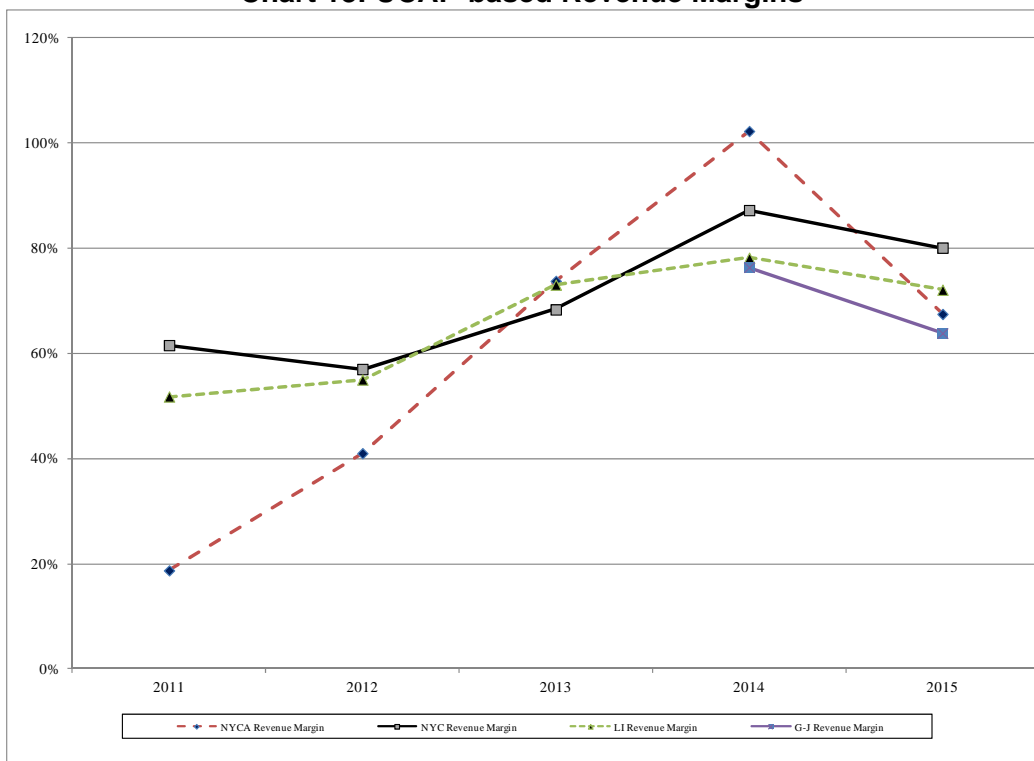


Chart 19: UCAP-based Capacity Margins

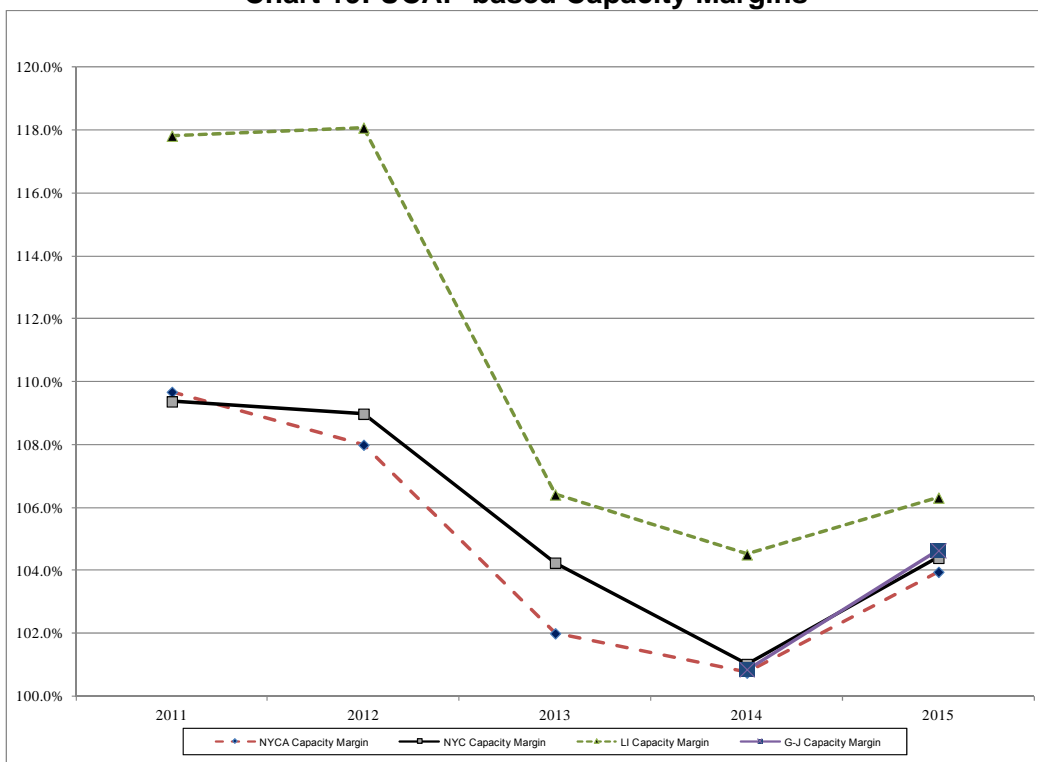
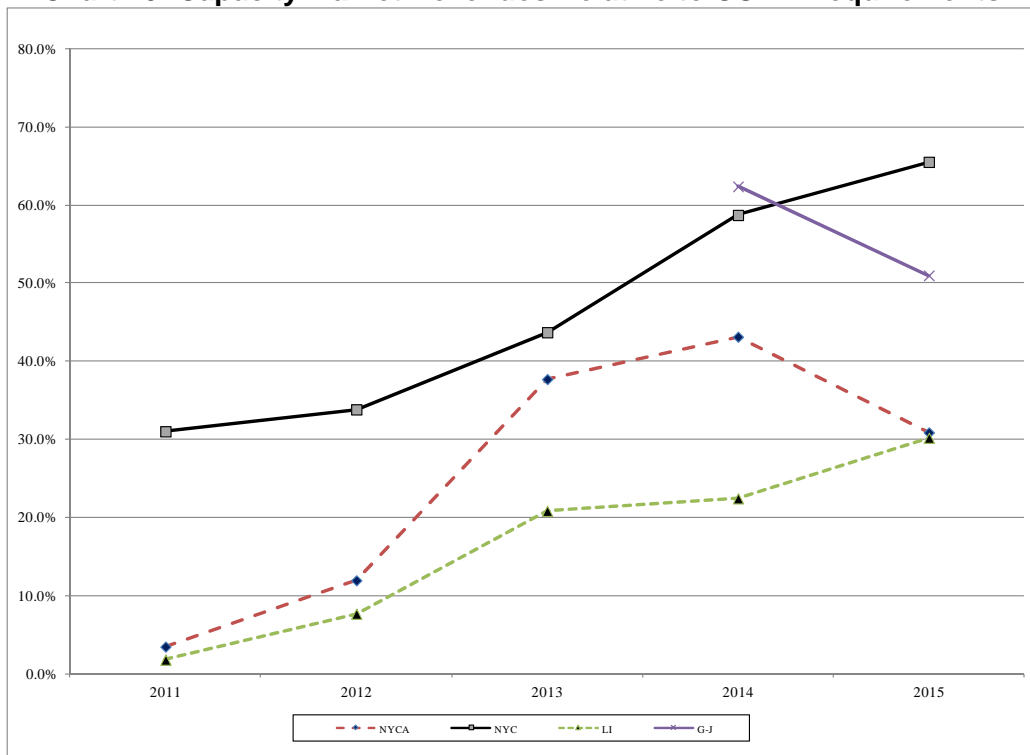


Chart 20: Capacity Market Revenues Relative to CONE Requirements



Attachments

Attachment I: Confidential. Unoffered Capacity: Market Participant Explanations

(Not included with the public filing.)

Attachment II: Unsold Capacity Offers (Masked)

Masked PTID Name	AUCTION TYPE	AUCTION MONTH	LOCATION DESCRIPTION	OFFER CAPACITY MW	OFFER PRICE	AWARDED CAPACITY MW	MARKET CLEARING PRICE	UN SOLD MW
Unit I	Spot	11/01/14	ROS	48.8	\$1.75	0.00	\$1.43	48.80
Unit II	Spot	11/01/14	ROS	0.5	\$2.45	0.00	\$1.43	0.50
		Nov-14 Total						49.30
Unit III	Spot	02/01/15	ROS	260	\$3.50	0.00	\$3.36	260.00
		Feb-15 Total						260.00
Unit IV	Spot	03/01/15	ROS	0.1	\$1.00	0.00	\$0.72	0.10
Unit V	Spot	03/01/15	ROS	0.1	\$1.00	0.00	\$0.72	0.10
Unit VI	Spot	03/01/15	ROS	0.2	\$1.00	0.00	\$0.72	0.20
Unit VII	Spot	03/01/15	ROS	0.1	\$1.00	0.00	\$0.72	0.10
Unit I	Spot	03/01/15	ROS	44	\$1.15	0.00	\$0.72	44.00
		Mar-15 Total						44.50
Unit IX	Spot	04/01/15	ROS	35.3	\$0.75	5.4	\$0.75	29.90
		Apr-15 Total						29.90
		Grand Total						383.70

Attachment III: Confidential. Unsold Capacity Offers (Unmasked)

(Not included with the public filing.)

Attachment IV: Confidential. Unsold Capacity Offers: Market Participant Explanations

(Not included with the public filing.)

