134 FERC ¶ 61,058
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Jon Wellinghoff, Chairman;
Marc Spitzer, Philip D. Moeller,
John R. Norris, and Cheryl A. LaFleur.

New York Independent System Operator, Inc. Docket No. ER11-2224-000

ORDER ACCEPTING TARIFF REVISIONS SUBJECT TO MODIFICATION, SUSPENDING FOR FIVE MONTHS, AND DIRECTING COMPLIANCE FILING

(Issued January 28, 2011)

1. On November 30, 2010, the New York Independent System Operator, Inc. (NYISO) filed revisions to section 5.14 of its Market Administration and Control Area Services Tariff (Services Tariff) pursuant to section 205 of the Federal Power Act (FPA).[1] The proposed tariff revisions update the demand curves for the Installed Capacity (ICAP) market for capability years 2011/2012, 2012/2013, and 2013/2014.[2] The filing also provides supporting documentation and analysis. In this order the Commission accepts, and suspends for five months, the revisions to the Services Tariff to be effective the earlier of June 28, 2011, or a date set by a subsequent Commission order, subject to modifications discussed in this order. The Commission finds specific inconsistencies in the determination of the proposed ICAP demand curves and directs a further compliance filing within 60 days of the date of this order.

I. Background

2. NYISO is required to determine the amount of ICAP that each load serving entity (LSE) must acquire to ensure that adequate resources are available to meet projected load on a long-term basis taking into account reliability contingencies. The amount of ICAP,

[1] 16 U.S.C. § 824d (2006).

[2] NYISO's capability year consists of the summer capability period and the winter capability period that runs from May 1 through October 31 and November 1 through April 30.

in megawatts, required to provide adequate resources to meet reliability contingencies for the New York Control Area (NYCA) is represented by the Installed Reserve Margin (IRM), which is currently 18 percent.[3] In other words, for reliability purposes, NYISO is required to have an amount of ICAP equal to 18 percent above forecasted peak demand. NYISO determines the locational ICAP requirement for NYCA, there are separate location-specific ICAP requirements for LSEs in New York City (NYC) and Long Island (LI), which reflect the existence of transmission constraints in those areas.[4]

3. In 2003, NYISO implemented an ICAP market centered on administratively-determined demand curves for each of the three ICAP zones. The ICAP demand curves define the maximum monthly price in $/kW-month for capacity depending on the amount of capacity offered in each month. A separate ICAP demand curve is applicable for each of the three ICAP zones and is effective for each capability year. Thus, an ICAP demand curve is a monthly price schedule where the market clearing price on the schedule is determined by the capacity supply offered. Prior to the use of the administratively-determined demand curves, the ICAP price was determined by what essentially was a vertical demand curve at the IRM and all capacity above the requirement had no value. The ICAP demand curves are used to determine both price and ICAP quantity requirements in the monthly ICAP spot market auctions.

4. Section 5.14.1.2 of the Services Tariff requires NYISO to perform a triennial review to determine whether the parameters for the ICAP demand curves should be adjusted. The previous review for the 2008/2009, 2009/2010, and 2010/2011 curves was conducted in 2007 and accepted by the Commission in January 2008.[5] The review process typically takes over one year and includes the retention of a consultant to develop and propose a set of demand curves based on the identified criteria, a stakeholder process to comment on and evaluate the proposed curves, and the presentation of NYISO's final recommendations to the NYISO Board of Directors. The proposed curves are to be filed with the Commission on or before November 30th of the year prior to the first capability year of the next triennial period.

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[3] The New York State Reliability Council, L.L.C. filed the IRM on December 16, 2010 in Docket No. ER11-1392-000.

[4] NYC and LI are defined as Localities under section 2.12 of the Services Tariff. As defined by section 2.18 of the Services Tariff, rest-of-state refers to ICAP within NYCA and located outside of the two defined localities.

[5] *New York Indep. Sys. Operator, Inc.*, 122 FERC ¶ 61,064 (2008) (2008 Reset Order).

5. Specifically, section 5.14.1.2 of the Services Tariff requires that the periodic review assess:

> (i) the current localized levelized embedded cost of a peaking unit in each NYCA Locality and the Rest of State to meet minimum capacity requirements; (ii) the likely projected annual energy and ancillary services revenues of the peaking unit over the period covered by the adjusted ICAP demand curves, net of the costs of producing such energy and ancillary services, under conditions in which the available capacity would equal or slightly exceed the minimum Installed Capacity requirement; (iii) the appropriate shape and slope of the ICAP demand curves, and the associated point at which the dollar value of the ICAP demand curves should decline to zero; and (iv) the appropriate translation of the annual net revenue requirement of the peaking unit determined from the factors specified above, into monthly values that take into account seasonal differences in the amount of capacity available in the ICAP Spot Market Auctions. For purposes of this review, a peaking unit is defined as the unit with technology that results in the lowest fixed costs and highest variable costs among all other units' technology that are economically viable.

The remaining provisions of section 5.14.1.2, i.e., sections 5.14.1.2.1 through 5.14.1.2.11 provide the process under which the above review will take place and be filed with the Commission.

6. The typical ICAP demand curve values ICAP on the y-axis in $/kW-month and ICAP quantity on the x-axis expressed as percentages of the Minimum Installed Capacity Requirement for NYCA, NYC, or LI, as applicable. The maximum value for each ICAP demand curve is 1.5 times the net Cost of New Entry (CONE) or the estimated localized levelized cost per kW-month to develop a new peaking unit in each locality or in the rest of state, as applicable. Net CONE is the estimated localized levelized cost per kW-month to develop a new peaking unit with energy and ancillary services revenues subtracted. The intersection of 100 percent of the ICAP requirement and net CONE determines the ICAP reference point. Two defined points, the ICAP reference point and the zero crossing point (set at 112 percent for NYCA and 118 percent for NYC or LI), articulate a line segment with a negative slope that will result in higher values for percentages less than 100 percent of the Installed Capacity Requirement of NYCA or the locality.

7. The addition of the Capacity Resource Interconnection Service approved by the Commission in the Deliverability Orders as required by Order No. 2003,[6] became effective in 2008, subsequent to the previous demand curve reset. Pursuant to section 5.12.1 of the Services Tariff and section 25 of Attachment S of the NYISO Tariff, a new generator must be determined to be deliverable throughout the capacity zone in which it interconnects in order to participate in the capacity market. If it is determined to not be deliverable, the developer is responsible for the cost of System Deliverability Upgrades necessary to achieve full deliverability as allocated pursuant to the provisions of the Attachment S. System deliverability upgrades are in addition to the cost of System Upgrade Facilities required to interconnect for the basic Energy Resource Interconnection Service to sell energy and ancillary services in the NYISO markets. Previous demand curves included the cost of System Upgrade Facilities in CONE.

8. A deliverability issue within the rest-of-state capacity zone is relevant to the instant filing. NYISO's independent market monitor Dr. David Patton (MMU), as recently as the NYISO 2009 State of the Market Report, identified a rest-of-state intra-zonal transmission constraint with regard to the upstate New York (UPNY) and the Southeast New York (SENY) interface. Capacity that is located in the UPNY region is not currently deliverable to load zones in the Southeast New York region (also referred to as Lower Hudson Valley).[7] Therefore, new resources located in UPNY must pay for System Deliverability Upgrades in order to sell capacity in the rest-of-state market,[8] or they must obtain them pursuant to section 25.9.3.1 of Attachment S from a deactivated generator whose deliverability rights pre-date the deliverability rules. The NYISO 2009

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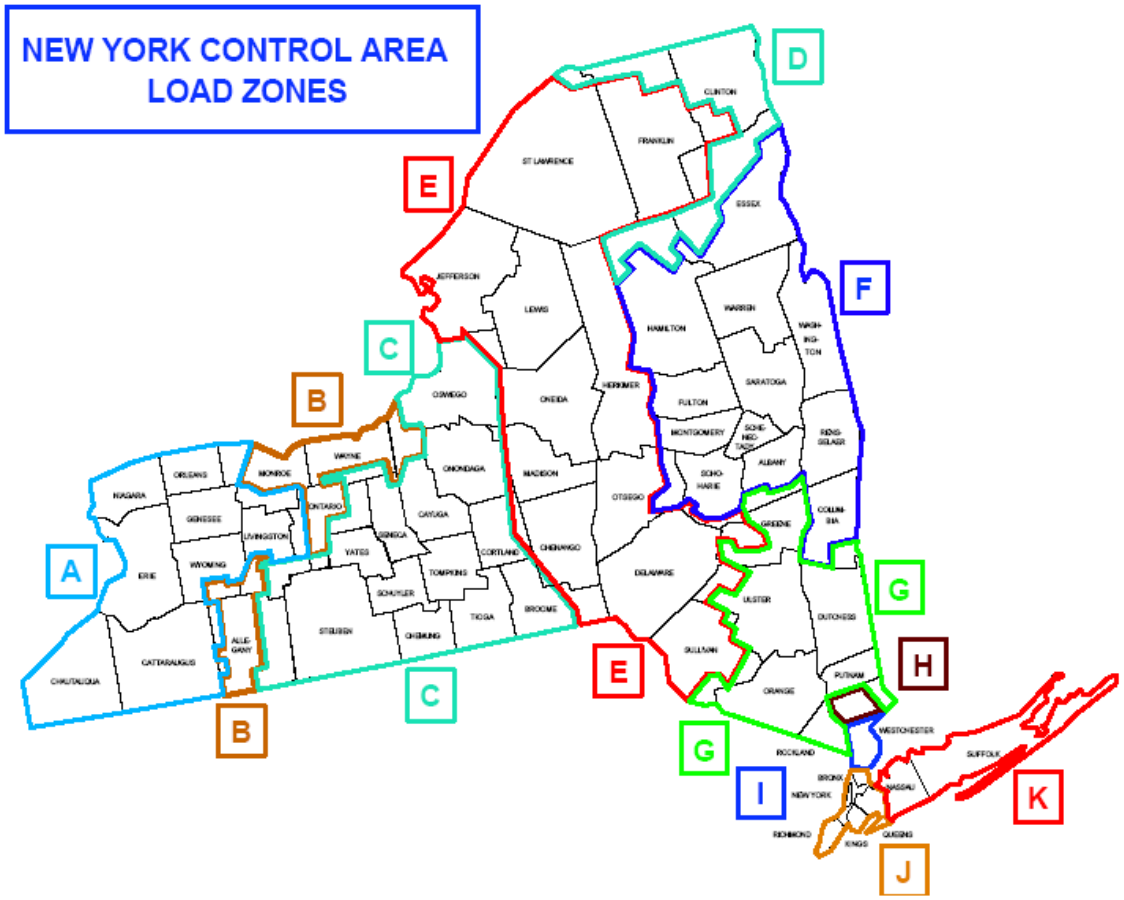
[6] *Standardization of Generator Interconnection Agreements and Procedures*, Order No. 2003, FERC Stats. & Regs. ¶ 31,146 (2003), *order on reh'g*, Order No. 2003-A, FERC Stats. & Regs. ¶ 31,160, *order on reh'g*, Order No. 2003-B, FERC Stats. & Regs. ¶ 31,171 (2004), *order on reh'g*, Order No. 2003-C, FERC Stats. & Regs. ¶ 31,190 (2005), *aff'd sub nom. Nat'l Ass'n of Regulatory Util. Comm'rs v. FERC*, 475 F.3d 1277 (D.C. Cir. 2007), *cert. denied*, 552 U.S. 1230 (2008). *See generally New York Indep. Sys. Operator, Inc.*, 126 FERC ¶ 61,046 (2009); *New York Indep. Sys. Operator, Inc.*, 127 FERC ¶ 61,318 (2009); and *New York Indep. Sys. Operator, Inc.*. 131 FERC ¶ 61,242 (2010).

[7] The SENY, or the Lower Hudson Valley, region is comprised of load zones G, H, and I and are identified on Figure 2.

[8] *See* NYISO 2009 State of the Market Report at 122. Http://www.nyiso.com/public/webdocs/documents/market_advisor_reports/2009/NYISO_2009_SOM_Final.pdf.

State of the Market Report also recommended that NYISO make preparations to implement a new capacity zone in 2010.[9]

Figure 1



II. Summary of the November 30, 2010 Filing

9. On November 30, 2010, NYISO filed revisions to the Services Tariff that implement revised ICAP demand curves for Capability Years 2011/2012, 2012/2013, and 2013/2014. NYISO states that the filing presents the results of the periodic review of the ICAP demand curves specified in section 5.14.1.2 of the Services Tariff.

[9] *Id.* at 125.

10. NYISO states that in accordance with the Services Tariff provisions, in the third quarter of 2009 it solicited proposals from qualified consultants to identify appropriate methodologies and to develop the ICAP demand curve parameters for the three capability years beginning in May 2011. NYISO adds that it retained the team of National Economic Research Associates, Inc. (NERA), with Sargent and Lundy (S&L) as a subcontractor to NERA (collectively, the Consultant). NYISO explains that the Consultant began the analysis in December 2009 and participated in thirteen Installed Capacity Working Group meetings between December 2009 and August 2010, during which the demand curve reset was discussed and developed. NYISO states that at each of these meetings, and through written comments, stakeholders provided comments to the Consultant on the Consultant's assumptions, analysis, estimates, and preliminary results. NYISO also states that based on comments received, the Consultant adjusted its assumptions and methodologies as appropriate, and responded to the comments. On July 1, 2010, according to NYISO, the Consultant released a first draft of its report for stakeholder review and comment and on September 3, 2010 as revised on September 7, 2010, the final version was released (Consultant's Report).[10]

11. NYISO then prepared its staff report to the NYISO Board of Directors that includes its recommendations for the ICAP demand curve parameters, the underlying assumptions used in formulating the recommendations, and the three ICAP demand curves (NYISO Report).[11] NYISO states that in preparing its recommendation, it considered the Consultant's Report, stakeholders' oral and written comments, and the recommendations of the MMU.

12. NYISO states that following submission of the NYISO Report to the Board, stakeholders had an opportunity to submit oral and written comments to the Board and these were reviewed by NYISO staff, the MMU, and the NYISO Board. NYISO staff recommended that the Board approve the NYISO Report without any alterations. The instant filing was approved by the Board on November 16, 2010.

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[10] NYISO November 30, 2010 Filing at Attachment 2, *Independent Study to Establish Parameters of the ICAP Demand Curve for the New York Independent System Operator*, September 3, 2010 (revised September 7, 2010, November 15, 2010).

[11] NYISO November 30, 2010 Filing at Attachment 3, *Proposed NYISO Installed Capacity Demand Curves for Capability Years 2011/2012, 2012/2013, and 2013/2014*. (September 3, 2010) (revised September 7, 2010 and October 30, 2010) (NYISO Report). The Commission includes the ICAP demand curves proposed for the three localities as Appendix A to this Order.

13. Based on the Consultant's study and discussions with the MMU, NYISO proposes to use the General Electric LMS100 for the NYC and LI demand curves and the General Electric Frame unit 7FA (7FA) for the NYCA demand curve. The gas-fired LMS100 unit is an aeroderivative combustion turbine and the 7FA is the less efficient frame type combustion turbine. Both meet the Services Tariff requirements that the unit have the lowest fixed costs and the highest variable costs and be economically viable.

14. For the calculation of peaking unit cost of new entry (CONE), NYISO proposes to use capital costs, including direct costs encompassed within engineering, procurement and construction contracts, owners' costs not covered by the foregoing contracts, financing costs during construction, and working capital and initial inventories. NYISO proposes that System Deliverability Upgrade costs be excluded from the calculation of the peaking unit's CONE.

15. In addition, NYISO proposes to include fixed operating and maintenance cost, including property taxes and insurance, based on the Consultant's recommendation. NYISO also proposes to recognize full New York City property tax abatement as discussed below. NYISO adopts the Consultant's recommendations with respect to the inclusion of variable operating and maintenance costs and the methodology for determining the annual carrying charge rate used in the calculation of the current levelized embedded cost of the peaking units.

16. Expectations as to the amount of ICAP relative to the annual locational and NYCA minimum ICAP requirement will impact the level of energy and ancillary services revenues received by the new peaking unit. Based upon the Consultant's energy model and NYISO's proposed level of excess, NYISO calculated estimated energy and ancillary services revenue of $27.44/kW-year for NYCA, $101.67/kW-year in NYC, and $168.77/kW-year on LI for the peaking technologies chosen in the study.

17. The Consultant also reviewed the shapes of the current demand curves and found no basis to change the current shape and zero crossing points. In accord with that conclusion, NYISO proposes that the current demand curve slope and zero crossing point be retained and that the zero crossing point remain at 112 percent of the ICAP requirement for the NYCA and at 118 percent for NYC and LI. NYISO states that this approach is consistent with its determination in the 2007 reset process that there was no compelling reason to change demand curve shapes or zero crossing points at that time.

III. Notice, Interventions, and Protests

18. Notice of NYISO's November 30, 2010 filing was published in the *Federal Register*, 75 Fed. Reg. 76,721 (2010), with interventions and comments due on or before

December 21, 2010. Motions to intervene were filed by: NRG Companies;[12] TransCanada Power Marketing Ltd., and TC Ravenswood, LLC; Entergy Power Marketing Corporation; Astoria Generating Company; and PSEG Energy Resources & Trade LLC and PSEG Power New York LLC. Bayonne Energy Center, LLC (Bayonne Energy) filed a motion to intervene out-of -time.

19. Constellation Energy Nuclear Group, LLC and Constellation Energy Commodities Group, Inc. each filed motions to intervene and comments. The New York Public Service Commission (New York Commission) filed a motion to intervene and file comments out-of-time.

20. Motions to intervene and protests were filed by Multiple Intervenors,[13] Dynegy Power Marketing, Inc. and Sithe/Independence Power Partners, L.P., and Dynegy Northeast Generation, Inc. (Dynegy); Independent Power Producers of New York, Inc. (IPPNY);[14] New York State Consumer Protection Board (Consumer Protection Board); New York Transmission Owners (NYTOs);[15] Calpine Corporation (Calpine); The City of

[12] The NRG Companies are: NRG Power Marketing Inc, Arthur Kill Power LLC, Astoria Gas Turbine Power LLC, Dunkirk Power LLC, Huntley Power LLC, and Oswego Harbor Power LLC.

[13] Multiple Intervenors is an unincorporated association of approximately 55 large industrial, commercial and institutional energy consumers with manufacturing and other facilities located throughout New York, primarily in the rest-of-state capacity region.

[14] IPPNY is a not-for-profit trade association with more than 100 members involved in the development and operation of electric generating facilities and the marketing and sale of electric power in New York.

[15] The New York Transmission Owners are: Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., Long Island Power Authority, New York Power Authority, New York State Electric & Gas Corporation, Niagara Mohawk Power Corporation, Orange and Rockland Utilities, Inc., and Rochester Gas and Electric Corporation.

New York (New York City); the Electric Power Supply Association (EPSA); the New York City Suppliers;[16] and GenOn Parties (GenOn).[17]

21. The City of New York, NYISO, IPPNY, the NYTOs, and New York City Suppliers each filed answers. The NYTOs also filed an answer to IPPNY's answer.

IV. Procedural Matters

22. Pursuant to Rule 214 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214 (2010), the notices of intervention and timely, unopposed motions to intervene serve to make the entities that filed them parties to this proceeding.

23. Pursuant to Rule 214(d) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214(d) (2010), the Commission will grant Bayonne Energy's and the New York Commission's late-filed motions to intervene given their interest in the proceeding, the early stage of the proceeding, and the absence of undue prejudice or delay.

24. Rule 213(a)(2) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.213(a)(2) (2010) prohibits an answer to a protest or to an answer unless otherwise ordered by the decisional authority. We will accept the answers filed in this proceeding because they have provided information that assisted us in our decision-making process.

V. Discussion

A. Choice of Peaking Unit

1. NYISO's Proposal

25. NYISO states that in selecting appropriate proxy peaking unit technology for each region, the Consultant assumed that only units that could be practically constructed in a particular location would qualify and that the units would be reasonably large scale, standard generating facilities that are replicable. NYISO also states that after consideration among stakeholders, it was determined that because currently available demand response does not have the ability to respond to longer deployments under

[16] For purposes of this proceeding, the New York City Suppliers are: Astoria Generating Company, L.P., the NRG Companies, and TC Ravenswood, LLC.

[17] GenOn consists of GenOn Energy Management, LLC, GenOn New York, LLC, and GenOn Bowline, LLC.

current market rule designs, NYISO will consider the use of demand response as the peaking unit in the next reset cycle contingent on the better definition of the process for identifying the technology types and the methodology for quantifying fixed and variable costs associated with demand response technologies.[18]

26. NYISO states that like the previous two ICAP demand curve studies, the Consultant focused on General Electric (GE) generating unit technologies because GE technologies are representative of other manufacturers' designs and account for over 56 percent of the peaking units sold both nationally and in New York. The Consultant also considered the Rolls Royce Trent 60 WLE (Trent 60) unit as a possible peaking unit technology. NYISO states that the Consultant examined four types of units: a 7FA Frame unit (7FA), and three types of aeroderivatives: LM 6000, LMS100, and the Trent 60. The Consultant compared the characteristics of each technology and the relative cost on a total cost and a $/kW basis.

27. NYISO contends that the Services Tariff does not explicitly indicate whether the unit with lowest fixed costs should be chosen based on total cost or cost per kilowatt,[19] and NYISO's two previous demand curve update studies selected the appropriate peaking technology based in part on cost per kilowatt figures. NYISO agrees with the Consultant that fixed costs should be measured on a $/kW basis because that approach recognizes the efficiencies of building two-unit sites and the increased energy and ancillary services revenue that would be captured, while choosing a peaking technology based on total dollars would ignore these efficiencies.[20]

28. NYISO proposes to use the LMS100 as the peaking unit to establish both the NYC and LI demand curves. According to NYISO, the LMS100 was accepted by the Commission as the peaking unit for NYC and LI in the previous demand curve reset,[21] it has lower capital and operating costs per kilowatt than the LM 6000 and the Trent 60, it

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[18] NYISO maintains that there is not yet an established set of parameters or characteristics for a particular demand response technology (i.e., a technology by which load-side resources achieve reductions) to be identified with any reasonable measure of certainty. NYISO contends that even if an identified technology could be ascertained with certainty, the fixed and variable costs make it unsuitable for consideration as a peaking unit in the current demand curve reset review. NYISO Report at 6.

[19] *See* Services Tariff, Section 5.14.1.2.

[20] NYISO November 30, 2010 Filing at 6-7.

[21] *See* 2008 Reset Order, 122 FERC ¶ 61,064 at P 23.

has a lower heat rate (that results in a higher capacity factor and higher energy revenues on a per kW basis), it has a lower fixed cost on a $/kW basis, and it meets environmental requirements.

29. NYISO proposes to use a 7FA unit in the Capital Zone (Load Zone F) as the peaking unit for setting the NYCA demand curve. NYISO argues that it has a lower fixed cost on a $/kW basis compared with either the LMS100 or LM 6000, and is economically viable outside of NYC and LI.[22] NYISO states that the Commission accepted its proposal to use the 7FA unit for the NYCA in the previous demand curve reset.[23]

30. NYISO states that certain stakeholders questioned the ability of a 7FA facility to operate under the New Source Review[24] standards for stationary sources. NYISO states that it confirmed with the New York State Department of Environmental Conservation that standards would apply only to any new facility emitting greater than 100 tons of nitrogen oxides (NO_x) annually. NYISO argues that a new 2-unit 7FA facility would not be subject to the standards because the 100 ton limit would translate into a maximum run time in Zone F of 1461 hours, and under the assumed levels of excess capacity, the 2-unit 7FA facility would operate below 1200 hours.[25]

31. NYISO also states that some load-side stakeholders have taken the position that a lower cost LI proxy unit should be used as the NYCA peaking unit instead of the Frame 7FA. NYISO maintains however, that this suggestion is inconsistent with the Services Tariff, which requires NYISO and the Consultant to assess the current localized levelized embedded cost of a peaking unit located in the rest-of-state when establishing the NYCA demand curve. NYISO also cites its ICAP Manual, which requires that NYISO calculate

[22] *Id*. (citing the Consultant's Report at 9).

[23] NYISO November 30, 2010 Filing at 9 (citing 2008 Reset Order, 122 FERC ¶ 61,064 at P 22).

[24] New Source Review is a permitting program adopted by Congress to ensure that air quality is not significantly degraded from the addition of, *inter alia*, new power plants. The basic requirements are established by the Environmental Protection Agency and permits are issued by state or local air pollution control agencies. *See* http://www.epa.gov/NSR/.

[25] NYISO November 30, 2010 Filing at 9.

"the estimated localized levelized cost … to develop a new peaking unit in each Locality."[26]

2. Comments and Protests

32. The NYTOs, the New York Commission, and the Consumer Protection Board separately conclude that since generation on Long Island has the lowest net CONE, the ICAP demand curve for the NYCA should be based on the net cost of developing, constructing and operating a generator in the LI locality. They contend that NYISO incorrectly interprets the Services Tariff to require that the peaking unit for the NYCA demand curve be physically located in rest-of-state in order to serve as the proxy unit. They argue that while NYISO is correct that it is required to assess the costs of a peaking unit in each NYCA locality and rest of state, the Services Tariff places no limits on including the peaking unit with the lowest net CONE in a demand curve for a different location. They further maintain that the Services Tariff requires only that the unit must be economically viable, regardless of location. As further support, the NYTOs point out that NYC and LI are included in determining the capacity price for the NYCA in NYISO's spot market auctions and the Consumer Protection Board also notes that LI locality is where profit-maximizing developers would be most likely to develop additional reliability resources.

33. The NYTOs and Consumer Protection Board state that a NYCA demand curve based on an LMS100 on LI would support development of the most efficient additional capacity when it is needed to meet the minimum capacity requirement for the NYCA.[27] The NYTOs state that if the ICAP demand curve for the NYCA is not based on generation that can be developed in a locality at a lower net cost, the resulting ICAP demand curve for the NYCA will yield capacity revenues that are higher than needed to induce development to meet the NYCA minimum capacity requirements. As a result, load-serving entities will either have to purchase more capacity than is needed, purchase it at higher prices than they should pay, or both. NYTOs state that the analyses that

[26] *Id*. (citing ICAP Manual § 5.5(1)). NYISO states that the Services Tariff provides that the review will be conducted in accordance with ISO Procedures and that the ICAP Manual is the chief source of ISO Procedures in respect of the Capacity market. Thus, according to NYISO, the ISO Procedures to be followed include using a peaking unit located in the rest-of-state to establish the NYCA demand curve.

[27] Consumer Protection Board December 21, 2010 Protest at 7; NYTOs December 21, 2010 Protest at 3-5.

NYISO Staff and the Consultant have produced indicated that the use of a Frame 7FA generator in the Capital Zone is not economically viable.[28]

3. Answers

34. NYISO reiterates the argument made in its November 30, 2010 Filing that the Services Tariff does not permit the NYCA demand curve to be set using an LI or NYC peaking unit, but rather requires that the NYCA demand curve be based on the costs of a peaking unit located in the rest-of-state area. NYISO asserts that this point is clarified and confirmed by the ICAP Manual, which is in no way inconsistent with the Services Tariff.[29] NYISO also argues that the Consultant's analysis indicates that a Frame 7FA unit in the Capital Zone would cost less on a $/kW basis than other alternatives in the rest-of-state and is therefore economically viable.

35. IPPNY argues that the argument of the NYTOs for an LI peaking unit are contrary to the Services Tariff and Commission precedent in accepting the NYISO's prior demand curve reset filings. IPPNY also contends that the NYISO ICAP Manual, that stems from the Services Tariff directives, expressly requires that the NYISO calculate "the estimated localized levelized cost … to develop a new peaking unit in each Locality (for the ICAP demand curves for the NYC and LI Localities) or in the rest-of-state region (for the NYCA ICAP demand curve)."[30] IPPNY asserts that its interpretation of the Services Tariff in the previous demand curve reset process was endorsed by the Commission in the previous demand curve reset when the Commission accepted a rest-of-state peaking plant as the basis for the NYCA demand curve, even though the rest-of-state peaking plant had a higher net CONE than that estimated for the peaking plant located on Long Island.[31]

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[28] NYTOs December 21, 2010 Protest at 5 (citing the attached affidavit of Michael D. Cadwalader at P 7, 14-15; NYISO Report at 19).

[29] NYISO January 6, 2011 Answer at 11 (citing NYISO's November 30, 2010 Filing at n. 26, (citing ICAP Manual at § 5.5(1))).

[30] ICAP Manual § 5.5(1) (emphasis added). The Services Tariff provides that the review will be conducted in accordance with ISO Procedures. The steps delineated lead to establishing the demand curves. The ICAP Manual is the chief source of ISO Procedures with respect to the capacity market. Thus, the ISO Procedures to be followed include using a peaking unit located in the rest-of-state to establish the NYCA demand curve.

[31] 2008 Reset Order at P 22-23.

36. IPPNY maintains that arguments for the placement of a peaking unit on Long Island falsely assume that it is more economic to develop a peaking unit on Long Island than in the rest-of-state because the Consultant overestimated the net energy and ancillary services revenues that reasonably can be assumed for the LI proxy unit, major infrastructure changes that were completed near the very end of the demand curve reset period, and the limited export capability of Long Island.[32]

4. Commission Determination

37. We find that NYISO's proposal to use the LMS100 peaking unit for developing the capital cost estimate for NYC and LI and the Capital Zone 7FA peaking unit for NYCA is reasonable. We agree with NYISO that only reasonably large scale, standard generating facilities that could be practically constructed in a particular location should be considered, and that this is consistent with the methodology used in the previous demand curve reset.[33] While we will accept NYISO's uncontested assertion that demand response technologies are not practical for use because of deployment limitations of current market rule designs, the lack of parameters for demand resource technology, and the unsuitability of fixed and variable costs. We note that NYISO states that it will consider the use of demand resource technology in the next demand curve reset cycle contingent upon better definition of the process for identifying technology types, and the methodology and a means to quantifying the fixed and variable costs associated with those technologies.[34]

38. We disagree with the protestors' assertion that the LI proxy unit be used as the NYCA peaking unit. This proposal contradicts the plain language of the Services Tariff. The Services Tariff requires a triennial review to assess "the current localized levelized embedded cost of a peaking unit in each NYCA Locality and the Rest of State" to meet minimum capacity requirements in accordance with the ISO Procedures.[35] The Services Tariff defines rest-of-state to be, "the set of all non-Locality NYCA LBMP Load Zones…includ[ing] all NYCA LBMP Load Zones other than LBMP Load Zones J and K."[36] Therefore, we conclude that the tariff requires that NYISO determine the localized

[32] IPPNY January 7, 2011 Answer 13-14.

[33] *See* 2008 Reset Order, 122 FERC ¶ 61,064 at P 22-23.

[34] NYISO November 30, 2010 Filing at 6.

[35] Services Tariff, Section 5.14.1.2.

[36] Services Tariff, Section 2.18, where Load Zones J and K are NYC and LI respectively.

levelized embedded costs for three separate peaking units, i.e., one for the NYC (Zone J) locality, one for the LI (Zone K) locality, and one for the rest-of-state. Further, in past applications of the demand curve, the rest-of-state has carried a de facto meaning of all NYCA Load Zones with the exception of NYC and LI.[37] Furthermore, protestor's assertions would lead to the conclusion that a NYCA peaking unit on LI would need to be deliverable to the entire state, including NYC and rest-of-state. This would infer that a NYCA peaking unit located in rest-of-state would need to be deliverable to NYC and LI, which is not reasonable and not required by the Tariff. Accordingly, we find NYISO correct in locating the NYCA peaker within the rest-of-state area.

B. Deliverability Costs

1. NYISO's Proposal

39. NYISO proposes that deliverability costs be excluded from the CONE of the rest-of-state proxy unit (the Frame 7FA) located in the Capital Zone. NYISO states that the Consultant identified a range of net CONE results for rest-of-state with and without the cost of System Deliverability Upgrades but did not take a position on whether these costs should be included as an element in the demand curves. NYISO states that the Services Tariff does not expressly state that the cost of System Deliverability Upgrades should be included in CONE nor is there any precedent from other ISO/RTO markets. In support of its position, NYISO states that the cost allocation provisions regarding System Deliverability Upgrades that are contained in the NYISO Tariff were specifically designed to provide interconnection customers an economic incentive to locate in areas where their capacity would be deliverable.[38]

40. NYISO further states that including System Deliverability Upgrade costs would suppress desired economic signals because the costs would effectively be shifted to, and be subsidized by capacity buyers by increasing the value of net CONE at equilibrium, provide a windfall to existing generators that are grandfathered from deliverability requirements, and skew retirement signals. NYISO's MMU agrees with NYISO stating that under long-run equilibrium, resources may be more deliverable due to reduced excess capacity and not be exposed to deliverability costs.[39]

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[37] 2008 Reset Order, 122 FERC ¶ 61,064 at P 22.

[38] NYISO December 30, 2010 Filing at 11 (citing *New York Indep. Sys. Operator, Inc.* 122 FERC ¶ 61,267 (2008)).

[39] *Id*., Attachment 1 at P 15.

41. NYISO asserts that the value of Transmission Congestion Contracts (TCC) and incremental TCC awards would offset a generator's System Deliverability Upgrade costs which are not included in the revenue offsets captured in the calculation of net CONE. Similarly, NYISO's MMU asserts that efficient transmission investment will result in new TCCs of equivalent value offsetting System Deliverability Upgrade costs. The NYISO MMU further asserts that developers may not incur System Deliverability Upgrade costs since the NYISO market allows suppliers to procure deliverability rights from existing retiring resources.

42. NYISO also states that deliverability-related adjustments should be considered in relation to the establishment of a new capacity zone,[40] which NYISO notes would ameliorate the concerns of stakeholders and send clearer economic signals. The NYISO MMU also states that the establishment of a new capacity zone, as recommended in the 2009 State of the Market Report, is more economically efficient than including System Deliverability Upgrade costs in the demand curve.