Attachment V: Interconnection Queue

Queue Pos.	Owner/Developer	Project Name	Date of IR	SP (MW)	WP (MW)	Type/Fuel	Location County/State	Z	Interconnection Point	Utility	S	Last Update	Availability of Studies	FS Complete/ SGI Tender	Proposed In-Service	Proposed COD
154	KeySpan Energy for LIPA	Holtsville-Brentwood-Pilgrim	8/19/04	N/A		AC	Suffolk, NY	K	Holtsville & Pilgrim 138kV	LIPA	4	7/31/15	None		2017	
180A	Green Power	Cody Rd	3/17/05	10	10	W	Madison, NY	C	Fenner - Cortland 115kV	NM-NG	12	7/31/15	None	6/15/09	2016/07	2016/07
197	PPM Roaring Brook, LLC / PPM	Roaring Brook Wind	7/1/05	78	78	W	Lewis, NY	E	Boonville-Lowville 115kV	NM-NG	11	6/30/15	FES, SRIS, FS	2/1/10	2017/05	2017/12
251	CPV Valley, LLC	CPV Valley Energy Center	7/5/07	677.6	690.6	CC-D	Orange, NY	G	Coopers – Rock Tavern 345kV	NYPA	11	5/31/15	FES, SRIS, FS	10/15/13	2017/06	2017/10
270	Wind Development Contract Co LLC	Hounsfield Wind	12/13/07	244.8	244.8	W	Jefferson, NY	E	Fitzpatrick - Edic 345kV	NYPA	7	1/31/15	FES, SRIS		2015/12	2015/12
276	Air Energie TCI, Inc.	Crown City Wind Farm	1/30/08	90	90	W	Cortland, NY	C	Cortland - Fenner 115kV	NM-NG	7	1/31/15	FES, SRIS		2018/12	2018/12
305	TDI-USA Holdings Corporation	Champlain Hudson Power Express	7/18/08	1000	1000	DC	Quebec - NY, NY	J	Astoria Annex Substation 345kV	NYPA	9	5/31/15	FES, SRIS		2019/Q1	2019/Q2
331	National Grid	Northeast NY Reinforcement	4/22/09	N/A	N/A	AC	Saratoga, NY	F	NGrid 230kV	NM-NG	12	10/31/11	SIS		2010-2019	
333	National Grid	Western NY Reinforcement	5/5/09	N/A	N/A	AC	Cattaraugus, NY	A	NGrid 115kV	NM-NG	6	6/30/15	SIS		2015/Q3	
338	RG&E	Brown's Race II	8/11/09	6.3	6.3	H	Monroe, NY	B	Station 137 11kV	RG&E	11	11/30/15	None		2018/09	2018/09
339	RG&E	Transmission Reinforcement	8/17/09	N/A	N/A	AC	Monroe, NY	B	Niagara - Kintigh 345kV	RG&E	6	4/30/15	SIS		2019/W	
347	Franklin Wind Farm, LLC	Franklin Wind	12/2/09	50.4	50.4	W	Delaware, NY	E	Oakdale - Delhi 115kV	NYSEG	7	1/31/15	FES, SRIS		2015/12	2015/12
349	Taylor Biomass Energy-Montgomery, LLC	Taylor Biomass	12/30/09	19	22.5	SW	Orange, NY	G	Maybrook - Rock Tavern 69kV	CHGE	11	9/30/15	SRIS, FS	10/15/13	2017/01	2017/05
358	West Point Partners, LLC	West Point Transmission	9/13/10	1000	1000	DC	Greene, Westchester, NY	F, H	Leeds - Buchanan North 345kV	NM-NG/ConEd	7	1/31/15	FES, SRIS		2017/07	2017/07
361	US PowerGen Co.	Luyster Creek Energy	2/15/11	401	444	CC-D	Queens, NY	J	Astoria West Substation 138kV	CONED	7	1/31/15	FES, SRIS		2017/06	2017/06
362	Monticello Hills Wind, LLC	Monticello Hills Wind	3/7/11	19.8	19.8	W	Otsego, NY	E	W. Winfield - Richfield Spring 46kV	NYSEG	11	5/31/15	None	3/18/13	2016/12	2016/12
363	Poseidon Transmission 1, LLC	Poseidon Transmission	4/27/11	500	500	DC	NJ - Suffolk, NY	K	Werner - Ruland Rd. 230kV	LIPA	9	5/31/15	FES, SRIS		2020/03	2020/06
367	Orange & Rockland	North Rockland Transformer	9/14/11	TBD	TBD	AC	Rockland, NY	G	Line Y94 345kV	ConEd	6	4/30/14	SIS		2018/06	
368	Consolidated Edison Co. of NY	Feeder 76 Ramapo to Rock Tavern	10/13/11	TBD	TBD	AC	Orange, Rockland, NY	G	Ramapo to Rock Tavern 345 kV	ConEd/CenHud	6	4/30/14	SIS		2016/Q2	
371	South Mountain Wind, LLC	South Mountain Wind	10/31/11	18	18	W	Delaware, NY	E	River Rd Substation 46kV	NYSEG	7	10/31/14	None		2017/12	2017/12
372	Dry Lots Wind, LLC	Dry Lots Wind	10/31/11	33	33	W	Herkimer, NY	E	Schuyler - Whitesboro 46kV	NM-NG	7	1/31/15	FES, SRIS		2017/11	2017/11
373	New York Power Authority	Coopers Corners Shunt Reactor	12/21/11	N/A	N/A	AC	Sullivan, NY	E	Coopers Corners 345 kV	NYSEG	14	8/31/15	SIS		I/S	I/S
377	Monroe County	Monroe County Mill Seat	3/16/12	3.2	3.2	M	Monroe, NY	B	Sanford Rd. 34.5kV	NM-NG	11	7/31/15	None	12/1/14	2016/06	2016/07
380	New York Power Authority	Marcy South Reinforcement	5/14/12	N/A	N/A	AC	Oneida-Sullivan, NY	E	Marcy/Edic-Coopers Corners 345kV	NYSEG	6	4/30/14	SIS		2016/Q2	
382	Astoria Generating Co.	South Pier Improvement	5/30/12	91.2	95.5	CT-NG	Kings, NY	J	Gowanus Substation 138kV	ConEd	7	3/31/15	SRIS		2016/06	2016/06
383	NRG Energy, Inc.	Bowline Gen. Station Unit #3	5/30/12	775	814	CC-NG	Rockland, NY	G	Ladentown Substation 345kV	O&R/ConEd	7	1/31/15	SRIS		2016/01	2016/06
384	National Grid	Knickerbocker Pleasant Valley	6/15/12	TBD	TBD	AC	Columbia-Dutchess, NY	F, G	Knickerbocker - P. Valley 345kV	NM-NG/ConEd	6	7/31/13	SIS		2018	
386	GII Development LLC	Grand Isle Intertie	6/28/12	400	400	DC	Clinton, NY - VT	D	Plattsburgh 230kV-New Haven, VT 345kV	NYPA	7	11/30/15	FES, SIRS		2018/06	2018/06
387	Cassadaga Wind, LLC	Cassadaga Wind	7/19/12	126	126	W	Chautauqua, NY	A	Dunkirk – Moon Station 115 kV	NM-NG	7	10/31/15	FES, SRIS		N/A	N/A
390	Trail Co.	Farmers Valley Substation	9/14/12	TBD	TBD	AC	Cattaraugus, NY - PA	A	Homer City - Stolle Rd. 345kV	NM-NG/NYSEG	6	7/31/14	SIS		2016/06	
391	North America Transmission, LLC	Edic - Fraser #2	9/21/12	TBD	TBD	AC	Oneida-Delaware, NY	E	Edic - Fraser 345kV	NM-NG/NYSEG	5	11/30/13	FES		2017/11	2017/11
392	Exelon Corporation	Scriba-Volney	10/5/12	TBD	TBD	AC	Oswego, NY	C	Scriba - Volney 345kV	NM-NG/NYSEG	6	4/30/15	SIS		N/A	
393	NRG Energy, Inc.	Berrians East Repower	10/16/12	102.3	53	CC-D	Queens, NY	J	Astoria East Substation 138kV	CONED	5	3/31/14	FES		2018/06	2018/06
394	Trail Co.	Mainesburg Substation	10/16/12	TBD	TBD	AC	Chemung, NY - PA	C	Homer City - Watercure 345kV	NYSEG	6	6/30/15	SIS		2015/10	
395	Copenhagen Wind Farm, LLC	Copenhagen Wind	11/12/12	79.9	79.9	W	Lewis, NY	E	Black River-Lighthouse Hill 115kV	NM-NG	9	4/30/15	FES, SRIS		2016/08	2016/10
396	Baron Winds, LLC	Baron Winds	11/30/12	300	300	W	Steuben, NY	C	Hillside - Meyer 230kV	NYSEG	7	2/28/15	FES, SRIS		2016/12	2016/12
396A	New York State Electric & Gas	Wood Street Transformer	12/14/12	TBD	TBD	AC	Putnum, NY	G	Wood St. 345/115kV	NYSEG	6	8/31/15	SIS		2017/12	
397	Jericho Rise Wind Farm, LLC	Jericho Rise Wind	12/21/12	77.7	77.7	W	Franklin, NY	D	Willis Substation 115kV	NYPA	9	6/30/15	SRIS		2016/10	2016/12
398	Black Oak Wind Farm, LLC	Black Oak Wind	1/10/13	12.5	12.5	W	Tompkins, NY	C	Montour - Coddington 115kV	NYSEG	10	10/31/15	None		2016/07	2016/09
401	Caithness Long Island II, LLC	Caithness Long Island II	3/22/13	764	807	CC-D	Suffolk, NY	K	Sills Road Substation 138kV	LIPA	9	4/30/15	SRIS		2018/04	2019/05
403	PSEG Power New York	Bethlehem Energy Center Up	5/28/13	72	51.2	CC-D	Albany, NY	F	Bethlehem Energy Center	NM-NG	9	5/31/15	FES, SRIS		2017-2019	2017-2019
404	NextEra Energy Transmission	Princeton - Rotterdam 230	6/4/13	TBD	TBD	AC	Schenectady, NY	F	Princeton - Rotterdam 230kV	NM-NG	3	1/31/14	None		2017/07	2017/08
405	NextEra Energy Transmission	Oakdale - Fraser 345	6/21/13	TBD	TBD	AC	Broome-Delaware, N C, E	E	Oakdale - Fraser 345kV	NYSEG	5	6/30/15	FES		2018/09	2018/10
412	New York State Electric & Gas	Oakdale - Fraser 345	8/20/13	TBD	TBD	AC	Broome-Delaware, N C, E	E	Oakdale - Fraser 345kV	NYSEG	5	12/31/13	None		2017/05	

Attachment V: Interconnection Queue

Queue Pos.	Owner/Developer	Project Name	Date of IR	SP (MW)	WP (MW)	Type/ Fuel	Location County/State	Z	Interconnection Point	Utility	S	Last Update	Availability of Studies	FS Complete/ SGLA Tender	Proposed In-Service	Proposed COD
414	North America Transmission, LLC	New Scotland-Leeds-PV 345	9/5/13	TBD	TBD	AC	Albany-Dutchess, NY	F, G	New Scotland - P. Valley 345kV	NM-NG/ConEd	5	6/30/15	FES		2019	2019
417	NextEra Energy Transmission	Marcy - KB - PV 345 (3)	9/9/13	TBD	TBD	AC	Oneida-Dutchess, NY	E, G	Marcy - P. Valley 345kV	NM-NG/NYP/ConEd	4	10/31/15	FES		2017/07	2017/08
419	NextEra Energy Transmission	Marcy - NS - KB - PV 345	9/16/13	TBD	TBD	AC	Oneida-Dutchess, NY	E, G	Marcy - P. Valley 345kV	NM-NG/NYP/ConEd	3	1/31/14	None		2017/07	2017/08
421	EDP Renewables North America	Arkwright Summit	11/1/13	78	78	W	Chautauqua, NY	A	Dunkirk - Falconer 115 kV	NM-NG	5	10/31/15	None		N/A	N/A
422	NextEra Energy Resources, LLC	Call Hill Wind	11/7/13	103.3	103.3	W	Steuben-Allegany, N	B	Bennett 115kV	NYSEG	4	11/30/15	FES		2017/Q3	2017/Q4
424	Boundless Energy NE, LLC	Leeds Path West	11/26/13	TBD	TBD	AC	Greene-Westchester, NY	G-J	Leeds - Millwood 345kV	NM-NG/NYP/ConHud/ConEd/NYSEG	5	10/31/15	FES		2017/06	2017/07
427	Island Park Energy Center, LLC	Island Park Energy Center C0PP	1/24/14	268	295	CT-NG	Nassau, NY	K	Barrett Power Station 138kV	LIPA	5	11/30/14	None		2019/02	2019/05
428	Island Park Energy Center, LLC	Island Park Energy Center SCPP	1/24/14	262	252	CT-NG	Nassau, NY	K	Barrett Power Station 138kV	LIPA	5	11/30/14	None		2017/02	2017/05
429	Orange & Rockland	North Rockland Station	2/12/14	TBD	TBD	AC	Rockland, NY	G	Line Y88 345kV	ConEd	6	8/31/15	SIS		2018/06	
430	H.Q. Energy Services U.S. Inc.	Cedar Rapids Transmission	3/5/14	TBD	TBD	AC	St. Lawrence, NY	E	Dennison - Alcoa 115kV	NM-NG	5	10/31/14	None		2017/Q1	
431	Greenidge Generation	Greenidge Unit #4	4/11/14	106.3	106.3	ST-NG	Yates, NY	C	Greenidge Substation 115kV	NYSEG	9	8/31/15	SRIS		2015/Q4	2015/Q4
432	New York State Electric & Gas	South Perry Transformer	4/15/14	TBD	TBD	AC	Wyoming, NY	B	South Perry Substation 115kV	NYSEG	5	8/31/14	None		2017/12	
439	Boston Energy Trading	East Garden City-Valley Stream	5/9/14	TBD	TBD	AC	Nassau, NY	K	E. Garden City-Valley Stream 138kV	LIPA	5	11/30/14	None		N/A	N/A
440	Erie Power, LLC	Erie Power	6/2/14	79.4	88	CC-NG	Chautauqua, NY	A	South Ripley Substation 230kV	NM-NG	7	7/31/15	SRIS		2016/04	2016/04
444	Cricket Valley Energy Center, LLC	Cricket Valley Energy Center II	6/18/14	1020	1132	CC-NG	Dutchess, NY	G	Pleasant Valley - Long Mt. 345kV	ConEd	7	9/30/15	SRIS		2017/12	2018/06
445	Lighthouse Wind, LLC	Lighthouse Wind	6/30/14	201.3	201.3	W	Niagara, NY	A	AES Somerset Substation 345kV	NYSEG	5	10/31/15	FES		2017/09	2017/12
448	Alps Interconnector, LLC	Alps HVDC	8/12/14	600	600	DC	NE-Rensselaer, NY	F	Alps Substation 345kV	NM-NG	3	5/31/15	None		2019/06	2019/06
449	Stockbridge Wind, LLC	Stockbridge Wind	8/13/14	72.6	72.6	W	Madison, NY	E	Whitman - Oneida 115kV	NM-NG	5	11/30/15	FES		2016/10	2016/12
458	TDI-USA Holdings, Inc.	NS Interconnection	10/24/14	1000	1000	DC	Albany - NY, NY	F, J	Marcy-New Scotland-Astoria 345kV	NM-NG/NYP/ConEd	3	9/30/15	None		2018/Q4	2018/Q4
461	Consolidated Edison Co. of NY	East River 1 Uprate	12/1/14	2.1	2.1	CT-NG	New York, NY	J	East River Complex	ConEd	5, 14	10/31/15	None		I/S	I/S
462	Consolidated Edison Co. of NY	East River 2 Uprate	12/1/14	2.1	2.1	CT-NG	New York, NY	J	East River Complex	ConEd	5, 14	10/31/15	None		I/S	I/S
465	Hudson Transmission Partners	Hudson Transmission NY to PJM	12/15/14	675	675	DC/AC	New York, NY	J	W49th St 345kV - Bergen 230kV	ConEd	5	5/31/15	None		2016/06	2016/06
466	Atlantic Wind, LLC	Bone Run Win	12/16/14	148.5	148.5	W	Cattaraugus, NY	A	Falconer - Homer Hill 115kV	NM-NG	4	10/31/15	FES		2019/11	2019/11
467	Invenergy Solar Development, LL	Tailgrass Solar	12/22/14	25	25	S	Suffolk, NY	K	Ridge - Wildwood 69kV	LIPA	5	5/31/15	None		2016/09	2016/11
468	Hudson North Country Wind 1, LLC	Galloo Island Wind	12/30/14	105.6	105.6	W	Oswego, NY	C	Hammermill - Wine Creek 115kV	NM-NG	3	6/30/15	None		2017/07	2017/12
469	NextEra Energy Transmission	Edic-PV 345	1/6/15	TBD	TBD	AC	Oneida-Dutchess, NY	E, G	Edic - Pleasant Valley 345kV	NM-NG/ConEd	3	5/31/15	None		2019/09	2019/11
470	NextEra Energy Transmission	Knickerbocker 115	1/6/15	TBD	TBD	AC	Columbia-Rensselaer, NY	F	Greenbush - Churchtown 115kV	NM-NG/NYSEG/CHGE	3	6/30/15	None		2019/07	2019/08
471	NextEra Energy Transmission	Marcy-Princeton 345	1/6/15	TBD	TBD	AC	Oneida-Albany, NY	E, F	Marcy - Princeton 345kV	NM-NG/NYP/ConEd	3	6/30/15	None		2019/07	2019/08
472	NextEra Energy Transmission	Knickerbocker 345	1/6/15	TBD	TBD	AC	Rensselaer-Dutchess, NY	F	Knickerbocker - P. Valley 345kV	NM-NG/ConEd	4	10/31/15	FES		2019/01	2019/02
473	Calverton Solar LLC	Calverton Solar	1/21/15	10	10	S	Suffolk, NY	K	Riverhead - Wildwood 69kV	LIPA	3	8/31/15	None		2016/09	2016/09
474	EDP Renewables North America	North Slope Wind	1/30/15	200	200	W	Franklin-Clinton, NY	D	Patnode 230kV	NYP/ConEd	3	8/31/15	None		2017/11	2017/11
476	New York State Electric & Gas	Edic-PV, Oakdale-Fraser	2/12/15	TBD	TBD	AC	Oneida-Delaware, NY	E	Edic-PV, Oakdale-Fraser 345kV	NM-NG/NYSEG/CHGE	5	8/31/15	None		2019/09	2019/09
477	Riverhead Solar Farm LLC	Riverhead Solar	2/18/15	20	20	S	Suffolk, NY	K	Edwards Substation 138kV	LIPA	3	6/30/15	None		2016/10	2016/10
478	Central Hudson Gas & Electric	Hurley Ave PARs	2/17/15	TBD	TBD	AC	Dutchess, NY	G	Hurley Ave 345kV	CHGENM-NG/NYSEG	5	6/30/15	None		2019/06	2019/06
479	Central Hudson Gas & Electric	Edic-NS, Hurley PARs	2/17/15	TBD	TBD	AC	Oneida-Dutchess, NY	E-G	Edic-NS, Hurley Ave 345kV	CHGENM-NG/NYSEG/NYP/ConEd	5	6/30/15	None		2019/07	2019/07
480	National Grid	Edic-NS, Knickerbocker-PV	2/20/15	TBD	TBD	AC	Oneida-Dutchess, NY	E-G	Edic-NS, Knickerbocker-PV 345kV	NM-NG/ConEd	4	2/28/15	None		2019/09	2019/09
481	National Grid	Leeds - Pleasant Valley	2/20/15	TBD	TBD	AC	Greene-Dutchess, NY	G	Leeds - P. Valley 345kV	NM-NG/ConEd	4	2/28/15	None		2019/02	2019/02
482	National Grid	Edic-NS, NS-Leeds-PV	2/20/15	TBD	TBD	AC	Oneida-Dutchess, NY	E, G	Edic-NS, NS-Leeds-PV 345kV	NM-NG/ConEd	4	2/28/15	None		2018/06	2018/06
483	National Grid	NS-Leeds, Leeds-PV	2/20/15	TBD	TBD	AC	Albany-Dutchess, NY	F, G	NS-Leeds, Leeds-PV 345kV	NM-NG/ConEd	4	2/28/15	None		2019/09	2019/09
484	National Grid	Edic-NS, NS-Leeds, Leeds-PV	2/20/15	TBD	TBD	AC	Oneida-Dutchess, NY	E, G	Edic-NS, NS-Leeds, Leeds-PV 345kV	NM-NG/ConEd	4	2/28/15	None		2020/02	2020/02
485	National Grid	Knickerbocker-PV	3/4/15	TBD	TBD	AC	Columbia-Dutchess, NY	F, G	Knickerbocker - P. Valley 345kV	NM-NG/ConEd	4	3/31/15	None		2019/09	2019/09
487	LI Energy Storage System	Far Rockaway Battery Storage	3/9/15	20	20	ES	Suffolk, NY	K	Far Rockaway Substation 69kV	LIPA	2	5/31/15	None		2018/10	2018/10
488	LI Energy Storage System	Glenwood Battery Storage	3/9/15	20	20	ES	Suffolk, NY	K	Glenwood Substation 69kV	LIPA	2	5/31/15	None		2018/10	2018/10
490	New York Power Authority	Marcy South Series Comp	3/16/15	TBD	TBD	AC		E		NYSEG/NM-NG	5	5/31/15	None			