2. Comments and Protests

43. The New York Commission, Consumer Protection Board, Multiple Intervenors, and New York City support NYISO's exclusion of deliverability costs from CONE citing the cost allocation provisions for System Deliverability Upgrades contained in Attachment S of the NYISO Tariff that require the interconnection customer to bear the costs of interconnection. Multiple Intervenors state that allocating deliverability costs to developers provides the incentive to locate where the capacity provides the greatest reliability benefits, otherwise, developers will locate where it is cheapest to build regardless of whether the capacity is deliverable. Multiple Intervenors also contend that a windfall will occur to generators during the 2011 to 2014 period when no new resources are needed for reliability purposes and existing resources are expected to supply all capacity needs.

44. The NYTOs, in support of NYISO's position, state that the System Deliverability Upgrade costs are speculative and that it cannot be assumed that a developer would need to incur them if NYCA were at the minimum capacity requirement. According to the NYTOs, it is necessary to look at the transmission system with excess capacity removed in order to make this determination.[41] The NYTOs state that their analysis shows that if surplus capacity were eliminated to the point where the three capacity zones were at the

[40] *Id*. at 11-12 (noting NYISO's compliance obligation in Docket No. ER04-449-023).

[41] NYTOs December 21, 2010 Protest, Appendix A at P 8.

minimum requirement simultaneously, 1000 MW of headroom would be created at the UPNY/SENY interface.[42] Therefore a new NYCA resource in the Capital Zone would not incur System Deliverability Upgrades.[43] The NYTOs also state that it is likely that economic alternatives that address deliverability concerns would be implemented before the need to incur deliverability costs in the capacity market arises.

45. IPPNY[44] states that the exclusion of deliverability costs from CONE violates the NYISO tariff and is therefore unjust and unreasonable. IPPNY requests that the Commission require NYISO to include the cost of System Deliverability Upgrades in the calculation of net CONE or require the NYCA demand curve be based on the cost of the LMS100 proxy unit located in the Lower Hudson Valley where no deliverability costs would be required. IPPNY also requests that the Commission direct NYISO to base the NYC proxy unit on actual interconnection costs (including System Deliverability Upgrade costs) for recent projects. IPPNY states that the NYCA proxy unit located in the Capital Zone cannot participate in the ICAP market unless it pays for System Deliverability Upgrades and notes that paying for these upgrades, just as with System Upgrade Facilities, is fundamental to the interconnection cost policies adopted by the Commission.[45] IPPNY further cites to section 5.14.1.2 of the Services Tariff that requires the demand curve reset account for the current localized levelized embedded cost of a peaking unit and to Attachment S section 25.3.1 of the NYISO OATT, which states that a generation developer must meet the deliverability interconnection standards before it can qualify as an ICAP supplier. Therefore, according to IPPNY, in order to sell ICAP in NYCA [rest-of-state] the interconnection customer must be found to be deliverable up to the UPNY-Con Edison interface, pay for System Deliverability Upgrades to make its output deliverable, or if available, procure Capacity Resource Interconnection Service rights from other parties.[46]

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[42] As relevant here, headroom is the electrical capacity of the System Upgrade Facility or of the System Deliverability Upgrade that is in excess of the electrical capacity actually used by the Developer's generation project.

[43] NYTOs December 21, 2010 Protest at 19.

[44] IPPNY's comments are adopted by New York City Suppliers, Calpine, and GenOn.

[45] IPPNY December 21, 2010 Protest at 27, 30 (citing Order No. 2003 *et al.* and NYISO Services Tariff, Attachment S, § 25.1.1).

[46] IPPNY notes that purchasing transferable deliverability rights is an alternative to paying for System Deliverability Upgrades, but states that there is no reason to believe

(continued…)

46. IPPNY states that while a proxy unit located in the Lower Hudson Valley might not incur the cost of System Deliverability Upgrades associated with the UPNY/SENY interface, NYISO's choice of a Capital Zone proxy unit with no accommodation for deliverability costs ensures that the NYCA demand curve will not be sufficient to induce new entry in the upstate region because the unit will be unable to recover its costs. IPPNY points out, however, that the net CONE for a Lower Hudson Valley proxy unit would be significantly higher because environmental regulations require the use of an LMS100 proxy unit which is more expensive that the Frame 7FA proxy unit proposed by NYISO and located in the Capital Zone. Therefore, IPPNY states that units located above the UPNY/SENY interface will incur deliverability costs for which they will not be compensated, while units located in the Lower Hudson Valley will be undercompensated because NYISO's demand curve will be "underpinned" by a less expensive and unrealistic type of peaking unit.[47] IPPNY states that using the rest-of-state proxy unit proposed by NYISO and located in the Capital Zone, accepting NYISO's other assumptions, and adding deliverability costs, results in a net CONE of $115.44/kW-year—an increase of $25.65/kW-year over NYISO's proposed net CONE.[48]

47. In response to the MMU's affidavit, IPPNY states that the MMU fails to justify the exclusion of System Deliverability Upgrades from net CONE. IPPNY states that the MMU confuses the cost allocation policies for System Deliverability Upgrades with whether a proxy unit should include these costs in net CONE. Further, IPPNY asserts that the point of the process is to provide an accurate reflection of the costs in the demand curve, and contrary to NYISO's assertion, the fact that existing generators will obtain the same price as new entrants cannot be deemed a windfall. IPPNY states that the MMU's arguments that capacity will become more deliverable as it approaches equilibrium are refuted by Dr. Younger because the UPNY/SENY interface would remain overloaded under equilibrium conditions.[49] Dr. Younger first notes the apparent contradiction in the testimony of the MMU who concludes that the UPNY/SENY deliverability problem will continue after the system reaches equilibrium. In response to the MMU's statement that developers can obtain TCCs, Dr. Younger states that the value of TCCs depends on the level of congestion which has an inverse relationship to the alleviation of congestion

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they would be materially less costly. IPPNY December 21, 2010 Protest at 27, Younger Affidavit at 64.

[47] IPPNY December 21, 2010 Protest at 33.

[48] *Id*.

[49] *Id*., Exhibit 2 at P 56-61.

through transmission upgrades. Therefore the value of TCCs decreases with additional transmission investment (e.g. System Deliverability Upgrades) and would not completely offset the System Deliverability Upgrades.

48. With respect to arguments that a new capacity zone would better send the correct price signals, IPPNY states that when a new zone is created, the demand curves can be adjusted to take the new zone into account; but that in the meantime, the demand curves must be based on the facts at hand and must include an accurate representation of actual costs.

49. In adopting IPPNY's protest, GenOn Parties state that the Commission should direct NYISO to revise the NYCA demand curve to reflect the LMS100 proxy unit located in the Lower Hudson Valley and also direct NYISO to file a separate demand curve for the Lower Hudson Valley as a new capacity zone.

3. Answers

50. NYISO responds to parties' arguments for including the cost of System Deliverability Upgrades in the calculation of net CONE by reiterating its previous windfall arguments.[50] NYISO also states that arguments relating to deliverability costs in NYC are misleading because parties assume that costs previously categorized as System Upgrade Facilities prior to the deliverability rules taking effect, would now be categorized as System Deliverability Upgrades.

51. IPPNY responds to the arguments raised by the NYTOs that System Deliverability Upgrade costs are speculative and unnecessary if the system were at the minimum capacity requirement. IPPNY states that the NYTOs' improper treatment of certain resources as capacity resources results in the incorrect claim of excess headroom at UPNY/SENY.[51] In particular, IPPNY asserts that its expert, Mr. Younger, showed that the NYTOs' expert, Mr. Franey, incorrectly treated his claimed source of 1,000 MW of headroom at zero excess capacity, i.e., New York State Electric and Gas Corporation's 1080 MW of grandfathered transmission and deliverability rights, as if they were firm rights when in fact, NYISO only treats 38 MW as a capacity resource.[52] IPPNY further

[50] NYISO January 6, 2011 Answer at 15 (citing 125 FERC ¶ 61,311, at P 35 (2008) regarding the adverse affect of price increases versus the potential benefit to the market).

[51] IPPNY January 7, 2011 Answer at 18.

[52] *Id*. at 17-18.

states that the NYTOs' assumption that capacity should be reduced to the minimum requirement is flawed by ignoring the lumpiness of capacity additions, forecast errors, the fact that all rest-of-state retirements will occur above UPNY/SENY, and the ability of retiring grandfathered generators to transfer deliverability rights.

52. The NYTOs state that IPPNY's arguments are flawed by their use of incorrect load forecasts and by the fact that they ignore ICAP import rights from PJM Interconnection LLC. The NYTOs also state that IPPNY's request that the NYCA curve be based on a proxy unit in Lower Hudson Valley does not meet the Services Tariff requirement that the unit be the least cost. The NYTOs respond to IPPNY and New York City Suppliers that there are locations in NYC where System Deliverability Upgrades would not be required and also note that this issue was not raised in the stakeholder process that developed the instant filing (the NYTOs note that the required System Deliverability Upgrade costs cited for specific projects by IPPNY do not necessarily relate to the deliverability costs that would be required for the proxy unit). The NYTOs state that, if it is determined that deliverability costs should be included in CONE, the costs for NYC can be zero because there are locations within NYC where generators can interconnect without incurring the cost of System Deliverability Upgrades.[53]

4. Commission Determination

53. We disagree with the position advocated by NYISO on the issue of deliverability costs and direct that NYISO revise its demand curve for NYCA and, if necessary, NYC and LI, to reflect the estimated cost of System Deliverability Upgrades. Deliverability costs, in the form of System Deliverability Upgrades, are a required cost of investment for interconnection customers in order to participate in the New York capacity market and be "economically viable."[54] We therefore find that these are among the "current localized levelized embedded cost of a peaking unit"[55] that the Services Tariff provides should be included in the formulation of the demand curve. Also, as discussed below, we do not believe that the inclusion of System Deliverability Upgrades runs contrary to the Commission's objectives in accepting the deliverability provisions or that such inclusion skews the intended economic signals. Therefore, we direct NYISO to revise the NYCA and, if necessary, the NYC and LI demand curves to reflect the estimated cost of System Deliverability Upgrades under a level of excess capacity that slightly exceeds the

[53] NYTO January 10, 2011 Answer, Beck Affidavit at P 7.

[54] Services Tariff Section 5.14.1.2.

[55] *Id.*

minimum requirement and to file the revised curve in a compliance filing within 60 days from the date of this order.

54. The issue of deliverability has emerged, particularly with regard to the development of the NYCA demand curve because of a major inter-zonal transmission constraint within the rest-of-state capacity zone. As discussed previously, capacity that is located upstate from the Southeast New York area which comprises Load Zones G, H, and I (also referred to as Lower Hudson Valley) is not currently deliverable to those zones over the UPNY/SENY interface. Therefore, new resources must pay for System Deliverability Upgrades in order to sell capacity in the rest-of-state market[56] or obtain deliverability rights pursuant to section 25.9.3.1 of Attachment S from a deactivated generator whose deliverability rights pre-date the deliverability rules.[57]

55. According to the Consultant's report, the inclusion of deliverability (i.e. System Deliverability Upgrades) costs for the rest-of-state Frame 7 proxy unit would increase net CONE for 2011/2012 from $95.03/kW-yr to $121.98/kW-yr, or by $26.95/kW-yr.[58] The Consultant's Report notes that there is an inter-zonal deliverability issue in rest-of-state by which units north and west of the UPNY/SENY could not deliver to Zones G to I and therefore could not participate in the capacity market for rest-of-state without obtaining deliverability. The Consultant's Report also states that NYISO estimates the cost of deliverability investment to be $178/kW.[59] However, these estimates are based on the current surplus, not on a scenario under which available capacity slightly exceeds the minimum requirement.

56. With this background we address the issues raised in this proceeding with respect to the inclusion of deliverability costs in the demand curves. First we address whether

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[56] *See* NYISO 2009 State of the Market Report at 122. Http://www.nyiso.com/public/webdocs/documents/market_advisor_reports/2009/NYISO_2009_SOM_Final.pdf.

[57] The 2009 State of the Market Report also recommended that NYISO make preparations to implement a new capacity zone in 2010. *See* 2009 State of the Market Report at 125.

[58] NYISO November 30, 2010 Filing Attachment 2, Consultants' Report at Table I-1.

[59] NERA Report at 73-74. The Consultant notes that the analysis assumes deliverability costs to be financed by the peaking unit owner and recovered over the life of the unit.

the tariff requires that the cost of System Deliverability Upgrades be taken into account in the determination of net CONE. We find that it does. Attachment S of the NYISO Tariff clearly provides that System Deliverability Upgrades are required if the output of a generating unit is not deliverable in order to qualify for Capacity Resource Interconnection Service and to have the right to sell capacity into the capacity zone in which the resource interconnects. Without satisfying this requirement, an interconnection customer, such as the proposed rest-of-state proxy unit located above the UPNY/SENY interface would not be able to participate in the capacity market and earn revenues associated with the ICAP demand curve. This deliverability requirement is mandatory. We also note that another mandatory generator interconnection cost that is included in the proposed as well as previous demand curves is the cost of System Upgrade Facilities for the proxy unit. System Upgrade Facilities were the only type of identified interconnection upgrade required previously because, prior to the current demand curve reset, NYISO offered only one type of interconnection service—Minimum Interconnection Standard.[60]

57. Section 5.14.1.2 of the Services Tariff specifies that the demand curve shall include the "current localized levelized embedded cost of a peaking unit" and does not exempt any particular cost from this requirement. NYISO points to the provisions contained in section 5.14.1.2 stating that the Services Tariff does not expressly state that System Deliverability Upgrade cost should be included.[61] We find this argument misplaced as the provision does not specify any particular cost; it merely provides for the inclusion of the embedded costs of a peaking unit, whatever it may be. Under current system conditions, i.e. with an intra-zonal constraint in rest-of-state, deliverability costs would be a necessary embedded cost of new entry for a generator located upstate of the constraint, where NYISO has chosen to locate the rest-of-state proxy unit. The same rationale used to include System Upgrade Facilities in CONE also leads to the conclusion that System Deliverability Upgrades should not be excluded without specific evidence that they would not be incurred at a level of excess capacity that slightly exceeds the minimum requirement. All of these costs meet the above tariff requirement that the costs included in CONE are current, localized, and embedded.

58. NYISO selected the location of the rest-of-state proxy unit to be in the Capital Zone located upstate of the UPNY/SENY interface because such unit would have the lowest net CONE. As IPPNY points out, NYISO could have selected the NYCA proxy unit to be located in the Lower Hudson Valley which would not have required System

[60] *See* NYISO Tariff, Attachment S, Section 25.2.

[61] Filing Attachment 3, NYISO Report at 8.

Deliverability Upgrade costs to meet the deliverability requirement. However, a new proxy generator located in the Capital Zone with System Deliverability Upgrades is less expensive than a new proxy unit located in Lower Hudson Valley without System Deliverability Upgrades. As with all other costs included in CONE, these interconnection costs are "localized" as required by the tariff and evaluated with each demand curve reset cycle to determine whether and to what extent they are a required cost of new entry. On this basis we find that together, the requirements of the Services Tariff and the NYISO Tariff require the cost of System Deliverability Upgrades at a level of excess capacity that slightly exceeds the minimum requirement to be taken into account when determining CONE.

59. In a further attempt to support the exclusion of deliverability costs, NYISO and other parties cite to the cost allocation provisions contained in Attachment S of the NYISO Tariff and to the series of Commission orders under which the provisions regarding System Deliverability Upgrades were developed. We find that this argument is misplaced, and, if anything, further supports the inclusion of System Deliverability Upgrade costs in CONE. NYISO states that the Commission's policies regarding deliverability were designed to give interconnection customers an economic incentive to locate in areas where their capacity would be deliverable and cites to the series of deliverability orders in which the Commission accepted the cost allocation provisions contained in the tariff. Including System Deliverability Upgrade costs in the calculation of CONE does nothing to decrease this incentive because the developer will still evaluate profitability over the life of the project in determining where to locate. All costs of constructing a generator are initially borne by the project developer and including such costs in CONE does not alter this cost allocation. A rational investor expects to recover its investment costs from the revenue streams generated by the project, one of which is the NYISO capacity market.[62] Therefore, the fact that System Deliverability Upgrades are initially allocated to the developer pursuant to Attachment S of the NYISO Tariff is of no consequence here as the developer is still responsible for the cost of its project.

60. We also reject the arguments that capacity buyers will in-effect subsidize developers and that windfalls will occur if System Deliverability Upgrade costs are included. All capacity resources that clear in the NYISO monthly ICAP auction, including demand resources, receive the same market clearing price. The fact that some cleared resources may have costs less than the market clearing price does not constitute a subsidy. No windfall to existing resources is created when actual costs of new entry are incorporated into the demand curve. Markets often provide infra-marginal revenues to

[62] IPPNY points out that a developer will choose the lowest cost location for a new project. IPPNY December 21, 2010 Protest, Exhibit 2, at P 43 & 45.

non-marginal resources. These infra-marginal revenues are important to long-run cost recovery and do not constitute a "windfall" that should be offset by suppressing the ICAP demand curve. Further, excluding these costs results in net CONE that does not accurately reflect the developer's costs and thus, may discourage investment.

61. NYISO also argues that deliverability rights could be transferred from a grandfathered generator to a new one in the same capacity zone. This argument is also proffered by the MMU. We do not dispute that a new entrant could obtain deliverability rights from a retiring generator pursuant to section 25.9.3.1 of the NYISO Tariff. But this fact does not support a conclusion that the proxy peaking unit under a scenario where available capacity slightly exceeds the minimum requirement would not incur System Deliverability Upgrade costs. This argument therefore does not alter our conclusion that deliverability costs should be reflected in CONE.

62. The NYTOs and the MMU conclude that the phrase "to meet minimum capacity requirements" in section 5.14.1.2 requires that the deliverability analysis be conducted while the entire NYCA system is at zero excess capacity.[63] We disagree. We find that deliverability costs should be estimated under conditions where available capacity would slightly exceed the minimum requirement. This is consistent with the calculation of energy and ancillary services revenues and will result in internally consistent analyses as discussed below.[64] Therefore we direct NYISO to perform a well-supported deliverability analysis that reflects a level of capacity that slightly exceeds the minimum capacity requirements. We recognize that NYISO cannot practically perform the required analysis in time for the May 1, 2011 start of the capability year. Accordingly, we direct NYISO to reflect a level of capacity slightly above the minimum in its calculation of System Deliverability Upgrades included in the determination of CONE for the proposed demand curves to be filed within 60 days. We anticipate that this analysis will resolve the issue of whether or not, under this consistent assumption of excess capacity, sufficient headroom exists to obviate the need for System Deliverability Costs.

[63] However, the MMU acknowledges that System Deliverability Upgrade costs are likely to be incurred because a significant surplus currently exists. He states "as a practical matter, it is likely that the particular deliverability issue facing the demand curve peaking resource in the NYCA today will continue to exist over the longer-term when the excess capacity is eliminated." NYISO November 30, 2010 Filing, Attachment 1 at P 15.

[64] We discuss the Commission's determination on the level of excess capacity in section V.D of this Order.

63. NYISO and the MMU also argue that suppliers are overstating the consequences of including deliverability costs because a developer could acquire TCCs associated with increases in transmission capability such as with System Deliverability Upgrades and that the value of these TCCs would be roughly equivalent to the cost of efficient transmission investment. Neither NYISO nor the MMU provides support for the value of such TCCs. We do not agree that the potential for a developer to acquire TCCs would justify excluding the cost of System Deliverability Upgrades. However, we agree with NYISO and the MMU that the revenues that could be generated from the value of TCCs acquired as a result of System Deliverability Upgrades would be appropriately accounted as an offset to the cost of the deliverability upgrade, and if reasonably estimated, should be considered in the development of net CONE. Therefore, we conclude that NYISO should consider the value of TCCs that are created by the construction of System Deliverability Upgrades in the same manner that it treats energy and ancillary services revenues in the calculation of net CONE. In this regard, we find that including revenues from TCCs is consistent with the language contained in section 5.14.1.2 of the Services Tariff regarding the projected energy and ancillary services revenue offset, as the value of the TCCs held by a developer should be roughly equivalent to the additional revenue that the developer would receive by being able to sell its energy at the sink of the TCC. Therefore, we direct NYISO to revise its net CONE computations to include the reasonably ascertainable value of TCCs associated with System Deliverability Upgrades and to include this offset in the revised demand curves that we are directing to be filed within 60 days.

64. We agree with NYISO and the MMU that the creation of a new capacity zone could provide better locational signals. However, this does not support the exclusion of required deliverability costs from the determination of net CONE. Further, NYISO informs us that creation of new capacity zones is not practical during this demand curve reset period. We also note that in a separate proceeding, NYISO and its stakeholders are developing criteria for the establishment of new capacity zones and that this stakeholder process should determine whether a new zone is to be proposed for the next demand curve reset cycle.[65]

[65] On January 4, 2011, in Docket No. ER04-449-023, NYISO made a compliance filing that includes criteria and a timeline for establishing new capacity zones.

C. NYC Tax Abatement

1. NYISO's Proposal

65. NYISO states at the time of the 2007 demand curve filing, the NYC Industrial and Commercial Incentive Program (ICIP) granted, as a right, reductions in real property taxes to new industrial and commercial projects, including power plants. NYISO adds that in July 2008, a revised program was established that effectively removed the tax abatement for new generating facilities in New York City; however on August 3, 2010, the Board of Directors of the New York City Industrial Development Authority (NYCIDA), an agency administered by the New York City Economic Development Corporation (NYCEDC), revised the Uniform Tax Exemption Policy (UTEP) to induce the installation of peaking units in NYC. The tax exemption policy provides, in relevant part:

> *PlaNYC Energy Program Projects.* A PlaNYC Energy Program Project consists of the acquisition, construction and installation of a Peaking Unit. For a PlaNYC Energy Program Project, "inducement" consists of the following: (i) the proposed Peaking Unit will use natural gas, or a demonstrably cleaner fuel, as its primary fuel; and (ii) the proposed Peaking Unit will have a full-load heat rate not exceeding either (aa) 7,850 BtuLHV/kWh (ISO 59º, 60% RH, zero losses, sea level) as measured at generator terminals, or (bb) 8,250 BtuLHV/kWh (9,150 BtuHHV/kWh) as measured net of power plant parasitic loads; and (iii) nitrogen oxide (NOx) emissions from the Peaking Unit will not exceed the lesser of (aa) 25 ppm, or (bb) the then-applicable air-emissions limit as set for the City by the air-emissions permitting agency or agencies having jurisdiction; and (iv) the proposed Peaking Unit will be electrically interconnected to the City's electrical grid; and (v) the proposed Peaking Unit will satisfy either (aa) a future reliability need as identified by any one of NYISO, the transmission owner, or the City, or (bb) an environmental need identified by the City. For purposes of this Policy: "NYISO" means the New York Independent System Operator; "transmission owner" means the owner of local facilities for the transmission of electricity within the City; and "Peaking Unit" means a facility for the generation of electricity that conforms to at least one of the following: (aa) the definition applicable on the date hereof (August 3, 2010) for a "peaking unit" as provided in NYISO Services Tariff, Section 5.14.bl2; or (bb) for a period to which a particular cost-of-entry analysis (i.e., a "CONE") applies, the electricity-generating facility on which NYISO has based such CONE; or (cc) at any point in time, a facility

> that is generally recognized in the industry as being a "peaking unit." As defined herein, a Peaking Unit shall not include the land upon which it is situated. [66]

66. According to NYISO, generation projects that satisfy the established criteria and file a request for abatement are eligible for temporary exemption from real property taxes (full exemption for twelve years, no abatement thereafter), recording taxes, mortgage recording taxes, and sales and use taxes. NYISO notes that, unlike ICIP, the new program is discretionary on the part of NYCIDA and that the Consultant included in its report the impact of full tax abatement on the NYC demand curve.[67]

67. NYISO concluded that the most reasonable approach to setting the NYC demand curve was to assume full tax abatement treatment for the NYC peaking unit. NYISO asserts that the conditions that must be met to qualify for program benefits are clear, and projects meeting the criteria set forth in the UTEP should be granted full tax abatement in accordance with the UTEP provisions. According to NYISO, the NYCEDC representative stated in the demand curve reset process, including in oral presentations to the Board, that it is in New York City's economic interest to grant abatements to peaking units because doing so would result in lower capacity prices. NYISO states that it has therefore concluded that New York City will very likely act in a manner that is consistent with its economic interests and is therefore proposing to use a full abatement assumption in the determination of net CONE for the NYC demand curve.[68]

68. NYISO states that stakeholder comments that the UTEP is designed narrowly to fit the demand curve are irrelevant as the demand curve reset process is limited by the Services Tariff to using a peaking unit.

2. Comments and Protests

69. New York City, NYTOs, the New York Commission, and Consumer Protection Board all agree that NYISO's proposal of a multi-year abatement of New York City property tax for the NYC proxy peaking unit is reasonable and justified, and should be

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[66] Third Amended and Restated Uniform Tax Exemption Polity, *available at* http://www.nycedc.com/AboutUs/PublicMeetings/NYCIDAPublicHearing/Documents/THREEpercent20UTEP.pdf (NYCIDA Policy).

[67] *See* Table I-1 on page 9 of the Consultant's Report.

[68] NYISO November 30, 2010 Filing at 15.

accepted.[69] New York City urges the Commission to uphold NYISO's determination on this point and reject the suppliers' objection as unsupported and lacking merit.

70. According to New York City, in 2010, partly because of requests from the same suppliers who are now criticizing NYISO's recognition of the tax abatement benefits, the NYCIDA modified and restated its tax exemption policy to apply to new peaking generating facilities.[70] New York City states that section I.C.1.e of the Tax Exemption Policy expressly authorizes the NYCIDA to grant financial assistance to any peaking generating facility that satisfies the criteria; thus, there can be no legitimate dispute that the NYC proxy peaking unit is eligible for a property tax abatement under the tax exemption policy.

71. New York City argues that, although the suppliers have made an issue of the ability of NYCIDA to exercise discretion in awarding financial assistance, the NYISO Board correctly recognized and understood that the transition from an as-of-right tax abatement program to a program in which the NYCIDA exercises discretion will not nullify the award of tax abatements to generating facilities and does not form the basis for assuming that the NYC proxy peaking unit would not receive any tax abatements.

72. The NYTOs state it is important to clarify that NYISO did not assume that 100 percent of the tax abatements made available under NYCIDA's tax exemption policy would be granted. Rather, NYISO is assuming only a tax abatement value equal to that given by the former ICIP, which is less than the total potential value of the four tax abatements that are currently available through NYCIDA.[71]

73. The NYTOs state that assuming that tax abatements would not be granted ignores the strong incentive that NYCIDA would have to grant such abatements, i.e. denying tax abatements would also increase the price of ICAP to cover taxes that developers of new NYC peaking units would not have to bear if they receive tax abatements.[72] Finally New York City adds that the impact on New York City electricity consumers related to the

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[69] New York City December 21, 2010 Protest at 21; NYTOs December 21, 2010 Protest at 22; New York Commission December 27, 2010 Protest at 7; Consumer Protection Board December 21, 2010 Protest at 1.

[70] New York City December 21, 2010 Protest, Babis Affidavit at 9.

[71] NYTOs December 21, 2010 Protest at 21 (citing NYISO's November 30, 2010 Filing at 15).

[72] *Id.* at 21-22.

exclusion of the tax abatement benefits equates to potentially hundreds of millions of dollars annually.

74. In contrast, New York City Suppliers, IPPNY, and EPSA argue that property taxes should be incorporated into the calculation of net CONE without any recognition of tax abatements. Constellation, Calpine, GenOn and Dynergy all support the comments of IPPNY.

75. EPSA states it is unclear how the discretionary tax abatement policy will actually be applied. IPPNY argues that the discretionary tax abatements are a significant risk since the entity in charge of granting such abatements may choose to deny a request for abatement in its entirety or to otherwise limit it. IPPNY contends the policy does not automatically grant a property tax exemption to all new generation projects, instead it grants the NYCIDA the right to grant tax exemptions to projects which meet *both* objective and subjective criteria.[73] IPPNY argues neither NYISO nor New York City offered any evidence that the policy has been utilized, or details definitively demonstrating how the subjective criteria such as reliability or environmental needs would be applied or even if the property tax exemption would be granted if all the vague criteria were met.[74] They also argue that the very entity that would be deprived of the property tax revenue, New York City, has exclusive authority to determine whether an exemption would be granted. The New York City Suppliers contend that NYISO incorrectly assumes that the NYCIDA, an agency of New York City, which desperately needs tax revenues to close its looming budget deficits, will grant any and all new generators in New York City a 100 percent exemption from property taxes.[75]

76. EPSA, IPPNY, and New York City Suppliers assert that the current NYC demand curves are understated by almost 40 percent when property taxes are excluded,[76] resulting

[73] IPPNY December 21, 2010 Protest at 45 (citing NYCIDA Policy at 2-3, 9-10).

[74] *Id*. at 46.

[75] *Id*. at 44 (citing *e.g.*, New York City Comptroller, *The State of the City's Economy and Finances* at vi (December 15, 2010) (projecting multi-billion dollar budget deficits for New York City in each of Fiscal Years 2012 through 2014), *available at:* http://www.comptroller.nyc.gov/bureaus/bud/10reports/Dec10_State_of_Citys_Finances 2010.pdf.).

[76] Subsequent to the repeal of the ICIP Real Property Tax Exemption, IPPNY and other parties jointly filed a complaint against NYISO with the Commission requesting that the Commission direct NYISO to reset the demand curves to reflect the property tax costs that would be levied on the NYC Proxy Unit. The Commission denied the

(continued…)

in greatly decreased capacity payments.[77] IPPNY contends this sends insufficient price signals, and that such risk is unjust and unreasonable especially in an area where reliability needs have been identified.

77. New York City Suppliers also contend that recognizing tax abatement in net CONE will eviscerate NYISO's buyer market power mitigation rule, which is based on the value of net CONE, and thereby, facilitate buyers' ability to suppress capacity prices.[78] According to New York City Suppliers, by understating net CONE by roughly 40 percent, NYISO's assumption of full abatement will artificially reduce the offer floor by a similar amount.[79]

78. IPPNY and New York City Suppliers conclude that failing to include property taxes in the demand curve will chill potential investments in new resources in New York City. IPPNY also contends that a generator would need to spend millions of dollars in development costs before finding out whether it would receive the property tax exemptions that would be necessary to make the project economic.[80]

79. NYC Suppliers state the proxy unit for the NYC Capacity Zone would not satisfy certain of the objective criteria contained in the UTEP, and even if it could, it would almost certainly fail the UTEP's subjective criteria. NYC Suppliers' witness David Perri explains that the LMS100 proxy unit for the NYC Capacity Zone would not meet either

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complaint, stating that "it is reasonable to await the scheduled three year update to account for the elimination of the tax exemption and other changes which will apply to demand curves for the 2011-2012 Capability Year." *Independent Power Producers of New York, Inc.*, 125 FERC ¶ 61,311, at P 34 (2008).

[77] EPSA December 21, 2010 Protest at 14-15; IPPNY December 21, 2010 Protest at 42; New York City Suppliers December 21, 2010 Protest at 45.

[78] New York City Suppliers' December 21, 2010 Protest at 46 (citing Services Tariff, Attachment H §§ 2.1 (definitions of Offer Floor, net CONE, and Unit net CONE) and 4.5(g) (v) (rules for calculating Offer Floor for Special Case Resources)).

[79] New York City Suppliers December 21, 2010 Protest at 46 (citing IPPNY *et al.* Complaint, Docket No. EL09-4-000, Exhibit 1, Affidavit of Mark D. Younger at P 67 (filed Oct. 14, 2008) (estimating that failure to include New York City property taxes in net CONE for the 2008/2009 Capability Year would result in an Offer Floor equal to 54 percent of net CONE determined with inclusion of property taxes)).

[80] IPPNY December 21, 2010 Protest at 46-47.

of the objective heat rate criteria. NYC Suppliers state that according to the General Electric performance sheets, the best expected heat rate achievable by the LMS100 is 7,906 BtuLHV/kWh, which is higher than the 7,850 BtuLHV/kWh required by the UTEP subsection (aa). Similarly, when one accounts for parasitic load (i.e., station service), this unit would have a heat rate 8,398 BtuLHV/kWh, which is higher than the 8,250 BtuLHV/kWh required by the UTEP.[81] Therefore, NYC Suppliers conclude that the LMS100 could not meet either of the objective performance criteria and could not be eligible for tax abatement. NYC Suppliers use the installation of an LMS100 unit at the South Pier Improvement Project as a basis for its heat rate assumptions.

80. New York City Suppliers contend the argument regarding New York City's economic interests ignores the fact that New York City can, just as it has done in this reset cycle, always revise or replace the UTEP abatement program with a new tax exemption scheme in time to provide a basis for NYISO to ignore property tax costs the next time it resets CONE and creating buyer-side market power, even if no abatements have been provided under the UTEP. Because the reset is forward-looking, rather than backward-looking, generators will never recover what is lost during this cycle in any case.[82]

81. New York City Suppliers contend that while they understand NYISO having an issue with the substantial increase in CONE that would result from recognizing the effect of the expiration of the ICIP exemption, the elimination of this exemption results in an increase in the costs faced by a new entrant that is no less real than increases in other costs, e.g., equipment, labor, etc. New York City Suppliers argue it would therefore be unjust and unreasonable to continue to set the ICAP demand curves based on the unreasonable and unsupported assumption that new entrants will not pay any property taxes, as it will provide inefficient price signals to generators, investors and demand resources that might otherwise enter the market in this period and potentially future periods.