Attachment V: Interconnection Queue

Queue Pos.	Owner/Developer	Project Name	Date of IR	SP (MW)	WP (MW)	Type/ Fuel	Location County/State	Z	Interconnection Point	Utility	S	Last Update	Availability of Studies	FS Complete/ SGIA Tender	Proposed In-Service	Proposed COD
492	Setauket Fuel Cell Park, LLC	Setauket Fuel Cell Park	3/23/15	19.6	19.6	FC	Suffolk, NY	K	Terryville Substation 69kV	LIPA	2	8/31/15	None		2016/12	2016/12
493	EPCAL Fuel Cell Park, LLC	EPCAL Fuel Cell Park	3/30/15	19.6	19.6	FC	Suffolk, NY	K	Riverhead 69 kV	LIPA	2	10/31/15	None		2016/12	2016/12
494	Alabama Ledge Wind Farm LLC	Alabama Ledge Wind	3/31/15	79.8	79.8	W	Genesee, NY	A	Oakfield - Lockport 115kV	NM-NG	4	5/31/15	None		2017/09	2017/12
495	Canajoharie Solar LLC	Canajoharie Solar	4/2/15	98	98	S	Montgomery, NY	F	St. Johnsville - Marshville 115kV	NM-NG	3	10/31/15	None		2016/12	2016/12
496	Renovo Energy Center, LLL	Renovo Energy Center	4/13/15	480	504	CC	Chemung, NY - PA	C	Homer City - Watercure 345kV	NYSEG	3	8/31/15	None		2019/05	2019/12
497	Invenery Wind Development LLC	Bull Run Wind	4/24/15	303.6	303.6	W	Clinton, NY	D	Patnode 230kV	NYP&A	3	9/30/15	None		2018/10	2018/12
498	ESC Tioga County Power, LLC	Tioga County Power	4/29/15	550	550	CC-NG	Chemung, NY - PA	C	Homer City - Watercure 345kV	NYSEG	3	8/31/15	None		2020/06	2020/06
505	RES America Developments LLC	Ball Hill Wind	6/2/15	120	120	W	Chautauqua, NY	A	Dunkirk - Gardenville 230kV	NM-NG	3	11/30/15	None		2017/09	2017/12
506	Empire State Connector Corp.	Empire State Connector	6/10/15	1000	1000	DC	Onondaga-New York, NY	C, J	Clay - Gowanus 345kV	NYP&A/NM-NG/ConEd	3	10/31/15	None		2021/10	2022/01
507	Erie Boulevard Hydropower, LP	Glens Falls Hydro	7/2/15	14.8	14.8	H	Washington, NY	F	Henry St. - Glens Falls 34.5kV	NM-NG	2	8/31/15	None		2016/11	2016/11
508	Blue Circle DG LLC	Blue Circle	7/17/15	18.2	18.2	FC	Greene, NY	G	Blue Circle Substation	NM-NG	2	10/31/15	None		2016/12	2016/12
510	Bayonne Energy Center	Bayonne Energy Center II	8/3/15	120.4	129.4	CT-D	Bayonne, NJ	J	Gowanus Substation 345kV	ConEd	5	10/31/15	None		2017/06	2017/12
511	AG Energy, LP	Ogdensburg	9/4/15	79	90.1	CT-NG	St. Lawrence, NY	E	North Ogdensburg Substation	NM-NG	4	10/31/15	None		2016/05	2016/05
512	Northbrook Lyons Falls	Lyons Falls Mill Hydro	9/11/15	14.1	14.1	H	Lewis, NY	E	Franklin Street Substation	NM-NG	2	10/31/15	None		2018/03	2018/03
513	Stony Creek Energy LLC	Orangeville	9/21/15	20	20	ES	Wyoming, NY	A	Stony Creek 230kV	NYSEG	2	10/31/15	None		2016/08	2016/08
514	RES Americas Developments Inc.	Empire Wind	10/1/15	120	120	W	Rensselaer, NY	F	Stephentown - Greenbush 115kV	NM-NG	2	10/31/15	None		2019/10	2019/10
515	North Bergen Liberty Energy Center LLC	Liberty Generation	10/7/15	1000	1000	CC-NG	New York, NY	J	W49th St 345kV	ConEd	2	10/31/15	None		2019/06	2019/06
516	East Coast Power LLC	Linden Cogen Uprate	10/12/15	230	234	CT-NG	Linden, NJ-NY,NY	J	Linden Cogen 345kV	ConEd	4	10/31/15	None		2019/Q2	2019/Q2
517	National Grid	Western NY Reactors & Capacitors	10/14/15	N/A	N/A	AC	Niagara, NY	A	Packard - Huntley 230kV	NM-NG	4	10/31/15	None		2016/06	2016/06
518	PPL Electric Utilities	Compass	10/27/15	TBD	TBD	AC	PA-Rockland, NY	G	Lackawanna - Ramapo 345kV	ConEd	2	11/30/15	None		2023/12	2023/12
519	Invenery Wind Development LLC	Canisteo Wind	11/2/15	290.7	290.7	W	Steuben, NY	C	Bennett 115kV	NYSEG	1	11/30/15	None		2019/10	2019/12

Number of new projects during November	1
Number of new projects year to date	52
Number withdrawn during November	0
Number withdrawn year to date	41

- NOTES:
- The column labeled 'SP' refers to the maximum summer megawatt electrical output. The column labeled 'WP' refers to the maximum winter megawatt electrical output.
 - Type / Fuel. Key: ST=Steam Turbine, CT=Combustion Turbine, CC=Combined Cycle, CS= Steam Turbine & Combustion Turbine, H=Hydro, PS=Pumped Storage, W=Wind, NU=Nuclear, NG=Natural Gas, M=Methane, SW=Solid Waste, S=Solar, Wo=Wood, F=Flywheel ES=Energy Storage, O=Oil, C=Coal, D=Dual Fuel, AC=AC Transmission, DC=DC Transmission, L=Load, FC=Fuel Cell
 - The column labeled 'Z' refers to the zone
 - The column labeled 'S' refers to the status of the project in the NYISO's LFIP. Key: 1=Scoping Meeting Pending, 2=FES Pending, 3=FES in Progress, 4=SRIS/SIS Pending, 5=SRIS/SIS in Progress, 6=SRIS/SIS Approved, 7=FS Pending, 8=Rejected Cost Allocation/Next FS Pending, 9=FS in Progress, 10=Accepted Cost Allocation/IA in Progress, 11=IA Completed, 12=Under Construction, 13=In Service for Test, 14=In Service Commercial, 0=Withdrawn
 - Availability of Studies Key: None=Not Available, FES=Feasibility Study Available, SRIS=System Reliability Impact Study Available, FS=Facilities Study and/or ATRA Available
 - FS Complete/SGIA Tender refers to the Attachment X milestone used to apply the 4-year COD limitation.
 - Proposed in-service dates and Commercial Operation Dates (COD) are shown in format Year/Qualifier, where Qualifier may indicate the month, season, or quarter.

Attachment VI: Status Key for Interconnection Queue

1	Scoping Meeting Pending	Interconnection Request has been received, but scoping meeting has not yet occurred
2	FES Pending	Awaiting execution of Feasibility Study Agreement
3	FES in Progress	Feasibility Study is in Progress
4	SRIS/SIS Pending	Awaiting execution of System Reliability Impact Study (SRIS) or System Impact Study (SIS) Agreement and/or OC approval of SRIS or SIS scope ⁵³
5	SRIS/SIS in Progress	
6	SRIS/SIS Approved	SRIS/SIS Approved by NYISO Operating Committee
7	FS Pending	Awaiting execution of Facilities Study Agreement
8	Rejected Cost Allocation/ Next FS Pending	Project was in prior Class Year, but rejected cost allocation—Awaiting execution of Facilities Study Agreement for next Class Year or the start of the next Class Year
9	FS in Progress	Class Year Facilities Study or Small Generator Facilities Study is in Progress
10	Accepted Cost Allocation/ IA in Progress	Interconnection Agreement is being negotiated
11	IA Completed	Interconnection Agreement is executed and/or filed with FERC
12	Under Construction	Project is under construction
13	In Service for Test	
14	In Service Commercial	

⁵³ System Reliability Impact Study (SRIS) applies to a Large Facility Interconnection Request. System Impact Study (SIS) applies to a Small Generator Interconnection Request or a transmission study request submitted pursuant to Section 3.7 of the OATT.