82. New York City Suppliers argue that to the extent the Commission is unwilling to include the full amount of property tax costs that would be imposed on a new entrant in CONE, it should, at a minimum, include a percentage of such costs reflective of the likelihood that abatement will be granted. New York City Suppliers state consultants Hiscock & Barclay analyzed the property tax relief granted under similar discretionary

[81] New York City Suppliers December 21, 2010 Protest at 47-48 (citing Perri Affidavit at ¶ 13 & Table).

[82] *Id*. at 49-50.

tax exemption regimes in other New York municipalities,[83] and found that "no [Industrial Development Agency] in the state has ever provided a 100 percent exemption regardless of the size of the generation facility,"[84] and that, consequently, NYISO's assumption of 100 percent abatement "is not consistent with how any other municipality has actually treated generation facilities anywhere else in the State."[85] New York City Suppliers conclude the Commission would be "well within its discretion"[86] to direct NYISO to recalculate CONE based on the assumption that the NYCIDA would grant property tax relief in an amount comparable to those provided by other Industrial Development Agencies in New York State.[87]

3. Answers

83. New York City maintains that both IPPNY and the New York City Suppliers attempt to confuse the issue by arguing that there is no assurance that every new generating project would receive tax abatement. New York City argues that whether every new generator would qualify is entirely irrelevant to the Commission's review of the proposed NYC demand curves. New York City asserts the tariff requirements are clear that the only costs to be considered are those of a peaking unit, and the only pertinent question is whether the proxy peaking unit would receive property tax abatement.

84. NYISO submitted an affidavit of Christopher D. Ungate to address UTEP's "objective" criteria. Mr. Ungate explains that he reviewed the affidavit of Mr. Perri and agrees with one of his conclusions but disagrees on another point. Mr. Ungate concurs with Mr. Perri that neither the LMS100 peaking unit nor the South Pier Improvement Project Unit (SPIP) unit will meet the 7,840 Btu/kWh (LHV) heat rate of the subsection (aa) requirement.[88] However, Mr. Ungate differs with Mr. Perri regarding his claim that

[83] *Id*., Attachment D, Hiscock & Barclay Report.

[84] *Id.*, Attachment D at 2.

[85] *Id.*

[86] New York City Suppliers December 21, 2010 Protest at 53 (citing *Town of Norwood v. FERC*, 53 F.3d 377, 380 (D.C. Cir. 1995)).

[87] New York City Suppliers state that the Hiscock and Barclay Report concludes that a 195 MW plant would be subject to an average real property tax burden of $1,469,000.

[88] NYISO January 6, 2011 Answer, Ungate Affidavit at 3.

the LMS100 peaking unit will not meet the subsection (bb) requirement, of a net plant heat rate of 8,250 BtuLHV/kWh (9,150 BtuHHV/kWh) because of a different estimate of parasitic losses for the LMS100.[89] Therefore, Mr. Ungate believes that the SPIP will qualify under the objective criteria. In response, NYC Suppliers take issue with the assumptions, including source data and parasitic load requirements, used by NYISO witness Ungate to conclude that the LMS100 will meet the objective criteria of the UTEP.[90]

85. New York City asserts that the New York City Suppliers ignore the requirements of § 874 of the New York General Municipal Law and the provisions of UTEP. Further, New York City maintains that the Hiscock & Barclay Report provided by the New York City Suppliers should be disregarded because the analysis of upstate industrial development agencies is not applicable to financial assistance provided by UTEP as each development agency within the State of New York is governed by its own policies. NYISO and the NYTOs also contend that the Hiscock & Barclay report should be ignored.

86. NYISO maintains that the Hiscock & Barclay Report does not counter the instant filing's reasoning in any way and should be disregarded because there is no evidentiary value to extrapolating how one governmental entity would behave based on the behavior of unrelated governmental entities operating under different legal requirements and different circumstances.[91] Further, NYISO states it is not disputing that UTEP allows NYCIDA to exercise some discretion, but rather reasonably assumes that it will exercise that discretion consistent with New York City's interests. NYISO maintains that New York City Suppliers are wrong to equate a government entity's pursuit of policies with a private entity's hypothetical market manipulation scheme. NYISO also states that the assumption of full tax abatement would not distort the In-City Buyer Side Mitigation Measures because the ICAP demand curves would be set based on the reasonable assumption that the peaking unit's property taxes would be abated.

87. The NYTOs also dispute New York City Suppliers' contention that assuming tax abatement will discourage the entry of new capacity by depressing the amount of revenues a new generator can expect to collect by entering the market. According to the NYTOs, the fact that approximately 2,050 MW of new realistic capacity is planning to enter the NYC market in the 2009 and 2010 Class Years clearly demonstrates that

[89] NYISO January 6, 2011 Answer at 22.

[90] NYC Suppliers January 14 Answer at 12-14.

[91] NYISO January 6, 2011 Answer at 23.

including tax abatements in the demand curve has done nothing to discourage new entry into the NYC market.

4. Commission Determination

88. We find that it is not just and reasonable to assume full or, in fact, any tax abatement for the NYC LMS100 peaking unit when granting the tax abatement is discretionary under the provisions of the UTEP and not a matter of right as it was under the predecessor program, ICIP. Property taxes are legitimate costs that are normally included the cost of new entry; NYISO has not shown that they will not be incurred by peaking units that will be constructed in New York City. Furthermore, we are convinced by the debate between New York City Suppliers and NYISO that it is unclear whether an LMS100, the peaking unit used by NYISO in determining the CONE for the NYC demand curve, would qualify under the program criteria.

89. For example, New York City Suppliers assert that the proposed LMS100 proxy unit's heat rate, one of the objective criteria, will fail to meet the specific requirements for tax abatement. The New York City Suppliers and NYISO then argue the merits of each other's assertions that the proxy unit will or will not meet the heat rate requirements contained in UTEP, basing their respective judgments on manufacturer specification sheets, and the installation of the LMS100 at the South Pier Improvement Project. Further, the final measured heat rates will necessarily differ from general specification sheets because each installation has different technical requirements that may affect the physical installation. As such, we have no way to conclude whether a developer that constructs a project specifically designed to meet the UTEP will receive tax abatement if it misses the narrowly defined objective criteria by a de minimus amount.

90. For these reasons, we find that qualification of the NYISO LMS100 ICAP peaking unit is in question. Accordingly, because of the questionable eligibility of a peaking unit and the fact that such abatement is discretionary, we direct NYISO to exclude tax abatement from the calculation of net CONE for NYC. NYISO is directed to file the revised NYC demand curves within 60 days from the date of this order, to be effective consistent with the other revisions we are directing in this order.

D. Expected Level of Average Excess Capacity

91. NYISO adjusts the CONE to reflect an assumed level of average excess capacity. The assumed level of excess capacity affects both the determination of projected energy and ancillary services revenues and the amount of projected capacity revenues realizable in the spot capacity market.[92] An assumption of a higher level of average excess capacity

[92] *See* NYISO November 30, 2010 Filing, Attachment 2 at 69.

will result in a higher net CONE, since it will decrease the revenue offsets used to define CONE. An assumption of a lower level of excess capacity would result in a lower net CONE.

92. Both of NYISO's proposed excess capacity adjustments reflect the reasonable expectation that, on average there will be excess capacity because, inter alia, NYISO will not permit capacity to fall below the minimum required amount. To this end the Services Tariff states, in pertinent part, that the periodic review of the Demand Curves shall assess:

> (ii) the likely projected annual energy and ancillary services revenues of the peaking unit over the period covered by the adjusted ICAP Demand Curves, net of the costs of producing such energy and ancillary services, under conditions in which the available capacity would equal or slightly exceed the minimum Installed Capacity requirement. [Emphasis added].

1. NYISO's Proposal

93. For the first three-year period covered by the demand curve update, NYISO proposes to use a capacity level of 100.5 percent of the minimum capacity requirement for computing energy and ancillary services revenues. For the remainder of the nominal thirty year life of the peaking unit, NYISO states that the Consultant recommended that the average percent excess in each region be determined by first multiplying the capacity of the peaking unit by 1.5 and then dividing that value by the minimum capacity requirement for the region. This translates into recommended excess capacity adjustments of 1.5 percent, 3.0 percent, and 6.0 percent in NYCA, NYC, and LI, respectively.

94. NYISO, however, proposes a multiple of 0.5 times the capacity of the new entrant peaking unit.[93] NYISO argues that, while it believes that signals for new entry will be provided before the level of excess drops to the equilibrium point, the timing of new entry could reasonably coincide with the time at which the excess is anticipated to fall to zero. Under this assumption, the addition of the new entry peaking unit will bring the

[93] For example, since NYISO proposes a multiple of 0.5, and the capacity of the new entrant peaking unit is 195 MW in New York City and Long Island, NYISO calculates average excess in New York City and Long Island of 98 MW (0.5 * 195 MW = 98 MW). NYISO states that, based on dividing that amount by the average minimum capacity requirement levels for each locality (8575 MW for NYC and 4700 MW for LI), NYISO calculates excess capacity adjustments of 1.1 percent and 2.1 percent in New York City and Long Island, respectively.

excess to 1.0 *MW of the peaking unit. As the excess is absorbed by load growth, NYISO assumes that the timing of new entry would coincide with the time at which the excess falls to zero. As the cycle repeats, this would result in an average level of excess of 0.5 *MW of the peaking unit. NYISO thus proposes using a 0.5 multiple, which translates to levels of average excess capacity of 1.0 percent,[94] 1.1 percent, and 2.1 percent in NYCA, New York City, and Long Island, respectively.

95. The MMU does not dispute the proposed one percent adjustment for NYCA but, as noted by NYISO, the MMU believes that NYISO's proposed excess capacity levels for NYC and LI are too low over the long term. NYISO states that the MMU's view is that in practice new entry would not perfectly coincide with resource needs and that a level of excess equal to the size of the peaking unit (195 MW) is an assumption which would fall within a reasonable range.

96. NYISO states that its Board adopted the recommendations in the NYISO report, which is the proposal that is included in the instant filing. NYISO cites to the affidavit of David Lawrence, Manager of Auxiliary Market Products for NYISO, and the Consultant's report to argue in favor of an adjustment closer to the minimum installed requirement. NYISO asserts that although the MMU's point is important when examining the capacity markets, the Services Tariff calls for an assessment not of expected conditions but of conditions in which the available capacity would equal or slightly exceed the minimum installed capacity requirement.[95] NYISO also quotes from the Consultant's report which observes that "the excess adjustment is clearly not designed to compensate for actual excesses, but only for excesses that will occur near the minimum installed capacity requirement. NYISO concludes that the MMU's concerns that the NYISO's estimates for NYC and LI do not reflect real-world conditions or unreasonably assume that NYISO and investors will have perfect foresight are therefore misplaced.

97. NYISO also states that some stakeholders have argued that the estimated excess capacity levels that are proposed herein are too low, or vary too greatly from values used in the past, while others have claimed that the estimates are too high. NYISO explains

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[94] NYISO notes that, for rest-of-state, it initially calculated an adjustment of 0.6 percent using its proposed multiple of 0.5 times the capacity of the new entrant peaking unit. However, NYISO states that it is unrealistic to assume that, over time, an average level of excess below 1 percent would be reasonable, and therefore proposed that the level of excess in NYCA be modeled at 1 percent.

[95] NYISO November 30, 2010 Filing at 18 (citing the Consultant's Report at 71).

that the proposed excess capacity levels are lower than those in the previous demand curve reset in part because NYISO and the Consultant determined in this reset that it is appropriate to set the level in relation to the size of the peaking unit used to establish the demand curves rather than on a larger combined cycle unit (as was done in the 2007 reset). NYISO states that this proposal is reasonable because the hypothetical peaking unit represents the efficient addition to maintain reliability and because it is consistent with the Services Tariff.

2. Comments and Protests

98. IPPNY[96] and New York City Suppliers generally argue that NYISO's proposal produces artificially suppressed capacity payments that will hinder development of new, and maintenance of existing, resources that are needed for reliability. IPPNY and New York City Suppliers take issue with NYISO's proposed excess capacity adjustments of 1 percent, 1.1 percent, and 2.1 percent in NYCA, NYC, and LI, respectively.

99. In its protest, IPPNY states that NYISO's rejection of the Consultant's excess capacity risk factor is unjust and unreasonable because it would result in under-recovery of capacity costs. IPPNY further states that NYISO provides no justification for reducing the Consultant's proposed excess capacity adjustment and asks the Commission to require NYISO to restore the recommendations of the Consultant. IPPNY states that the Consultant's approach is both correct and necessary because of the lumpy nature of capacity additions and because of the reliability bias in New York State.

100. IPPNY asserts that NYISO's actions amount to a regulatory surprise that arbitrarily reduces the value of investment.[97] IPPNY states that the assumed level of market excess is the main driver in incorporating merchant risk into the proxy unit net CONE and argues that, because NYISO made changes to one part of the NYISO Consultant's model, as described above using its proposed 0.5 multiple, without corresponding changes to other parts of the model, NYISO's actions are arbitrary and capricious. Also, IPPNY states that NYISO has not provided any reasonable justification for reducing the excess capacity adjustments below what was approved by the Commission as just and reasonable in the last reset process.[98]

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[96] GenOn, Constellation, Dynergy, Entergy, New York City Suppliers, EPSA and Calpine all filed comments in support of IPPNY's protest.

[97] IPPNY December 21, 2010 Protest at 16.

[98] As noted above, in the previous reset, the Commission accepted NYISO's proposed excess capacity adjustments of 4.0 percent for New York City and Long Island.

101. IPPNY contends that it is critical that realistic estimates of excess capacity be used to calculate the net CONE, because otherwise net CONE will be set too low and will not produce investment that is sustainable over the long term. IPPNY argues that NYISO's proposed excess capacity adjustments are well below the low end of a reasonable band. IPPNY contends that the lumpiness of capacity additions will result in excess capacity, that the history of past interventions indicates that New York State will never fall within the narrow band of excess suggested by NYISO, and that NYISO's planning tools add to the likelihood that no shortage will occur. IPPNY's consultant Mr. Younger explains that NYISO's proposed assumption is not realistic because it ignores the facts that (i) entry commitment is made years in advance of actual conditions, (ii) entry is not coordinated, (iii) forecasting is imperfect, and (iv) the required reserve margin could change.[99] IPPNY also points to examples from out-of-market entry from NYPA, from an extra two years of operation of the Poletti unit beyond its expected retirement, and from desired capacity by 2016 on the part of LIPA.

102. IPPNY further states that NYISO does not justify why it interprets the Services Tariff's "equal or slightly exceed the minimum requirement" standard to apply to the excess capacity risk factor that is intended to provide additional revenues to the proxy unit to reflect the bias of the system to have a surplus of capacity. IPPNY asserts that the plain reading of the tariff language makes clear that the standard only applies to the calculation of energy and ancillary services revenues. Further, according to IPPNY, even assuming, arguendo, that the standard applies to the excess capacity risk factor, in the last reset process, the Commission found that a four percent excess capacity factor for the New York City zone was consistent with the Services Tariff.

103. Similarly, New York City Suppliers assert that NYISO's proposed adjustments for excess capacity do not adequately reflect merchant risk, are unreasonably low, misinterpret the Services Tariff, are at odds with the position NYISO took, and the Commission accepted, in the last reset proceeding, and will suppress capacity revenues. New York City Suppliers ask the Commission to require NYISO to restore, at least for the New York City Capacity Zone, the recommendations of the NYISO Consultant. In the alternative, the New York City Suppliers request that the Commission establish a paper hearing procedure.

104. New York City Suppliers contend that NYISO has conflated two distinct functions for and estimates of the adjustment: (1) projecting net energy and ancillary services revenues during the three-year reset period, and (2) adjusting the monthly ICAP Reference Points to account for merchant risk during years 4 through 30 of the new

[99] IPPNY December 21, 2010 Protest at 21 (citing Younger Affidavit at P 14).

facility's life. New York City Suppliers contend that NYISO has mistakenly applied to the second function a tariff requirement that is applicable to the first function.[100] New York City Suppliers contend that NYISO's proposal is in contravention to the Commission's prior finding that a four percent excess capacity level only slightly exceeds the minimum ICAP requirement.[101] Further, New York City Suppliers argue that NYISO has provided no evidence that the merchant risk reflected by the excess capacity adjustment has been reduced since the last reset. New York City Suppliers add that, by failing to make corresponding changes elsewhere, NYISO has arbitrarily and impermissibly stripped merchant risk out of the net CONE calculation. Further, New York City Suppliers state that they agree with the MMU's concerns regarding NYISO's assumptions. They assert that NYISO admits its assumptions are unrealistic[102] and, in contrast to NYISO's assumptions, the NYISO Consultant's assumptions are appropriately consistent with "real world" conditions.

105. New York City Suppliers state that NYISO's proposed adjustment implies a lower excess capacity risk in New York City than in PJM Interconnection, LLC and in the previous NYISO reset. New York City Suppliers note that, at the same time, over 1,000 MW of capacity is expected to enter service in New York City in the next few years, with more likely as a result of ongoing regulatory and reliability requirements. New York City Suppliers also note that the affidavit of David Lawrence should not be treated as evidence, since it relies on a legal argument.[103]

106. In contrast to IPPNY and New York City Suppliers, load-side entities, including the NYTOs, New York City, and Multiple Intervenors, generally argue that NYISO's proposed adjustments for excess capacity should be reduced. While the NYTOs focus on NYISO's assumption regarding the excess capacity adjustment for capacity revenues, New York City and Multiple Intervenors, supported by the Consumer Protection Board, comment on NYISO's proposed adjustment for projected energy and ancillary services revenues. The Consumer Protection Board and the NYTOs also request that the demand curves be developed under the assumption that there is no surplus capacity. The New York Commission supports NYISO's assumed level of excess capacity.

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[100] New York City Suppliers December 21, 2011 Protest at 22.

[101] *Id*. at 22 (citing 2008 Reset Order, 122 FERC ¶ 61,064 at P 32).

[102] *Id*. at 16 (citing NYISO November 20, 2010 Filing at 18).

[103] *Id*. at 21.

107. The NYTOs assert that developing the demand curves under the assumption that there is no surplus capacity would be consistent with the intent of the demand curves. The NYTOs contend that the intent of the demand curves is to ensure that revenues provided by the ICAP market are sufficient to induce entry when the NYCA or a Locality is at its minimum capacity requirement. The NYTOs characterize the excess capacity adjustment as a self-fulfilling prophecy. The NYTOs state that eliminating NYISO's assumptions of excess capacity in the ICAP market would reduce the costs of purchasing NYCA ICAP in the spot market by approximately $20 million per year, and the costs of purchasing New York City ICAP in the spot market by approximately $50 million per year.

108. The NYTOs also contend that if the Commission finds that a surplus capacity adjustment is appropriate, then the Commission should approve an average level of excess consistent with one-half the size of the hypothetical peaking unit for all localities, which is generally consistent with NYISO's proposal.[104] The NYTOs argue that the MMU simply states, without a substantive basis, that the MMU's own proposal is more just and reasonable. The NYTOs also request a minor modification to correct an inconsistency in the calculation of the LI surplus.[105]

109. New York City argues that, if the Commission determines that modifications to the existing New York City ICAP demand curve are necessary, the proposed level of excess capacity assumed in calculating the projected energy and ancillary services revenues earned by the NYC proxy peaking unit should be consistent throughout, i.e., modified to 0.5 percent over the entire nominal life of the unit instead of just the first three years. New York City states that this would ensure consistency with the requirements of the NYISO Services Tariff. New York City argues that the Commission has previously determined that energy and ancillary services revenue projections be estimated "under conditions in which the available capacity would equal or slightly exceed the minimum Installed Capacity requirement," and that this language applies equally to the entire nominal life of the NYC proxy peaking unit.[106] Multiple Intervenors make this same argument, as applied to NYCA. Multiple Intervenors contend that

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[104] The NYTOs request that the Commission discard NYISO's proposed minimum of 1 percent excess in NYCA.

[105] NYTOs December 21, 2010 Protest at 9 (stating that NYISO mistakenly used a UCAP requirement, not an ICAP requirement, in calculating the excess capacity adjustment).

[106] New York City Protest at 14 (2008 Reset Order, 122 FERC 61,064 at P 31).

NYISO's own analysis reveals that the actual long-term expected level of excess capacity for the NYCA is equal to 0.5 percent. Both New York City and Multiple Intervenors also argue that their proposed modifications would avoid unnecessarily high price signals. Consumer Protection Board states that it supports the reasoning of New York City and Multiple Intervenors with regard to the assumed level of excess capacity.

3. Answers

110. NYISO states that the Commission has previously upheld NYISO's reading of the Services Tariff that the Services Tariff authorizes NYISO to review the localized levelized embedded cost of a peaking unit to meet minimum capacity requirements and to set the ICAP demand curves based on an assumption that actual ICAP levels will slightly exceed minimum requirements.[107] NYISO states that the supply-side contention that NYISO's proposal is too low as compared to the previous reset is flawed because that contention does not account for the fact that NYISO has proposed to refine its analysis since the last reset. Specifically, NYISO states that it has determined that it would be better to compute excess capacity levels using the peaking unit (rather than a combined cycle unit). NYISO states that the use of a peaking unit is more consistent with the other parameters used to establish the demand curves, and the fact that an alternate methodology was used in the past does not, and should not, preclude NYISO from proposing to use the peaking unit now. NYISO states that there is no merit to IPPNY's concerns regarding market uncertainty that would result from adjusting the excess capacity levels because it is predictable that the demand curves will be periodically re-examined and the value at which they are reset may change. In contrast, NYISO states that harmful market uncertainty would result if the demand curves are subject to refund.

111. In its Answer, IPPNY again states that the Commission should require NYISO to incorporate realistic levels of excess capacity into the demand curves. IPPNY states that the conditions that caused NYISO to previously incorporate an excess capacity risk factor remain today. IPPNY believes that comments from NYTOs, Multiple Intervenors, New York City, and the Consumer Protection Board are all unsupported. IPPNY also requests, if the Commission does not adopt its arguments, that merchant risk be reflected in the model in some other fashion.

112. New York City answers that allegations, from IPPNY and the New York City Suppliers, that NYISO has provided no support for its proposal are completely baseless. New York City characterizes NYISO's usage of the capacity of a peaking unit to

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[107] NYISO January 6, 2011 Answer at 25 (citing *New York Indep. Sys. Operator, Inc.*, 111 FERC ¶ 61,117, at P 31 (2005)).

determine the average excess capacity as support for NYISO's excess capacity percentages. New York City states that NYISO's new approach is intended to ensure that the proposed excess capacity adjustment is consistent with both the Services Tariff and Commission precedent. New York City contends that IPPNY's and New York City Suppliers' arguments are inconsistent because both IPPNY and New York City Suppliers argue that it is inappropriate to change some parameters from the previous reset, while also arguing that other parameters should be changed from the previous reset. New York City states that IPPNY and New York City Suppliers attempt to define the excess capacity risk factor as outside the scope of section 5.14.1.2 but that the distinction between adjustments raised by IPPNY and New York City Suppliers in this reset is purely semantics because the Commission has previously acknowledged that the assumed level of excess capacity directly affects and is inherently related to the projected energy and ancillary services revenues to be earned by the proxy peaking unit, and thus both excess capacity adjustments are subject to the same tariff language.

113. The NYTOs answer that the supply-side entities are appropriately subject to market and regulatory risk. The NYTOs contend that IPPNY raises the issue of regulatory risk in this proceeding because the adjustments are not to IPPNY's liking. NYTOs state that, for the reasons described in the NYISO Transmittal, NYISO's assumptions regarding the amount of surplus capacity have a sound rationale and cannot reasonably be viewed as arbitrary. The NYTOs also state that NYISO's assumptions are consistent with the basic objective of the NYISO planning process regarding the appropriate timing of entry. The NYTOs also question the data used in the testimony of IPPNY witness Mr. Younger.

4. Commission Determination

114. We find that NYISO's proposed excess capacity adjustments are unsupported, and therefore cannot be found to be just and reasonable.[108] We therefore find that the levels of average excess capacity adjustments used in the last reset proceeding should be maintained for this reset. In the alternative, NYISO could propose to use a new level of excess capacity provided NYISO fully supports its proposal.

[108] *See, e.g., Cal. Indep. Sys. Operator Corp*., 119 FERC ¶ 61,076, at P 14 (2007) ("The initial burden of showing that the tariff proposal is just and reasonable is on the party making the FPA section 205 filing."); and 18 C.F.R. section 385.205 ("a person must make a tariff or rate filing in order to establish or change any specific rate, rate schedule, tariff").

115. As an initial matter, we affirm the appropriateness of considering a level of excess capacity in the determination of energy and ancillary services revenues and in adjusting CONE in recognition that likely actual capacity revenues will be below those modeled at equilibrium due to expected excess capacity in the New York market. This is specifically reflected in the Services Tariff, which provides in pertinent part that the periodic review of the demand curves shall assess:

> the likely projected annual Energy and Ancillary Services revenues of the peaking unit over the period covered by the adjusted ICAP demand curves, net of the costs of producing such Energy and Ancillary Services, under conditions in which the available capacity would equal or slightly exceed the minimum Installed Capacity requirement. (Emphasis added).

116. Although the demand curves are used to determine capacity prices and quantities in short-run monthly markets over a three-year period, they are based on long-term projections for what an efficient competitive supplier must earn in capacity revenues to recover all costs over a facility's economic life. The demand curve translates this long-term revenue requirement into a price schedule indicating willingness-to-pay for capacity resources. Estimated capacity surplus is an important assumption underlying the cost and revenue projections..

117. In this triennial reset, however, issues have been raised about the current capacity surplus and its effect on System Deliverability Upgrade costs which could have a bearing on localized levelized embedded costs as discussed earlier. We find that the Services Tariff is unclear on whether the levelized embedded costs of the peaking unit are to be determined under levels of capacity that reflect current conditions or that reflect the conditions under which energy and ancillary services revenues are determined. We emphasize that although estimated capacity surplus may differ in different periodic reviews, a single surplus assumption for both cost and revenue estimates is necessary where such assumptions are required within a reset process in order for the analysis to be internally consistent. Thus, a level of available capacity that slightly exceeds the minimum Installed Capacity Requirement, once determined, should apply uniformly to all estimates that depend on the level of installed capacity. The current state of significant capacity surplus in the NYCA is not relevant to the specification of the demand curves; although, it is certainly relevant to current investment and retirement decisions.

118. NYISO acknowledges that the average level of available capacity in New York over time will be above the minimum capacity requirement. If the capacity price at the minimum requirement were established at the level that just recovers a new entrant's costs based on amortizing the entrant's costs over its full useful life (and after adjusting for energy and ancillary service revenues), the entrant would not expect to recover its

costs over time. As we held in the last reset order, such a result would not be reasonable as it would fail to provide sufficient revenue to attract entry when capacity is needed. Therefore, it is reasonable to establish demand curve parameters that produce revenues over time that allow a new entrant a reasonable opportunity to recover its costs in light of an assumed level of excess capacity.

119. In choosing a general methodology and inputs into the demand curve model, judgments must be made, and it is the Commission's responsibility to determine whether these judgments and the resultant outcomes fall within a zone of reasonableness.[109] In order to make this determination, we look to the support given for NYISO's proposal. In this proceeding, we do not find adequate support for NYISO's proposed levels of excess capacity adjustments.

120. In the instant reset, NYISO abandons positions it held in the previous reset without support for its new positions. Instead of accounting for the consistent reliability signals in New York State and the lumpy nature of capacity additions, as NYISO did in the previous reset,[110] NYISO assumes that the timing of entry could reasonably coincide with the time at which excess capacity is anticipated to fall to zero. We find NYISO's assumption, with a lower bound of excess capacity at the minimum requirement, to be unsupported and contrary to both historical experience and future projections.

121. We also find that NYISO has not adequately supported the use of a hypothetical peaking unit, rather than the use of a combined cycle unit, or the use of forecasted actual capacity additions, in computing the average excess capacity adjustment in this reset. Although it may be true that a peaking unit would be the efficient addition to maintain reliability, and that the use of a peaking unit to compute average excess capacity would appear consistent with the proxy unit specified in the tariff for determining the net CONE, NYISO has not shown why a peaking unit is appropriate to use in the computation of average excess capacity, nor has NYISO shown why a peaking unit would more likely cause excess capacity conditions than either a combined cycle unit or a combination of generation that is expected to enter the market.

122. Further, NYISO has not supported its decision to change its calculated adjustment of excess capacity in NYCA to one percent. Also NYISO does not support its proposal to use a different adjustment for the first three years as compared to the remainder of the nominal life of the hypothetical peaking unit. Moreover the Commission notes that, while the Consultant makes a clear distinction, NYISO, in its filing, does not distinguish

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[109] 2008 Reset Order, 122 FERC ¶ 61,064 at P 47.

[110] *See*, *e.g.*, NYISO January 18, 2008 Answer in Docket No. ER08-283-000.

between the separate purposes of the average excess capacity adjustment. NYISO also fails to discuss the standard deviation assumption used for purposes of defining the adjustment. We have stated in previous resets that NYISO must include more than just a statement of its beliefs.[111] NYISO has not done so for its assumption of excess capacity, and NYISO has not convincingly argued against the objections from its MMU regarding NYISO's assumption. This is in contrast to the prior reset, wherein the concerns of the MMU, which parallel the concerns of the MMU in this reset, were addressed by NYISO such that NYISO was able to adopt support from the MMU. NYISO has an obligation to support its proposed levels of assumed average excess capacity and it has not done so for the excess capacity assumptions.[112]

123. Further, we find that the Consultant's report does not support NYISO's proposed levels of average excess capacity, because the Consultants and NYISO reach significantly different levels of average excess.[113] NYISO's attempt to attribute support for its own proposal from these statements is therefore unavailing.

124. We also cannot rely on the Consultant's proposals in determining excess capacity adjustments as they too are unsupported. The Consultant states that it is reasonable to use a multiple of 1.5 times the capacity of the peaking unit as the average level of excess given the conservatism attendant to ensuring that the market has at least the minimum amount of capacity. However, the Consultant does not explain how it accounts for the lumpy nature or timing of capacity additions, nor does the consultant explain how it arrived at the multiple of 1.5. Further, the Consultant does not explain why it is reasonable to round its computed level of excess in 0.5 percent increments, especially given the sensitivity of the net CONE to a change the assumed level of average excess capacity.

125. The MMU provides credible arguments as to why some of NYISO's assumptions are not reasonable. Specifically, the MMU asserts that NYISO's proposal unreasonably

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[111] *See, e.g.*, *New York Indep. Sys. Operator, Inc*., 111 FERC ¶ 61,117 at P 85.

[112] The sensitivity analysis presented by NYISO in its filing does not establish the reasonableness of NYISO's proposed assumptions; it only shows the effects of various assumptions on the reference price. While this is helpful, it does not provide an adequate basis for the Commission to conclude on the reasonableness of the assumption in the first instance.

[113] NYISO notes that the Consultant believes that the excess adjustment is clearly not designed to compensate for actual excesses, but only for excesses that will occur near the minimum installed capacity requirement.

assumes perfect forecasting and perfectly coordinated market entry. We agree. However, the MMU does not adequately support its use of 1.0 times the capacity of the new entry peaking unit for New York City and Long Island, a number that is squarely between NYISO's proposal and the Consultant's proposal. The MMU states only that its figure would account for two investors entering simultaneously and for the fact that that one to two years of "typical" demand growth could be lost due to economic slowdown. Further, the MMU does not discuss the considerations it used in arriving at this factor. The MMU also does not identify how it has arrived, or describe the parameters of, its undefined reasonable range for the level of average excess capacity. We note that no other party supported the MMU's proposed excess capacity levels for New York City or Long Island. An explanation of these considerations is requisite for the Commission to regard these statements as support.

126. Supply-side protestors also provide reasons why NYISO's proposed levels of assumed average excess capacity are unreasonable. However, they do not support, or even proffer, a proposal of their own. Instead, the supply-side protestors request that we adopt either the Consultant's recommended level of average excess capacity or some indeterminate higher level. These protestors provide no support for adopting the Consultant's proposed levels other than characterizing the Consultant as an expert.

127. On the load-side, the NYTOs support NYISO's proposed use of a peaking unit but contend that NYISO's modification to increase the calculated adjustment result for the NYCA to one percent should be discarded. However, the NYTOs provide no additional support for adopting NYISO's calculated excess adjustment. Likewise, New York City, Multiple Intervenors, and the Consumer Protection Board also fail to adequately support the reasonableness of their proposed excess capacity adjustments.

128. Therefore we find that the record does not adequately support a change in the proposed excess capacity adjustments. Although factors such as capacity addition lumpiness and reliability signals need to be considered, there is little or no support in the record for how these factors, or others, translate to the assumptions underlying the proposed excess capacity adjustments. To support proposed levels for the adjustments, NYISO must provide well-reasoned analyses and explanations of how the various elements that underlie the proposals translate to the proposed excess capacity levels and complete explanations of why the elements and assumptions are reasonable. Parties that do not agree with NYISO's proposal must show why it is unreasonable and provide reasons and support for any alternative proposals. It is not adequate to simply disagree with the result of the proposals; such disagreement must be supported with analyses and explanations of any asserted infirmities in the underlying assumptions and other factors used in the determinations.

129. Therefore, we direct that NYISO revise the demand curves to use the level of excess capacity that is reflected in the curves currently in use and to use this level of

capacity consistently throughout the analyses used to develop the demand curves. In light of our direction to change the curves to reflect a level of capacity used in the prior curve, NYISO may, in the alternative, provide support to use another level of available capacity that slightly exceeds the minimum requirement. As it is not practical under this reset to make the required changes in sufficient time to support the May 1, 2011 start of the 2011/2012 capability year, we direct NYISO to make this change and file revised demand curves within 60 days from the date of this order. In addition, we direct NYISO to revise section 5.14.1.2 of the Services Tariff so that it is clear that the demand curves will be developed using an internally consistent determination of excess capacity and to file these revisions within 60 days from the date of this order.