Attachment VII: November 1999 – October 2015 Installed Capacity Auction Activity

Month	NYCA								NYC								LI						G-J Locality										
	Capability Period* (Strip)		Monthly Auction		Spot Market		Minimum Required	Excess Sold	Capability Period* (Strip)		Monthly Auction		Spot Market		Minimum Required	Excess Sold	Capability Period* (Strip)		Monthly Auction		Spot Market		Minimum Required	Excess Sold	Capability Period* (Strip)		Monthly Auction		Spot Market		Minimum Required	Excess Sold	
	MW	Price	MW	Price	MW	Price	MW	MW	MW	Price	MW	Price	MW	Price	MW	MW	MW	Price	MW	Price	MW	Price	MW	MW	MW	Price	MW	Price	MW	Price	MW	MW	
Nov-99							35,563.1								8,305.6																		4,555.3
Dec-99							35,563.1								8,305.6																	4,555.3	
Jan-00	Installed Capacity Market Existed but all purchases and sales were bilateral							35,563.1		Installed Capacity Market Existed but all purchases and sales were bilateral							8,305.6		Installed Capacity Market Existed but all purchases and sales were bilateral							4,555.3							
Feb-00	Installed Capacity Market Existed but all purchases and sales were bilateral							35,563.1		Installed Capacity Market Existed but all purchases and sales were bilateral							8,305.6		Installed Capacity Market Existed but all purchases and sales were bilateral							4,555.3							
Mar-00							35,563.1								8,305.6																	4,555.3	
Apr-00							35,563.1								8,305.6																	4,555.3	
May-00	1,976.0	\$1.5	434.2	\$1.3	32.7	\$0.5	35,636.0	1,976.0	5,408.8	\$8.8	59.4	\$12.5	0.0	-	8,272.0		0.0	-	0.0	-	0.0	-									4,638.0		
Jun-00	1,976.0	\$1.5	528.4	\$1.4	37.1	\$1.3	35,563.1	1,976.0	5,408.8	\$8.8	313.4	\$9.5	52.7	\$12.5	8,272.0		0.0	-	0.0	-	0.0	-									4,638.0		
Jul-00	1,976.0	\$1.5	344.2	\$1.8	140.8	\$2.0	35,563.1	1,976.0	5,408.8	\$8.8	342.7	\$9.4	100.0	\$12.5	8,272.0		0.0	-	0.0	-	0.0	-									4,638.0		
Aug-00	1,976.0	\$1.5	351.4	\$1.6	194.8	\$1.8	35,563.1	1,976.0	5,408.8	\$8.8	332.6	\$9.4	133.9	\$12.5	8,272.0		0.0	-	0.0	-	0.0	-									4,638.0		
Sep-00	1,976.0	\$1.5	648.9	\$1.3	81.3	\$1.2	35,563.1	1,976.0	5,408.8	\$8.8	344.5	\$9.4	149.5	\$12.5	8,272.0		0.0	-	0.0	-	0.0	-									4,638.0		
Oct-00	1,976.0	\$1.5	681.6	\$1.3	96.9	\$0.9	35,563.1	1,976.0	5,408.8	\$8.8	304.2	\$9.5	214.0	\$12.5	8,272.0		0.0	-	0.0	-	0.0	-									4,638.0		
Nov-00	4,010.6	\$1.0	1,813.6	\$1.0	157.7	\$0.8	35,563.1	4,010.6	4,861.4	\$8.8	735.0	\$8.7	170.3	\$8.8	8,272.0		0.0	-	0.0	-	0.0	-									4,638.0		
Dec-00	4,010.6	\$1.0	1,854.1	\$1.0	167.2	\$0.9	35,563.1	4,010.6	4,861.4	\$8.8	785.1	\$8.7	154.8	\$8.8	8,272.0		0.0	-	0.0	-	0.0	-									4,638.0		
Jan-01	4,010.6	\$1.0	1,847.6	\$1.0	170.5	\$0.9	35,563.1	4,010.6	4,861.4	\$8.8	899.5	\$8.7	154.8	\$8.8	8,272.0		0.0	-	0.0	-	0.0	-									4,638.0		
Feb-01	4,010.6	\$1.0	1,893.8	\$1.0	177.2	\$0.8	35,563.1	4,010.6	4,861.4	\$8.8	921.7	\$8.7	154.8	\$8.8	8,272.0		0.0	-	0.0	-	0.0	-									4,638.0		
Mar-01	4,010.6	\$1.0	2,032.8	\$1.0	208.1	\$0.8	35,563.1	4,010.6	4,861.4	\$8.8	936.5	\$8.7	156.0	\$8.8	8,272.0		0.0	-	0.0	-	0.0	-									4,638.0		
Apr-01	4,010.6	\$1.0	1,659.7	\$0.9	192.3	\$0.6	35,563.1	4,010.6	4,861.4	\$8.8	985.6	\$8.6	156.7	\$8.7	8,272.0		0.0	-	0.0	-	0.0	-									4,638.0		
May-01	2,738.6	\$1.9	852.3	\$2.3	1,022.2	\$9.6	36,132.0	2,738.6	5,316.6	\$8.8	248.7	\$8.8	235.1	\$12.5	8,375.0	(est.)	0.0	-	0.0	-	3.2	\$10.8								4,625.0			
Jun-01	2,738.6	\$1.9	397.6	\$2.7	1,521.0	\$9.4	36,132.0	2,738.6	5,316.6	\$8.8	228.4	\$10.9	299.0	\$12.2	8,375.0	(est.)	0.0	-	0.0	-	7.0	\$10.8								4,625.0			
Jul-01	2,738.6	\$1.9	1,776.6	\$4.3	1,534.9	\$9.4	36,132.0	2,738.6	5,316.6	\$8.8	407.8	\$9.8	292.5	\$8.8	8,375.0	(est.)	0.0	-	0.0	-	20.2	\$10.8								4,625.0			
Aug-01	2,738.6	\$1.9	1,788.4	\$4.6	1,601.3	\$9.4	36,132.0	2,738.6	5,316.6	\$8.8	440.1	\$8.4	350.1	\$9.5	8,375.0	(est.)	0.0	-	0.0	-	21.3	\$10.8								4,625.0			
Sep-01	2,738.6	\$1.9	1,701.2	\$4.2	1,498.0	\$9.2	36,132.0	2,738.6	5,316.6	\$8.8	434.9	\$8.4	316.0	\$8.3	8,375.0	(est.)	0.0	-	0.0	-	33.0	\$10.8								4,625.0			
Oct-01	2,738.6	\$1.9	1,787.1	\$4.0	1,473.4	\$9.1	36,132.0	2,738.6	5,316.6	\$8.8	430.1	\$8.0	343.4	\$8.7	8,375.0	(est.)	0.0	-	0.0	-	33.0	\$10.8								4,625.0			
Nov-01	1,760.4	\$2.0	878.0	\$0.1	5.8	\$ -	32,892.3	1,760.4	3,972.5	\$9.4	772.8	\$9.0	77.7	\$4.8	7,613.3		0.0	-	0.6	\$3.5	8.5	\$12.3								4,077.6			
Dec-01	1,760.4	\$2.0	687.2	\$0.5	6.5	\$ -	32,892.3	1,760.4	3,972.5	\$9.4	906.8	\$6.9	11.5	\$ -	7,613.3		0.0	-	1.3	\$3.5	37.4	\$12.3								4,077.6			
Jan-02	1,760.4	\$2.0	750.5	\$0.8	133.0	\$0.8	32,892.3	1,760.4	3,972.5	\$9.4	492.6	\$5.5	377.3	\$8.3	7,613.3		0.0	-	1.3	\$5.0	39.7	\$12.3								4,077.6			
Feb-02	1,760.4	\$2.0	836.2	\$0.7	25.5	\$ -	32,892.3	1,760.4	3,972.5	\$9.4	631.1	\$6.7	229.3	\$9.2	7,613.3		0.0	-	0.0	\$ -	40.6	\$11.5								4,077.6			
Mar-02	1,760.4	\$2.0	901.3	\$0.6	30.0	\$0.3	32,892.3	1,760.4	3,972.5	\$9.4	784.3	\$6.9	90.6	\$7.5	7,613.3		0.0	-	14.0	\$11.5	26.4	\$11.5								4,077.6			
Apr-02	1,760.4	\$2.0	677.9	\$0.7	5.6	\$0.0	32,892.3	1,760.4	3,972.5	\$9.4	932.9	\$7.1	11.6	\$9.4	7,613.3		0.0	-	41.4	\$11.5	0.0	\$ -								4,077.6			
May-02	3,201.6	\$1.8	552.1	\$0.3	2.3	\$ -	32,479.5	3,201.6	4,355.2	\$9.2	684.1	\$9.4	30.5	\$9.4	7,621.6		0.0	-	0.0	-	0.0	-									4,177.8		
Jun-02	3,201.6	\$1.8	438.3	\$0.4	20.3	\$0.0	32,479.5	3,201.6	4,355.2	\$9.2	671.2	\$6.1	16.7	\$0.5	7,621.6		0.0	-	0.0	-	0.0	-									4,177.8		
Jul-02	3,201.6	\$1.8	721.9	\$1.0	11.1	\$0.0	32,479.5	3,201.6	4,355.2	\$9.2	684.7	\$5.3	0.3	\$0.0	7,621.6		0.0	-	0.0	-	0.0	-									4,177.8		
Aug-02	3,201.6	\$1.8	722.6	\$0.9	55.4	\$0.0	32,479.5	3,201.6	4,355.2	\$9.2	693.8	\$5.2	15.1	\$2.0	7,621.6		0.0	-	0.0	-	0.0	-									4,177.8		
Sep-02	3,201.6	\$1.8	714.0	\$0.3	71.2	\$0.0	32,479.5	3,201.6	4,355.2	\$9.2	688.4	\$4.8	24.5	\$0.0	7,621.6		0.0	-	0.0	-	0.0	-									4,177.8		
Oct-02	3,201.6	\$1.8	712.1	\$0.2	1.4	\$ -	32,479.5	3,201.6	4,355.2	\$9.2	699.0	\$4.7	19.2	\$2.0	7,621.6		0.0	-	0.0	-	0.0	-									4,177.8		
Nov-02	3,486.7	\$0.7	1,024.3	\$0.5	85.0	\$0.4	34,169.7	3,486.7	4,540.0	\$7.0	748.1	\$6.4	61.1	\$4.1	8,021.8		0.0	-	0.0	-	0.0	-									4,256.2		
Dec-02	3,486.7	\$0.7	1,219.3	\$0.3	51.4	\$0.1	34,169.7	3,486.7	4,540.0	\$7.0	762.7	\$4.1	29.9	\$2.8	8,021.8		0.0	-	0.0	-	0.0	-									4,256.2		
Jan-03	3,486.7	\$0.7	1,584.4	\$0.3	189.1	\$2.1	34,169.7	3,486.7	4,540.0	\$7.0	787.9	\$4.0	13.3	\$2.1	8,021.8		0.0	-	0.0	-	0.0	-									4,256.2		
Feb-03	3,486.7	\$0.7	1,623.1	\$0.3	85.6	\$0.5	34,169.7	3,486.7	4,540.0	\$7.0	808.6	\$3.5	1.5	\$3.0	8,021.8		0.0	-	0.0	-	0.0	-									4,256.2		
Mar-03	3,486.7	\$0.7	1,825.9	\$0.3	58.8	\$0.3	34,169.7	3,486.7	4,540.0	\$7.0	799.7	\$4.0	21.9	\$4.0	8,021.8		0.0	-	0.0	-	0.0	-									4,256.2		
Apr-03	3,486.7	\$0.7	1,571.5	\$0.2	4.2	\$0.0	34,169.7	3,486.7	4,540.0	\$7.0	829.7	\$3.4	9.1	\$3.6	8,021.8		0.0	-	0.0	-	0.0	-									4,256.2		
May-03	2,889.2	\$1.7	1,634.8	\$1.3	101.5	\$0.3	35,303.5	0.0	2,501.7	\$11.2	3,016.3	\$10.0	110.2	\$12.4	8,356.7	0.0	6.6	\$9.4	2.2	\$24.0	0.2	\$23.0								4,415.3	0.0		
Jun-03	2,889.2	\$1.7	1,866.0	\$1.1	2,148.7	\$2.3	35,303.5	2,073.2	2,501.7	\$11.2	683.0	\$13.8	2,375.5	\$11.5	8,356.7	0.0	6.6	\$9.4	0.0	-----	341.9	\$5.2							4,415.3	341.9			
Jul-03	2,889.2	\$1.7	1,249.2	\$2.0	2,824.2	\$2.3	35,303.5	2,274.1	2,501.7	\$11.2	527.9	\$11.6	2,558.0	\$11.5	8,356.7	0.0	6.6	\$9.4	1.0	\$5.0	344.7	\$5.1							4,415.3	344.7			
Aug-03	2,889.2	\$1.7	1,344.1	\$2.0	3,096.6	\$2.3	35,303.5	2,299.3	2,501.7	\$11.2	567.9	\$11.6	2,497.9	\$11.5	8,356.7	0.0	6.6	\$9.4	1.1	\$5.0	441.8	\$4.0							4,415.3	441.8			
Sep-03	2,889.2	\$1.7	1,396.7	\$2.0	3,134.1	\$2.1	35,303.5	2,448.1	2,501.7	\$11.2	558.1	\$11.6	2,499.5	\$11.5	8,356.7	0.0	6.6	\$9.4	0.0	-----	397.8	\$4.6							4,415.3	396.2			
Oct-03	2,889.2	\$1.7	1,408.4	\$1.9	3,253.2	\$2.0	35,303.5	2,504.8	2,501.7	\$11.2	638.8	\$11.6	2,415.1	\$11.5	8,356.7	0.0	6.6	\$9.4	0.0	-----	397.8	\$4.6							4,415.3	396.0			

* Starting May 2006, Monthly Auction prices and quantities are reported for the upcoming auction month only

Attachment VII: November 1999 – October 2015 Installed Capacity Auction Activity

Month	NYCA								NYC								LI								G-J Locality							
	Capability Period* (Strip)		Monthly Auction		Spot Market		Minimum Required	Excess Sold	Capability Period* (Strip)		Monthly Auction		Spot Market		Minimum Required	Excess Sold	Capability Period* (Strip)		Monthly Auction		Spot Market		Minimum Required	Excess Sold	Capability Period* (Strip)		Monthly Auction		Spot Market		Minimum Required	Excess Sold
	MW	Price	MW	Price	MW	Price	MW	MW	MW	Price	MW	Price	MW	Price	MW	MW	MW	Price	MW	Price	MW	Price	MW	MW	MW	Price	MW	Price	MW	Price	MW	MW
Nov-07	3,064.4	\$1.9	2,586.1	\$1.9	9,045.5	\$1.6	36,819.2	3,503.7	908.2	\$5.3	1,393.5	\$5.6	4,438.1	\$5.8	8,870.8	1,009.5	0.0	\$0.0	2.0	\$3.5	631.5	\$4.3	4,972.5	630.6								
Dec-07	3,064.4	\$1.9	2,134.9	\$2.0	8,009.1	\$2.2	36,819.2	3,149.2	908.2	\$5.3	1,532.1	\$5.6	4,067.3	\$5.8	8,870.8	1,009.5	0.0	\$0.0	0.0	\$0.0	635.9	\$4.3	4,972.5	633.0								
Jan-08	3,064.4	\$1.9	2,324.2	\$2.4	7,053.4	\$3.4	36,819.2	2,477.3	908.2	\$5.3	1,149.7	\$5.6	4,662.5	\$5.8	8,870.8	1,009.5	0.0	\$0.0	1.9	\$3.7	640.3	\$4.2	4,972.5	637.4								
Feb-08	3,064.4	\$1.9	1,553.9	\$3.0	6,848.0	\$3.2	36,819.2	2,602.7	908.2	\$5.3	1,342.9	\$5.6	4,442.2	\$5.8	8,870.8	1,009.5	0.0	\$0.0	7.2	\$3.0	645.1	\$4.1	4,972.5	645.1								
Mar-08	3,064.4	\$1.9	3,409.4	\$1.5	8,288.3	\$1.1	36,819.2	3,818.1	908.2	\$5.3	1,573.3	\$3.6	3,348.7	\$1.1	8,870.8	1,494.9	0.0	\$0.0	2.8	\$2.1	648.5	\$4.0	4,972.5	648.5								
Apr-08	3,064.4	\$1.9	2,511.1	\$1.1	7,759.5	\$0.8	36,819.2	3,989.6	908.2	\$5.3	1,245.5	\$1.1	2,964.9	\$0.8	8,870.8	1,591.6	0.0	\$0.0	2.8	\$2.1	648.8	\$4.0	4,972.5	648.8								
May-08	2,994.7	\$2.7	1,851.8	\$2.8	8,294.8	\$2.6	36,632.5	3,080.6	494.9	\$6.5	903.4	\$6.5	4,987.2	\$5.5	8,910.6	985.9	0.0	\$2.8	21.8	\$2.8	652.1	\$2.6	4,684.9	650.8								
Jun-08	2,994.7	\$2.7	1,909.8	\$2.9	7,684.7	\$2.9	36,632.5	2,909.9	494.9	\$6.5	1,620.2	\$5.4	3,745.8	\$6.0	8,910.6	930.1	0.0	\$2.8	110.5	\$2.9	644.9	\$2.9	4,684.9	583.3								
Jul-08	2,994.7	\$2.7	1,609.2	\$3.0	8,324.1	\$2.8	36,632.5	2,981.6	494.9	\$6.5	744.5	\$6.0	3,758.3	\$6.3	8,910.6	896.9	0.0	\$2.8	128.2	\$3.0	653.4	\$2.8	4,684.9	650.8								
Aug-08	2,994.7	\$2.7	1,854.4	\$2.9	7,451.6	\$2.7	36,632.5	3,031.4	494.9	\$6.5	1,157.8	\$6.3	3,349.2	\$6.2	8,910.6	914.8	0.0	\$2.8	87.1	\$2.9	657.4	\$2.7	4,684.9	656.3								
Sep-08	2,994.7	\$2.7	2,350.0	\$2.7	6,766.6	\$2.5	36,632.5	3,156.4	494.9	\$6.5	1,083.2	\$6.0	3,083.4	\$6.0	8,910.6	935.7	0.0	\$2.8	13.0	\$2.7	659.4	\$2.5	4,684.9	658.9								
Oct-08	2,994.7	\$2.7	2,029.6	\$2.4	6,944.8	\$1.9	36,632.5	3,418.3	494.9	\$6.5	604.4	\$5.9	3,230.1	\$5.8	8,910.6	951.9	0.0	\$2.8	7.9	\$2.4	668.7	\$1.9	4,684.9	668.7								
Nov-08	2,810.1	\$1.8	2,596.0	\$1.6	9,114.6	\$1.0	36,492.6	3,877.5	1,260.8	\$2.8	1,378.2	\$2.3	3,974.3	\$1.5	9,003.4	1,447.1	0.3	\$1.8	1.8	\$1.6	772.8	\$1.0	4,566.1	772.6								
Dec-08	2,810.1	\$1.8	1,663.3	\$1.5	9,113.9	\$1.3	36,492.6	3,752.1	1,260.8	\$2.8	616.1	\$1.6	4,186.0	\$1.3	9,003.4	1,558.1	0.3	\$1.8	10.0	\$1.5	802.4	\$1.3	4,566.1	802.2								
Jan-09	2,810.1	\$1.8	2,027.2	\$1.5	8,448.2	\$3.2	36,492.6	2,779.0	1,260.8	\$2.8	846.5	\$1.5	4,151.0	\$3.2	9,003.4	1,579.9	0.3	\$1.8	147.9	\$1.5	847.0	\$3.2	4,566.1	733.9								
Feb-09	2,810.1	\$1.8	2,435.3	\$2.5	8,250.3	\$1.8	36,492.6	3,492.1	1,260.8	\$2.8	1,021.1	\$3.1	3,729.9	\$1.8	9,003.4	1,592.0	0.3	\$1.8	66.4	\$2.5	821.1	\$1.8	4,566.1	820.9								
Mar-09	2,810.1	\$1.8	2,083.6	\$1.1	8,190.4	\$0.5	36,492.6	4,128.2	1,260.8	\$2.8	849.6	\$1.5	3,622.8	\$0.5	9,003.4	1,592.0	0.3	\$1.8	97.0	\$1.1	849.1	\$0.5	4,566.1	816.9								
Apr-09	2,810.1	\$1.8	1,759.7	\$0.5	8,257.2	\$0.3	36,492.6	4,228.6	1,260.8	\$2.8	588.0	\$0.8	3,755.6	\$0.3	9,003.4	1,586.6	0.3	\$1.8	25.4	\$0.5	821.1	\$0.3	4,566.1	820.9								
May-09	2,371.1	\$3.0	2,500.2	\$3.0	8,492.0	\$2.6	36,362.4	3,216.7	436.7	\$6.8	757.9	\$7.0	4,976.3	\$8.7	8,855.3	707.3	53.3	\$3.0	69.5	\$3.0	414.8	\$4.7	4,748.5	410.4								
Jun-09	2,371.1	\$3.0	2,187.7	\$3.5	8,675.3	\$4.2	36,362.4	2,505.4	436.7	\$6.8	1,447.7	\$8.6	3,854.3	\$8.7	8,855.3	714.2	53.3	\$3.0	41.5	\$3.5	415.8	\$4.7	4,748.5	415.8								
Jul-09	2,371.1	\$3.0	3,207.0	\$4.1	7,495.4	\$4.4	36,362.4	2,420.6	436.7	\$6.8	1,623.8	\$8.7	2,930.4	\$8.5	8,855.3	732.7	53.3	\$3.0	70.6	\$4.1	404.9	\$4.8	4,748.5	404.8								