E. Energy and Ancillary Services Revenue

1. NYISO's Proposal

130. NYISO relies on projections of Locational Based Marginal Prices (LBMPs) based on the Consultant's econometric price model and a dispatch model to estimate the hypothetical peaking unit's energy and ancillary services revenues. NYISO states that a separate LBMP econometric price model is estimated for each region using historic data from November 1, 2006 through October 31, 2009. Each price model is focused on estimating the relationship between LBMP and the reserve margin while controlling for other factors such as gas costs. Lower estimated energy and ancillary services revenues translate into a higher value for net CONE; likewise, higher estimated energy and ancillary services revenues translate into a lower value for net CONE.

131. NYISO estimates energy and ancillary services revenue of $27.44/kW-year for the NYCA, $101.67/kW-year in NYC, and $168.77/kW-year on LI (all figures in 2011 dollars). These estimates are based on an econometrically determined coefficient for a reserve margin variable (approximately -1.0) that indicates approximately a one percent decrease in LBMP for each one percent increase in the reserve margin.

132. NYISO notes that certain modifications to the initial estimation were made in response to stakeholder comments while other modifications were not made. For example, NYISO and the Consultants agreed that an adjustment should be made to include CO_2 and NO_x allowance credit costs while an adjustment for the impact of the Lake Erie loop flow should not be made because the impact of large anomalous events, such as loop flow, will even out in the long run.

2. Comments and Protests

133. The New York City Suppliers criticize the estimated energy and ancillary services revenues as not projected on the basis of sound statistical analysis. As a result, New York City Suppliers argue that errors in the Consultant's statistical analysis overstate energy and ancillary services revenues and produce an estimated net CONE that is too

low.[114] Specifically, New York City Suppliers' witness Richard Carlson argues that the Consultant's estimates for LBMPs are derived from econometric price models that are seriously flawed, and that the models seriously over-estimate LBMPs.[115] Carlson points to two statistical flaws (collinearity and heteroskedasticity) in the Consultant's model and proposes two ways to address these flaws. For example, he estimates a significantly lower value in absolute terms, for the reserve margin parameter by expanding the historical data set to six years, from approximately -1.0 to -0.17.[116]

134. New York City Suppliers suggest that the Commission require modifications to the models to: (i) use six, rather than three, years of historical data; and (ii) use a model that has been subjected to standard diagnostic tests.

3. Answers

135. NYISO responds to the Carlson affidavit with an affidavit by Jonathan Falk. Mr. Falk disagrees with the Carlson critique and emphasizes that the statistical techniques used by the Consultant produce unbiased parameter estimates,[117] a conclusion shared by Carlson,[118] and unbiased parameter estimates are essential to reliable LBMP forecasts. Mr. Falk rejects the proposed changes suggested by Carlson because the proposed corrections for statistical problems (i.e., collinearity and heteroskedasticity) do not improve the unbiased character of the parameter estimates, the critical element for prediction.[119] Mr, Carlson responds that Mr. Falk has mischaracterized his critique and emphasizes that failure to address the statistical issues means that different data sets will result in variability in model parameters that can result in poor predictions.[120]

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[114] New York City Suppliers December 21, 2011 Protest at 57.

[115] *Id*., Attachment B at P 8.

[116] *Id*., Attachment B at P 31.

[117] NYISO January 6, 2011 Answer, Attachment 4 at P 21.

[118] New York City Suppliers December 21, 2011 Protest, Attachment B at P 158.

[119] NYISO January 6, 2011 Answer Attachment 4 at P 27.

[120] *Id*., P 34-35.

4. Commission Determination

136. We accept the energy and ancillary services revenue estimates proposed by NYISO and the price models developed by the Consultant. We are not persuaded by New York City Suppliers' arguments that the Consultant's approach to developing pricing models is so seriously flawed that it cannot be relied on for estimating energy and ancillary services revenues. Although the Consultant could possibly have made changes to its estimation methods or data choices that would have produced either higher or lower values for estimated energy and ancillary services revenues, we conclude that the estimated values have been provided by objective and reasonable statistical methods.[121]

F. Other Cost Components

1. Comments and Protests

137. IPPNY argues that NYISO's and the Consultant's assumed interconnection costs included in the NYC CONE are too low and will not foster needed generation. Specifically, IPPNY asserts that the Consultant's assumed $25.2/kW of interconnection costs, based only upon optimistically low System Upgrade Facilities costs, assumes no deliverability costs for the proxy unit, and did not consider total interconnection costs that a developer would likely have to incur. IPPNY asserts that the interconnection cost assumption should be increased from $25.2/kW to $124/kW (increasing the proxy unit interconnection costs from $4.8 million to $23.6 million) to better reflect the state of the New York City transmission system and to make it consistent with the level of per kW interconnection costs for real world projects that have attempted to connect in New York City recently.

138. New York City and the Consumer Protection Board argue that NYISO's proposed inclusion of a 50 percent land cost adder to reflect the cost of site remediation for the NYC proxy peaking unit is unreasonable. New York City asserts that given NYISO's assumption that the land on which the unit would be constructed would be leased, rather than purchased, it is reasonable to assume that the owner of the NYC proxy peaking unit would not be liable for any required site remediation costs as these would ordinarily be the responsibility of the lessor, not the lessee. Accordingly, New York City urges the Commission to reject NYISO's assumption and remove the cost adder. In the event that the Commission determines that NYISO's assumption is appropriate, New York City urges the Commission to adjust the proposed lease rate for the NYC proxy peaking unit downward to reflect such assumption of remediation liabilities.

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[121] *See* 2008 Reset Order at P 46-47.

139. NYISO responds that New York City's concern regarding site remediation costs appears to be based on a misunderstanding of NYISO's proposal. NYISO continues to assert that the lease cost used for NYISO's proposal is reasonable, as it is based on market data that reflect the costs that would have to be paid by a developer to lease the land on which the peaking unit would be built. NYISO also explains that site remediation costs account for less than one percent of the total engineering procurement and construction cost for the New York City peaking unit, so the concern, even if not based on a misunderstanding, is thus greatly overstated. NYISO states that, contrary to New York City's and Consumer Protection Board's assertions, NYISO's proposal did not include an explicit cost adder to the lease rate for site remediation that can be separated from the site remediation amount, as site leasing costs in NYC were based on market data. Additionally, NYISO argues that no evidence has been submitted that shows that a developer would obtain a reduction in lease costs for site remediation and no data have been provided which would allow NYISO to determine the amount of such reduction.

2. Commission Determination

140. The Commission believes that there is merit to IPPNY's concerns with the level of interconnection costs used by NYISO in determining CONE for the NYC locality. We agree that NYISO should include System Deliverability Upgrade costs in its estimate of interconnection costs if applicable, as well as a realistic estimate of the system upgrade facilities costs the CONE unit located in NYC would incur. As we have held *infra*, NYISO must revise its determination of CONE to reflect deliverability costs if applicable. In the same filing we direct NYISO to address IPPNY's arguments that the costs for System Upgrade Facilities that NYISO has used for NYC are unrealistic, and provide support for the estimate that it has used.

141. With respect to remediation costs included in the cost of leased land for the NYC proxy unit, we find NYISO's use of market data that reflect the costs that would have to be paid by a developer to lease the necessary land to be reasonable. We note that although New York City filed an answer to protests, it did not file a response to NYISO's claim that protestors had misunderstood the nature and greatly overestimated the effect of inclusion of site remediation in site preparation costs. As there is no support in the record for their position, we will reject New York City's and Consumer Protection Board's protests on this point.

G. Demand Curve Design Parameters

1. Escalation Factor

a. NYISO's Proposal

142. NYISO establishes ICAP demand curves for a three-year period, 2011-2012, 2012-2013, and 2013-2014. The demand curves for the latter two periods are determined

by adjusting the capacity demand curve for 2011-2012 by inflation. NYISO proposes to use an inflation adjustment equal to the average of three inflation forecasts for the 2010-2014 period developed by (1) the Survey of Professional Forecasters, (2) the U.S. Office of Management and Budget, and (3) the U.S. Congressional Budget Office. The three inflation forecasts, issued in July and August, 2010, average 1.7 percent for 2010-2014 period. Thus, estimated net CONE for 2012-2013 will increase by 1.7 percent over the 2011-2012 value. NYISO supports this inflation adjustment as reasonable because the current economic recovery is slow, and it agrees with IHS Cambridge Energy Research Associates (CERA) whose forecast of power capital costs shows no near term inflation.

b. Comments and Protests

143. New York City Suppliers and IPPNY both disagree with NYISO's inflation adjustment. New York City Suppliers offer testimony by Levitan & Associates, Inc. (Levitan) to support its view that 1.7 percent is unreasonably low and would result in demand curves that understate the net CONE. Levitan first criticizes NYISO's reliance on the power capital cost index developed by CERA as an inappropriate inflation indicator because the index does not apply to peaker technology or to generation located in the Northeast region. Second, Levitan criticizes NYISO's conclusion that peaker costs will escalate at a general inflation rate as unsupported. Third, Levitan criticizes NYISO for not considering the index used in the 2007 demand curve reset process, the Handy-Whitman Index specific to gas turbine peakers for the North Atlantic region. Based on a study of gas turbine production, Levitan emphasizes that growth in demand for gas turbines remains strong in spite of the economic downturn and that it is reasonable to expect the previous inflation adjustment of 7.8 percent to continue through 2014. Levitan also points to analysis performed by Power Project Management for PJM Interconnection, LLC (PJM) to develop escalation factors for peakers for its capacity market demand curves and concludes that NYISO's much lower values are unreasonable when compared with those developed for PJM.

144. IPPNY also complains that NYISO's inflation adjustment is unreasonably low and provides testimony by Jonathan A. Lesser to support continued use of the Handy-Whitman Index as the basis for determining an inflation adjustment. Mr. Lesser emphasizes that the Handy-Whitman Index is designed to track actual utility construction costs by region, unlike the general measure proposed by NYISO. He notes that although the general economy may be depressed, the actual costs of gas-fired turbines have continued to increase and points to a 7.42 percent increase in the index in the previous year despite the economic downturn. He concludes that is it reasonable to continue using the 7.8 percent inflation adjustment.

145. The NYTOs support NYISO's proposed 1.7 percent inflation adjustment as reasonable and based on appropriate data. The NYTOs provide testimony by Michael Cadwalader to support their point of view. Mr. Cadwalader emphasizes that the

adjustment in the past using the Handy-Whitman Index is not appropriate because the index is a retrospective analysis of power plant development costs, not a forecast. In his view, cost increases in previous years should not be applied to the 2011-2012 capacity demand curve to obtain capacity demand curves for future years. Rather, Mr. Cadwalader argues that a forecast value should be applied to the 2011-2012 capacity demand curve. Historical rates of increase in costs are only relevant, in his view, if it is reasonable to expect such increases to continue into the future, a circumstance that seems unlikely given the present economic downturn.

146. The New York Commission, Multiple Intervenors, and the Consumer Protection Board support NYISO's proposed escalation factor as consistent with current economic conditions. Multiple Intervenors support the escalation factor as it is the value they proposed, and NYISO adopted. Multiple Intervenors emphasize that the lower escalation rate will result in meaningful savings to electricity consumers.

c. Answers

147. The NYISO responds to the New York City Suppliers and IPPNY that its proposed 1.7 percent escalation factor is reasonable and offers additional testimony by Eugene Meehan and Christopher Ungate to support its claims. Mr. Ungate cites the Gas Turbine World 2010 GTW Handbook for forecasts of lower prices for new gas turbines in 2010 of approximately 9 or 10 percent with expected level prices in 2011 and 2012. He explains that these equipment costs are about 40 percent of the cost of a new peaker with labor costs accounting for the majority of the remaining costs. Thus, he concludes that an inflation rate between 1.5 and 2.0 percent is best supported by available data.

148. Mr. Meehan explains that an escalation factor affects two aspects of the ICAP demand curves, the adjustment to the curves over the three-year period to which the New York City Suppliers and IPPNY object, and the determination of the economic carrying charge. He explains that the Consultant's recommendations regarding an escalation factor are focused on determining a rate for the economic carrying charge, and in this case, the Consultant recommended 2.15 percent. However, according to Mr. Meehan, in the short term, it may be reasonable to use a different inflation adjustment, depending on particular facts. He refers to Mr. Ungate's affidavit that indicates that combustion turbine equipment prices are stable to reach the conclusion, in support of NYISO, that in this case, a higher escalation factor is not warranted for the near term. Moreover, he notes that the 1.7 percent value proposed by NYISO, although not a precise match of the Consultant's 2.15 percent, has a minimal effect on the carrying charge and ICAP demand curve. Finally, Mr. Meehan notes that should the Commission decided to adopt a higher short term inflation adjustment, then the carrying charge rate currently used should be revised downward and lower ICAP demand curves would result.

149. The City of New York responds to the criticisms of the New York City Suppliers and IPPNY by arguing that NYISO's proposal is superior to the prior, overly-optimistic estimates generated by the Handy-Whitman Index. The City of New York states that no data in the Handy-Whitman Index is forward-looking or forecasts future costs of equipment, and that NYISO's use of inflation forecasts under current economic conditions is appropriate.

d. Commission Determination

150. The Commission accepts the 1.7 percent escalation factor as proposed by NYISO as a reasonable adjustment to the ICAP demand curves for the 2011-2014 period. Deciding on an escalation factor, of necessity, entails judgment; we conclude that the particular industry-specific and general inflation factors and that underlie NYISO's proposal are reasonable. We are not suggesting that the Handy-Whitman Index used by NYISO in the past and other RTOs as a basis for developing inflation estimates is an inappropriate basis for developing such forecasts. However, in this particular case, we find that NYISO's judgment to rely on alternative sources is reasonable. Historical increases in the Handy-Whitman Index, as noted by New York City Suppliers and its witnesses,[122] does not necessarily justify a forecast growth rate equal to historical growth rates. Forecast values provided by NYISO and its Consultant offer a contrary point of view on future gas turbine cost increases although agreeing with the historical Handy-Whitman Index values.[123]

2. Zero Crossing Point

a. NYISO's Proposal

151. The zero crossing point is that point on the capacity demand curve where the capacity price falls to zero, i.e., the value where the demand curve crosses the x-axis. Consistent with the recommendations of the Consultant, NYISO proposes to maintain the current crossing point values, 112 percent for rest-of-state and 118 percent for NYC and LI. The Consultant recommends retention of the crossing point values because steeper sloped demand curves increase risk and uncertainty for buyers and sellers. The current demand curve slopes imply amortization periods of between 15 and 20 years which the Consultant argues are as steep as advisable if a goal is to develop a reasonable cost of entry and a sustainable market system. Moreover, the Consultant notes that excess

[122] Joint Affidavit of Richard L. Levitan, Seth G. Parker, and Edward K. Tsikirayi, P 131.

[123] Ungate Affidavit, P 27.

capacity levels for 2009 were already near the zero crossing point and that steepening the demand curve would certainly depress revenues, would appear opportunistic, and would likely undermine confidence in the objectivity of the capacity market.

b. Comments and Protests

152. Multiple Intervenors protest the 112 percent zero crossing point for the NYCA and argue that it should be reduced to 110 percent. They emphasize that significant excess capacity exists in the NYCA and that more than 2,200 megawatts of additional excess capacity is proposed to begin operating in the 2011-2014 period. Thus, they conclude that the NYCA ICAP demand curve is over compensating suppliers and should be modified to send a signal to suppliers that additional capacity about current excess levels does not provide benefits and should not be compensated. They disagree with NERA and NYISO that such a modification should not be made during a period of excess capacity because of adverse effects on the expectations of existing suppliers.

153. The Consumer Protection Board also recommends reducing the zero crossing point for the NYCA from 112 to 110 percent. Their reason for advocating this change is that the demand curves to date have been over-compensating to suppliers and have produced significant excess supply in the NYCA. They agree with Multiple Intervenors that is it important to send a signal to suppliers that additional excess capacity does not merit compensation because it provides no significant benefit.

154. The NYTOs similarly complain that NYISO has not performed a meaningful assessment of the shape and slope of the demand curve. In contrast to the view of NERA that steeper slopes should not be implemented under current conditions, they argue that a more steeply sloped demand curve would appropriately send the proper signal to an older, inefficient unit not needed for reliability to retire. The NYTOs express reservations that the ICAP demand curves will ever result in capacity levels assumed when the demand curves were first developed. Consequently, the NYTOs fear that the status quo will continue to overestimate the net cost of developing additional capacity and maintain large surpluses. They recommend that reducing the zero crossing point for the NYCA to 110 percent would have the benefits of reducing capacity prices to consumers during periods of excess, increasing capacity prices as the reserve minimum is approached, reduce the amount of ICAP customers must buy that contributes little to reliability, and would not significantly raise market power concerns.

c. Answers

155. NYISO responds that its proposal to retain the current zero crossing points is reasonable. Moreover, it emphasizes that the consequences of adjusting the zero crossing point would be unpredictable and potentially adverse.

d. Commission Determination

156. The Commission agrees with NYISO that maintaining the current zero crossing point for the ICAP demand curve for the rest-of-state is reasonable. Those favoring a reduction to 110 percent of the minimum requirement argue only that the lower value is required because current demand curves are overcompensating suppliers. We find no evidence that suppliers are overcompensated. Nor do we agree that even if an argument of overcompensation could be supported that it means that the zero crossing point should be reduced.