Aug-09	2,371.1	\$3.0	3,172.4	\$4.2	7,242.4	\$3.4	36,362.4	2,857.0	436.7	\$6.8	1,281.0	\$8.5	2,960.2	\$8.5	8,855.3	735.1	53.3	\$3.0	67.6	\$4.2	717.8	\$3.4	4,748.5	717.8								
Sep-09	2,371.1	\$3.0	2,719.7	\$3.5	7,393.3	\$2.8	36,362.4	3,147.7	436.7	\$6.8	795.5	\$8.4	3,403.2	\$7.7	8,855.3	816.4	53.3	\$3.0	68.2	\$3.5	742.9	\$2.8	4,748.5	738.9								
Oct-09	2,371.1	\$3.0	2,763.7	\$2.6	7,087.7	\$2.2	36,362.4	3,380.5	436.7	\$6.8	1,095.1	\$7.9	2,926.6	\$7.7	8,855.3	811.1	53.3	\$3.0	20.4	\$2.6	749.3	\$2.2	4,748.5	743.1								
Nov-09	3,201.1	\$1.8	3,044.6	\$1.6	9,111.4	\$0.5	35,785.3	4,081.4	825.2	\$4.7	2,274.7	\$1.6	3,124.0	\$1.2	8,551.6	1,422.3	35.0	\$1.8	31.0	\$1.6	843.5	\$0.5	4,685.0	843.3								
Dec-09	3,201.1	\$1.8	2,665.9	\$1.3	8,472.6	\$0.8	35,785.3	3,976.7	825.2	\$4.7	498.5	\$1.7	3,607.0	\$0.8	8,551.6	1,467.4	35.0	\$1.8	113.1	\$1.3	875.3	\$0.8	4,685.0	842.3								
Jan-10	3,201.1	\$1.8	2,392.3	\$1.6	8,871.7	\$1.9	35,785.3	3,505.4	825.2	\$4.7	485.5	\$1.8	4,257.0	\$1.9	8,551.6	1,497.1	35.0	\$1.8	82.0	\$1.6	843.4	\$1.9	4,685.0	843.3								
Feb-10	3,201.1	\$1.8	2,672.5	\$2.6	8,406.4	\$3.5	35,785.3	2,810.0	825.2	\$4.7	506.1	\$6.4	4,240.3	\$8.0	8,551.6	782.0	35.0	\$1.8	82.3	\$2.6	843.3	\$3.5	4,685.0	843.3								
Mar-10	3,201.1	\$1.8	2,770.9	\$1.6	8,211.1	\$0.9	35,785.3	3,933.4	825.2	\$4.7	1,152.4	\$7.5	3,472.0	\$7.7	8,551.6	807.3	35.0	\$1.8	17.5	\$1.6	843.3	\$0.9	4,685.0	843.3								
Apr-10	3,201.1	\$1.8	2,484.4	\$0.7	8,399.0	\$0.6	35,785.3	4,021.8	825.2	\$4.7	945.5	\$7.5	3,468.4	\$7.2	8,551.6	860.1	35.0	\$1.8	79.5	\$0.7	855.4	\$0.6	4,685.0	843.3								
May-10	2,868.1	\$2.5	4,462.0	\$2.7	7,827.0	\$3.5	35,045.3	2,860.2	1,096.8	\$12.9	335.7	\$13.3	4,004.2	\$13.5	8,336.0	372.0	26.2	\$2.5	16.8	\$2.7	354.8	\$5.8	4,901.0	354.0								
Jun-10	2,868.1	\$2.5	3,439.9	\$2.8	8,863.7	\$2.1	35,045.3	3,396.5	1,096.8	\$12.9	1,451.5	\$13.4	2,571.5	\$13.1	8,336.0	403.6	26.2	\$2.5	54.7	\$2.8	829.0	\$2.1	5,021.0	829.0								
Jul-10	2,868.1	\$2.5	2,413.8	\$2.0	8,617.7	\$1.9	35,045.3	3,475.3	1,096.8	\$12.9	836.2	\$13.0	2,797.1	\$13.1	8,336.0	412.1	26.2	\$2.5	85.7	\$2.0	816.9	\$1.9	5,021.0	816.9								
Aug-10	2,868.1	\$2.5	2,062.7	\$1.8	8,123.1	\$1.7	35,045.3	3,563.7	1,096.8	\$12.9	650.2	\$13.0	3,025.4	\$13.0	8,336.0	418.7	26.2	\$2.5	22.1	\$1.8	851.2	\$1.7	5,021.0	851.2								
Sep-10	2,868.1	\$2.5	2,444.2	\$1.0	7,993.5	\$0.6	35,045.3	3,964.3	1,096.8	\$12.9	992.0	\$12.9	2,799.0	\$12.5	8,336.0	457.8	26.2	\$2.5	8.4	\$1.0	865.9	\$0.6	5,021.0	865.9								
Oct-10	2,868.1	\$2.5	2,283.5	\$0.5	8,165.3	\$0.5	35,045.3	4,022.9	1,096.8	\$12.9	882.1	\$12.5	2,838.5	\$12.7	8,336.0	439.2	26.2	\$2.5	25.7	\$0.5	851.8	\$0.6	5,021.0	851.8								
Nov-10	2,820.1	\$0.4	4,179.3	\$0.3	9,383.4	\$0.0	35,832.5	4,295.9	1,109.8	\$4.6	829.9	\$4.8	4,571.0	\$4.3	8,737.5	1,179.5	1.2	\$0.4	6.1	\$0.3	913.4	\$0.0	5,073.8	913.3								
Dec-10	2,820.1	\$0.4	3,352.0	\$0.1	8,433.9	\$0.5	35,832.5	4,100.2	1,109.8	\$4.6	1,620.7	\$4.3	3,389.7	\$3.7	8,737.5	1,237.6	1.2	\$0.4	17.7	\$0.1	915.8	\$0.5	5,073.8	913.3								
Jan-11	2,820.1	\$0.4	2,719.8	\$0.7	9,786.2	\$0.5	35,832.5	4,100.2	1,109.8	\$4.6	1,154.6	\$3.7	3,135.3	\$4.0	8,737.5	1,207.6	1.2	\$0.4	47.1	\$0.7	913.3	\$0.5	5,073.8	913.3								
Feb-11	2,820.1	\$0.4	2,639.8	\$0.5	8,839.8	\$0.7	35,832.5	4,040.0	1,109.8	\$4.6	736.7	\$4.3	3,516.2	\$3.6	8,737.5	1,245.8	1.2	\$0.4	76.7	\$0.5	913.3	\$0.7	5,073.8	913.3								
Mar-11	2,820.1	\$0.4	2,550.6	\$0.2	8,199.3	\$0.3	35,832.5	4,180.1	1,109.8	\$4.6	801.5	\$4.0	4,231.1	\$3.6	8,737.5	1,246.0	1.2	\$0.4	75.9	\$0.2	926.6	\$0.3	5,073.8	913.3								
Apr-11	2,820.1	\$0.4	2,389.0	\$0.2	8,448.2	\$0.2	35,832.5	4,240.0	1,109.8	\$4.6	800.7	\$3.8	3,509.6	\$3.3	8,737.5	1,269.1	1.2	\$0.4	85.7	\$0.2	918.4	\$0.2	5,073.8	913.3								
May-11	3,515.9	\$0.6	3,416.9	\$0.6	7,530.4	\$0.7	34,684.4	3,911.1	726.5	\$13.5	1,663.8	\$13.2	3,354.4	\$12.0	8,832.0	462.4	1.2	\$0.6	60.4	\$0.6	895.3	\$0.7	5,051.7	895.3								
Jun-11	3,515.9	\$0.6	2,876.9	\$0.6	7,382.8	\$0.6	34,684.4	3,948.7	726.5	\$13.5	1,661.7	\$12.0	2,896.2	\$11.8	8,832.0	482.3	1.2	\$0.6	60.8	\$0.6	904.5	\$0.6	5,051.7	904.5								
Jul-11	3,515.9	\$0.6	2,535.2	\$0.5	7,562.7	\$0.2	34,684.4	4,104.2	726.5	\$13.5	1,254.1	\$11.8	3,301.5	\$5.8	8,832.0	1,046.9	1.2	\$0.6	35.6	\$0.5	906.1	\$0.2	5,051.7	904.5								
Aug-11	3,515.9	\$0.6	2,426.5	\$0.2	7,786.3	\$0.1	34,684.4	4,142.8	726.5	\$13.5	834.6	\$9.5	3,361.6	\$5.8	8,832.0	1,040.8	1.2	\$0.6	32.5	\$0.2	910.8	\$0.1	5,051.7	908.3								
Sep-11	3,515.9	\$0.6	2,204.9	\$0.1	7,936.4	\$0.2	34,684.4	4,093.1	726.5	\$13.5	691.3	\$																				

Attachment VII: November 1999 – October 2015 Installed Capacity Auction Activity

Month	NYCA								NYC								LI						G-J Locality									
	Capability Period* (Strip)		Monthly Auction		Spot Market		Minimum Required	Excess Sold	Capability Period* (Strip)		Monthly Auction		Spot Market		Minimum Required	Excess Sold	Capability Period* (Strip)		Monthly Auction		Spot Market		Minimum Required	Excess Sold	Capability Period* (Strip)		Monthly Auction		Spot Market		Minimum Required	Excess Sold
	MW	Price	MW	Price	MW	Price	MW	MW	MW	Price	MW	Price	MW	Price	MW	MW	MW	Price	MW	Price	MW	Price	MW	MW	MW	Price	MW	Price	MW	Price	MW	MW
Nov-11	2,008.0	\$0.2	4,091.0	\$0.1	9,356.7	\$0.1	34,778.9	4,147.4	1,031.2	\$2.7	1,089.8	\$3.0	4,279.6	\$0.5	8,833.0	1,550.7	3.6	\$0.2	49.7	\$0.1	900.7	\$0.1	4,989.3	898.1								
Dec-11	2,008.0	\$0.2	4,005.3	\$0.1	8,957.9	\$0.1	34,778.9	4,130.0	1,031.2	\$2.7	763.1	\$2.0	3,767.2	\$4.7	8,833.0	1,222.5	3.6	\$0.2	48.2	\$0.1	902.3	\$0.1	4,989.3	898.1								
Jan-12	2,008.0	\$0.2	4,285.4	\$0.2	9,381.7	\$0.5	34,778.9	3,956.1	1,031.2	\$2.7	647.3	\$4.0	3,886.5	\$4.9	8,833.0	1,205.0	3.6	\$0.2	29.1	\$0.2	923.7	\$0.5	4,989.3	898.1								
Feb-12	2,008.0	\$0.2	3,796.3	\$0.4	9,173.5	\$0.2	34,778.9	4,095.2	1,031.2	\$2.7	1,020.3	\$4.8	3,172.1	\$4.9	8,833.0	1,208.1	3.6	\$0.2	24.2	\$0.4	900.4	\$0.2	4,989.3	898.1								
Mar-12	2,008.0	\$0.2	3,624.5	\$0.1	8,976.3	\$0.1	34,778.9	4,130.0	1,031.2	\$2.7	988.5	\$4.3	2,991.7	\$4.7	8,833.0	1,221.0	3.6	\$0.2	0.6	\$0.1	922.2	\$0.1	4,989.3	898.1								
Apr-12	2,008.0	\$0.2	3,795.0	\$0.1	8,961.0	\$0.1	34,778.9	4,130.0	1,031.2	\$2.7	967.6	\$4.5	2,958.9	\$4.6	8,833.0	1,228.5	3.6	\$0.2	6.6	\$0.1	921.4	\$0.1	4,989.3	898.1								
May-12	2,421.3	\$1.3	3,682.7	\$1.3	9,194.6	\$2.9	35,076.3	2,970.8	530.8	\$11.7	1,335.1	\$12.3	3,028.7	\$17.2	8,896.9	288.8	2.5	\$1.4	12.9	\$1.3	877.2	\$2.9	4,961.1	873.5								
Jun-12	2,421.3	\$1.3	3,104.8	\$2.1	9,517.8	\$1.9	35,076.3	3,386.1	530.8	\$11.7	596.6	\$15.7	3,991.5	\$11.5	8,896.9	718.6	2.5	\$1.4	13.7	\$2.1	868.2	\$1.9	4,961.1	868.2								
Jul-12	2,421.3	\$1.3	3,784.3	\$1.5	8,423.9	\$2.0	35,076.3	3,367.3	530.8	\$11.7	1,074.6	\$11.9	3,397.6	\$11.0	8,896.9	763.7	2.5	\$1.4	4.5	\$1.5	609.3	\$3.6	4,961.1	608.7								
Aug-12	2,421.3	\$1.3	3,439.0	\$2.0	8,205.5	\$1.9	35,076.3	3,401.0	530.8	\$11.7	858.5	\$11.4	3,234.6	\$10.6	8,896.9	787.5	2.5	\$1.4	4.5	\$3.0	616.0	\$3.6	4,961.1	608.5								
Sep-12	2,421.3	\$1.3	3,536.1	\$2.3	9,023.0	\$2.4	35,076.3	3,190.1	530.8	\$11.7	572.9	\$10.7	3,230.1	\$10.5	8,896.9	800.4	2.5	\$1.4	13.9	\$3.5	606.8	\$3.6	4,961.1	606.8								
Oct-12	2,421.3	\$1.3	3,402.8	\$2.4	7,771.3	\$2.5	35,076.3	3,154.5	530.8	\$11.7	699.2	\$10.5	2,998.9	\$10.5	8,896.9	796.7	2.5	\$1.4	17.0	\$3.5	607.5	\$3.6	4,961.1	607.0								
Nov-12	1,815.7	\$0.8	4,428.8	\$0.5	11,660.7	\$0.7	35,852.6	3,988.0	275.1	\$4.5	1,093.6	\$3.0	4,579.7	\$3.4	9,057.3	1,364.4	28.4	\$2.3	0.4	\$0.5	877.1	\$0.7	4,959.4	876.7								
Dec-12	1,815.7	\$0.8	4,696.1	\$1.1	10,630.9	\$1.5	35,852.6	3,636.9	275.1	\$4.5	1,420.2	\$4.9	4,785.4	\$4.9	9,057.3	1,241.1	28.4	\$2.3	0.6	\$1.1	891.8	\$1.5	4,959.4	891.8								
Jan-13	1,815.7	\$0.8	5,452.4	\$2.0	9,874.2	\$3.5	35,852.6	2,756.2	275.1	\$4.5	2,202.4	\$4.9	3,851.5	\$4.9	9,057.3	1,241.1	28.4	\$2.3	7.7	\$2.0	891.8	\$3.5	4,959.4	891.8								
Feb-13	1,815.7	\$0.8	5,684.1	\$3.0	9,183.2	\$2.7	35,852.6	3,125.2	275.1	\$4.5	2,398.4	\$4.9	3,521.2	\$4.9	9,057.3	1,241.1	28.4	\$2.3	22.1	\$3.0	892.7	\$2.7	4,959.4	892.7								
Mar-13	1,815.7	\$0.8	6,064.9	\$2.2	9,420.3	\$2.1	35,852.6	3,372.6	275.1	\$4.5	2,350.1	\$4.9	3,641.7	\$4.9	9,057.3	1,241.1	28.4	\$2.3	1.4	\$2.2	892.7	\$2.1	4,959.4	892.7								
Apr-13	1,815.7	\$0.8	6,067.1	\$1.7	9,154.8	\$1.5	35,852.6	3,634.2	275.1	\$4.5	2,323.2	\$4.9	3,840.8	\$4.9	9,057.3	1,241.1	28.4	\$2.3	1.1	\$1.7	892.7	\$1.5	4,959.4	892.7								
May-13	2,635.9	\$4.2	2,898.7	\$4.5	8,112.9	\$5.8	35,466.8	1,817.2	953.1	\$14.8	931.1	\$15.5	4,065.1	\$16.3	9,325.0	378.0	40.5	\$7.2	10.2	\$6.0	342.0	\$7.2	5,394.3	340.3								
Jun-13	2,635.9	\$4.2	3,486.2	\$5.8	7,399.9	\$6.1	35,466.8	1,685.8	953.1	\$14.8	1,250.1	\$16.2	3,796.8	\$16.5	9,325.0	365.5	40.5	\$7.2	20.2	\$5.9	340.2	\$7.2	5,394.3	340.2								
Jul-13	2,635.9	\$4.2	3,908.6	\$5.8	7,043.3	\$5.8	35,466.8	1,804.3	953.1	\$14.8	1,447.0	\$16.3	3,553.8	\$16.1	9,325.0	393.6	40.5	\$7.2	34.8	\$6.1	341.4	\$7.2	5,394.3	341.4								
Aug-13	2,635.9	\$4.2	4,048.4	\$5.7	6,777.2	\$5.6	35,466.8	1,870.7	953.1	\$14.8	1,513.6	\$16.0	3,533.5	\$15.8	9,325.0	417.3	40.5	\$7.2	45.4	\$6.1	350.7	\$7.1	5,394.3	350.7								
Sep-13	2,635.9	\$4.2	4,160.1	\$5.5	6,498.4	\$5.6	35,466.8	1,877.0	953.1	\$14.8	1,107.0	\$15.7	3,923.9	\$15.7	9,325.0	428.3	40.5	\$7.2	51.4	\$6.0	354.7	\$7.0	5,394.3	354.7								
Oct-13	2,635.9	\$4.2	4,238.3	\$5.6	6,507.2	\$5.9	35,466.8	1,742.8	953.1	\$14.8	1,269.8	\$15.7	3,790.9	\$16.1	9,325.0	392.6	40.5	\$7.2	52.7	\$6.1	348.6	\$7.1	5,394.3	348.6								
Nov-13	2,157.7	\$2.6	3,116.4	\$2.6	11,895.7	\$2.1	35,700.4	3,401.7	431.1	\$7.5	533.0	\$7.9	5,503.5	\$10.0	9,222.2	878.4	30.6	\$4.0	9.4	\$3.1	729.9	\$2.7	5,363.6	728.9								
Dec-13	2,157.7	\$2.6	3,040.5	\$3.0	10,260.2	\$3.1	35,700.4	2,953.8	431.1	\$7.5	946.7	\$9.9	4,515.1	\$9.7	9,222.2	904.0	30.6	\$4.0	67.7	\$3.0	709.2	\$3.1	5,363.6	702.4								
Jan-14	2,157.7	\$2.6	3,873.3	\$3.9	9,173.5	\$4.6	35,700.4	2,322.5	431.1	\$7.5	1,273.9	\$9.6	4,274.1	\$9.6	9,222.2	908.1	30.6	\$4.0	73.6	\$3.9	729.0	\$4.6	5,363.6	729.0								
Feb-14	2,157.7	\$2.6	3,832.5	\$4.3	8,922.0	\$4.3	35,700.4	2,440.5	431.1	\$7.5	1,524.0	\$9.5	3,783.4	\$9.6	9,222.2	913.5	30.6	\$4.0	82.3	\$4.3	722.4	\$4.3	5,363.6	722.1								
Mar-14	2,157.7	\$2.6	4,472.5	\$3.0	8,925.2	\$2.9	35,700.4	3,058.5	431.1	\$7.5	1,749.2	\$9.5	3,592.2	\$9.7	9,222.2	901.0	30.6	\$4.0	26.8	\$3.0	742.7	\$2.9	5,363.6	742.7								
Apr-14	2,157.7	\$2.6	4,563.7	\$1.9	10,046.8	\$1.7	35,700.4	3,535.5	431.1	\$7.5	1,668.5	\$9.6	3,489.5	\$9.8	9,222.2	898.8	30.6	\$4.0	12.1	\$2.6	745.1	\$2.6	5,363.6	744.8								
May-14	2,147.9	\$5.2	2,467.4	\$5.5	6,600.9	\$6.7	35,812.4	1,345.3	655.3	\$16.2	516.9	\$16.5	4,645.8	\$18.8	9,470.5	68.4	10.7	\$6.4	40.5	\$6.2	298.5	\$6.7	5,430.5	249.0	476.1	\$10.0	435.4	\$10.3	2,384.8	\$12.4	13,494.9	81.8
Jun-14	2,147.9	\$5.2	2,995.1	\$6.6	6,458.0	\$6.2	35,812.4	1,549.9	655.3	\$16.2	1,239.6	\$18.7	3,383.6	\$18.8	9,470.5	67.8	10.7	\$6.4	51.4	\$6.7	290.0	\$6.4	5,430.5	247.4	476.1	\$10.0	996.6	\$12.2	1,775.2	\$12.4	13,494.9	86.0
Jul-14	2,147.9	\$5.2	3,817.3	\$6.2	5,920.2	\$6.1	35,812.4	1,598.6	655.3	\$16.2	1,608.1	\$18.7	3,082.1	\$18.7	9,470.5	81.2	10.7	\$6.4	61.6	\$6.4	287.8	\$6.5	5,430.5	245.2	476.1	\$10.0	1,150.8	\$12.3	1,611.1	\$12.3	13,494.9	90.5
Aug-14	2,147.9	\$5.2	3,830.9	\$6.0	6,594.8	\$5.8	35,812.4	1,734.3	655.3	\$16.2	1,816.1	\$18.5	2,887.8	\$18.6	9,470.5	92.5	10.7	\$6.4	63.6	\$6.4	281.9	\$6.5	5,430.5	244.3	476.1	\$10.0	1,148.7	\$12.3	1,643.1	\$12.3	13,494.9	101.3
Sep-14	2,147.9	\$5.2	3,849.7	\$5.8	6,334.4	\$5.6	35,812.4	1,819.9	655.3	\$16.2	1,956.9	\$18.4	2,937.9	\$18.2	9,470.5	125.9	10.7	\$6.4	66.5	\$6.4	288.7	\$6.5	5,430.5	244.3	476.1	\$10.0	1,339.2	\$12.1	1,650.9	\$12.0	13,494.9	135.3
Oct-14	2,147.9	\$5.2	4,460.5	\$5.5	7,060.7	\$5.4	35,812.4	1,915.8	655.3	\$16.2	1,955.7	\$18.2	3,051.0	\$17.9	9,470.5	146.3	10.7	\$6.4	102.0	\$6.4	275.0	\$6.5	5,430.5	239.4	476.1	\$10.0	1,319.7	\$11.9	1,813.8	\$11.6	13,494.9	197.1
Nov-14	2,324.7	\$2.9	3,417.2	\$2.2	10,141.2	\$1.4	36,505.6	3,725.5	1,023.8	\$8.5	930.4	\$8.7	4,356.8	\$9.0	9,508.6	926.9	45.6	\$3.0	19.9	\$2.9	635.9	\$3.0	5,393.5	635.9	389.5	\$5.9	675.1	\$6.6	3,236.9	\$5.8	13,582.3	1,121.1
Dec-14	2,324.7	\$2.9	3,575.8	\$2.6	8,544.1	\$3.5	36,505.6	2,773.5	1,023.8	\$8.5	1,292.6	\$8.9	3,800.2	\$8.9	9,508.6	934.4	45.6	\$3.0	19.9	\$3.0	636.2	\$3.5	5,393.5	636.2	389.5	\$5.9	802.8	\$5.5	3,275.9	\$4.8	13,582.3	1,281.0
Jan-15	2,324.7	\$2.9	3,320.2	\$3.6	9,299.0	\$2.4	36,505.6	3,275.5	1,023.8	\$8.5	1,314.3	\$8.8	3,754.6	\$8.8	9,508.6	940.7	45.6	\$3.0	230.4	\$3.6	613.4	\$3.2	5,393.5	612.7	389.5	\$5.9	607.4	\$4.4	3,142.8	\$3.8	13,582.3	1,438.9
Feb-15	2,324.7	\$2.9	3,641.3	\$2.6	8,452.9	\$3.4	36,505.6	2,837.4	1,023.8	\$8.5	1,477.9	\$8.7	3,572.7	\$8.9	9,508.6	928																