H. Winter/Summer Adjustment

1. NYISO's Proposal

157. The NYISO ICAP market operates in two six-month capability periods. NYISO states that, because a greater amount of capacity is normally available in the Winter Capability Period than is normally available in the Summer Capability Period, the monthly ICAP reference point properly includes adjustments to take seasonal effects into account. NYISO's proposed winter/summer adjustment provides an upward adjustment to the demand curves to ensure that average annual revenue is adequate given differences between winter and summer capacity. NYISO notes that the Services Tariff mandates that "seasonal differences" be accounted for by developing monthly ICAP values.[124] NYISO states that NYISO has determined the ratio of available winter/summer capacity for each locality.

2. Comments and Protests

158. The NYTOs argue that NYISO's winter/summer adjustment does not reflect the system at equilibrium. The NYTOs also argue that NYISO's proposed winter/summer adjustment reflects a forecast of the amount of capacity expected to be available in the winter as compared to the summer, not a forecast of the amount of capacity expected to be sold in the winter as compared to the summer, and therefore overstates the winter/summer capacity sales ratio. According to the NYTOs, this results in an unrealistically large seasonal adjustment which in turn leads to ICAP demand curves that are set too high.[125] The NYTOs recommend that NYISO assume the winter/summer capacity sales ratios will be equal to the average ratios calculated over the 2007/2008 through 2009/2010 capability periods (i.e., 1.020 for ROS, 1.072 for NYC, and 1.044 for

[124] NYISO November 30, 2010 Filing at 23 (citing Services Tariff § 5.14.1.2).

[125] NYTOs December 21, 2010 Protest at 15-17.

LI) adjusted for observed winter/summer capacity surpluses and state that this approach is consistent with that used by the Consultant to estimate energy revenues under equilibrium conditions.

3. Answers

159. NYISO states that the proposed winter/summer capacity sales ratios were determined using available capacity, which is the amount that NYISO concluded could be offered into the ICAP auctions, in accordance with the requirements of the Services Tariff.[126] According to NYISO, the NYTOs' proposal would calculate the adjustment based on the levels of capacity actually available over the proposed period. NYISO states that, along with its Consultant, it considered the NYTO approach and concluded that it was inconsistent with the Services Tariff because it reflects only capacity that was actually offered and therefore understates the amount of available capacity.

160. IPPNY states that the NYTOs do not explain why the level of winter sales at the market's recent low prices is representative of sales that would be made as the market approaches the minimum capacity requirement. IPPNY states that it would not be appropriate to calculate the winter/summer adjustment based on recent auctions because the demand curve parameters such as energy and ancillary services revenues are based on approximate equilibrium conditions and it would be inconsistent to reflect only capacity that clears in the auction that is held during periods of substantial excess capacity when capacity prices are low.[127]

4. Commission Determination

161. The Commission accepts NYISO's winter/summer adjustment as just and reasonable and consistent with the requirements of the Services Tariff with respect to the issue of quantities of capacity available versus quantities sold. This issue was also explored in the previous demand curve reset; and on the same basis as before, we reject the NYTOs' arguments.[128] We also disagree with the NYTOs' arguments that the analysis should be conducted under equilibrium conditions. This is not required by the Services Tariff and would be inconsistent with our decision regarding the level of excess capacity discussed above. However, to be consistent with other aspects of the demand curve reset analysis, we direct NYISO to revise the winter/summer adjustment to reflect

[126] NYISO January 6, 2011 Answer at 32.

[127] IPPNY January 7, 2011 Answer at 15-16.

[128] 2008 Reset Order, 122 FERC ¶ 61,064 at P 63-66.

the assumption for the level of excess capacity, as discussed earlier, to be included in the revised demand curves that NYISO is required to file in 60 days.

I. Other Matters

1. New York City's Request to Retain the Existing NYC Demand Curve

162. New York City asks the Commission to reject NYISO's filing as it pertains to the NYC demand curve and direct NYISO to maintain, without modification, the currently-effective demand curve for the three upcoming years covered by the instant demand curve reset.

163. New York City argues that adoption of NYISO's proposed New York City ICAP demand curve would result in unjust and unreasonable rates. New York City states that there is no need to send any signals to the marketplace to induce new entry given the current projections of significant capacity excess in the New York City locality. New York City also states that NYISO's proposal would result in consumers paying substantially more to existing capacity suppliers for the provision of the same capacity being provided by such resources under the present ICAP demand curve.

Commission Determination

164. We reject New York City's request. The Services Tariff provides for a triennial review, the purpose of which is to determine the parameters of the ICAP demand curves for the next three capability years. The periodic review must assess the current costs of peaking units in each locality and the rest of state, the current likely projection of energy and ancillary services revenues, and the appropriate shape and slope of the demand curves. If the review shows that revisions to the demand curves are appropriate, NYISO must file to revise them to reflect updated analyses. We find that NYISO has fulfilled its tariff obligation in performing the analyses and making the instant filing. New York City has provided no basis for us to conclude that this demand curve reset process is not functioning as required by NYISO's tariff or is otherwise not functioning as intended. New York City's request amounts to a collateral attack on Commission orders approving the demand curve reset process contained in section 5.14.1.2 of the Services Tariff. Therefore we deny New York City's request to retain the current demand curves.

2. Issues Concerning Future Demand Curve Resets

165. The NYTOs make two requests concerning future demand curve resets. First, the NYTOs ask the Commission to reaffirm that future ICAP demand curve reviews performed by NYISO must contain the required analysis of shape and slope. Second, the NYTOs ask the Commission to require a reassessment of NYISO's capacity market and

to require a report from NYISO within a year of the issuance of the instant order detailing progress on such issues.

Commission Determination

166. The review of the shape and slope of the demand curves, required by the Services Tariff, was presented by NYISO and all parties had an opportunity to raise issues in this proceeding. We find that further requirements are unjustified. We also find that the NYTOs have not provided a justification for the Commission to direct a reassessment of the ICAP market or what this reassessment will accomplish. We find that the reassessment requested by the NYTOs has not been shown to be necessary and is beyond the scope of the triennial review of the instant filing.

J. Suspension

167. Based upon a review of the filing, the Commission finds that the proposed tariff provisions have not been shown to be just and reasonable, and may be unjust, unreasonable, unduly discriminatory or preferential, or otherwise unlawful. Accordingly, the Commission shall accept such tariff provisions for filing subject to the conditions set forth in this order and suspend their effectiveness for the period set forth below.

168. The Commission's policy regarding rate suspensions is that rate filings generally should be suspended for the maximum period permitted by statute where preliminary study leads the Commission to believe that the filing may be unjust, unreasonable, or that it may be inconsistent with other statutory standards.[129] It is recognized, however, that shorter suspensions may be warranted in circumstances where suspension for the maximum period may lead to harsh and inequitable results. Such circumstances do not exist here.[130] Accordingly, we will accept NYISO's proposed tariff provisions for filing and suspend them for five months**,** to become effective the earlier of June 28, 2011, or a date set by a subsequent Commission order in this proceeding. However, due to the difficulties of implementing revised demand curves in mid-season, NYISO should indicate in its compliance filing the date it anticipates implementing the new demand curves. Such date should be no later than November 1, 2011, the date of the start of the six-month winter capability period. Accordingly, the currently effective demand curves will remain in effect until superseded.

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[129] *Boston Edison Company*, 12 FERC ¶ 61,211 (1980); *see also Great Lakes Gas Transmission Company*, 12 FERC ¶ 61,293 (1980).

[130] *West Texas Utilities Co.*, 18 FERC ¶ 61,189, at 61,375 (1982).

The Commission orders:

(A) NYISO's revisions to section 5.14.1.2 of NYISO's Services Tariff are hereby accepted as modified and suspended to be effective the earlier of June 27, 2011, or a date set by subsequent Commission order in this proceeding, subject to the conditions of this order.

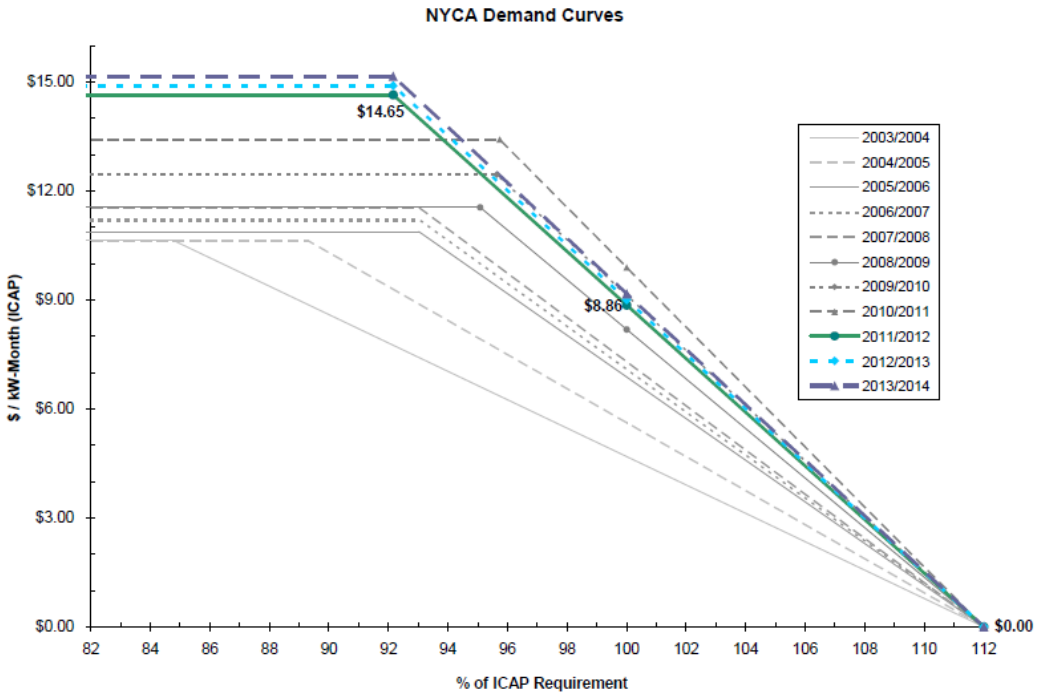
(B) NYISO is directed to submit a compliance filing within 60 days of the date of this order, as discussed in the body of this order.

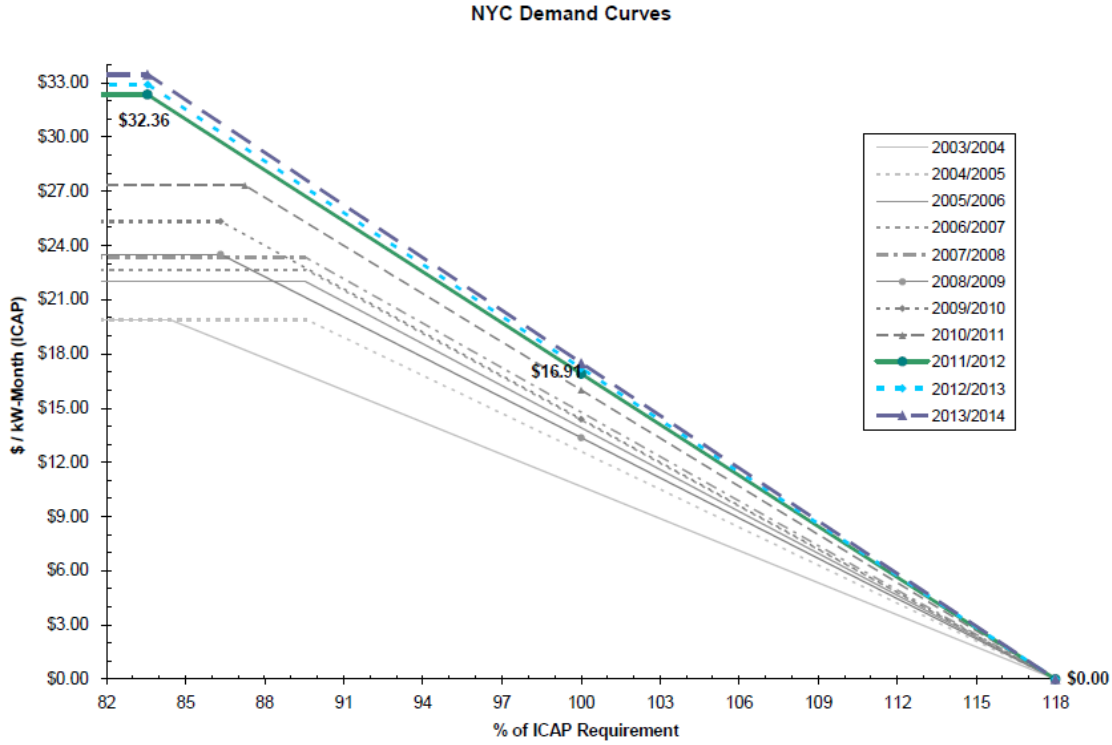
By the Commission.

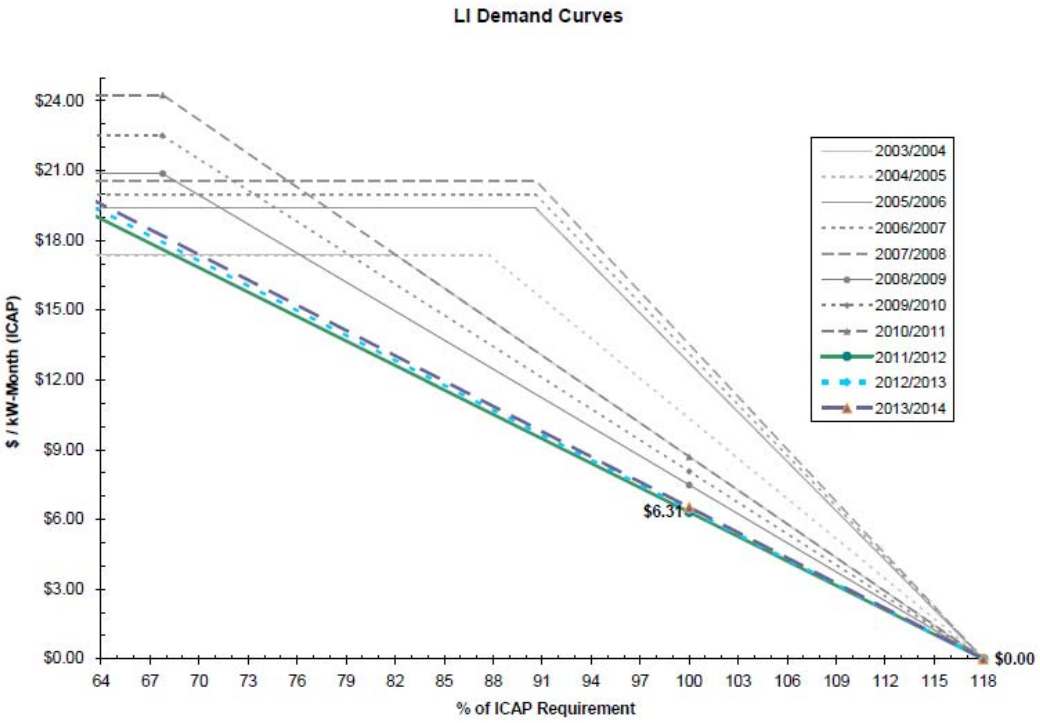
(S E A L)

Nathaniel J. Davis, Sr.,
Deputy Secretary.

Appendix A


NYCA Demand Curves
$15.00
$12.00
$9.00
$6.00
$3.00
$0.00
$ / kW-Month (ICAP)
$14.65
$8.86
$0.00
82
84
86
88
90
92
94
96
98
100
102
104
106
108
110
112
% of ICAP Requirement
2003/2004
2004/2005
2005/2006
2006/2007
2007/2008
2008/2009
2009/2010
2010/2011
2011/2012
2012/2013
2013/2014


NYC Demand Curves
$33.00
$30.00
$27.00
$24.00
$21.00
$18.00
$15.00
$12.00
$9.00
$6.00
$3.00
$0.00
$ / kW-Month (ICAP)
$32.36
$16.91
$0.00
82
85
88
91
94
97
100
103
106
109
112
115
118
% of ICAP Requirement
2003/2004
2004/2005
2005/2006
2006/2007
2007/2008
2008/2009
2009/2010
2010/2011
2011/2012
2012/2013
2013/2014


LI Demand Curves
$24.00
$21.00
$18.00
$15.00
$12.00
$9.00
$6.00
$3.00
$0.00
$ / kW-Month (ICAP)
64 67 70 73 76 79 82 85 88 91 94 97 100 103 106 109 112 115 118
% of ICAP Requirement
$6.31
$0.00
2003/2004
2004/2005
2005/2006
2006/2007
2007/2008
2008/2009
2009/2010
2010/2011
2011/2012
2012/2013
2013/2014