**UNITED STATES OF AMERICA**
**BEFORE THE**
**FEDERAL ENERGY REGULATORY COMMISSION**

**New York Independent System Operator, Inc. ) Docket No. ER13-1380-000**

# ANSWER TO COMMENTS AND REQUEST FOR LEAVE TO ANSWER AND ANSWER TO PROTESTS OF THE NEW YORK INDEPENDENT SYSTEM OPERATOR, INC.

In accordance with Rule 213 of the Commission's Rules of Practice and Procedure,[1] the New York Independent System Operator, Inc., respectfully submits this answer to comments that oppose, and seeks leave to answer protests against, its *Proposed Tariff Revisions to Establish and Recognize a New Capacity Zone and Request for Action on Pending Compliance Filing* ("April 30 Filing").[2] This answer also addresses the *Motion to Intervene and Comments of Entergy Nuclear Power Marketing, LLC* ("ENPM") which endorses almost every element of the April 30 Filing but includes a few suggestions that should not be adopted.[3]

As is discussed in detail below, the NYISO continues to strongly support the April 30 Filing, including its request for Commission action on its June 2012 Filing.[4] The April 30 Filing will ultimately benefit all New York consumers and the overall efficiency of the NYISO-administered capacity markets. The comments and protests that oppose the April 30 Filing have not shown that the NYISO's proposed tariff revisions should be modified or rejected. Most of

[1] 18 C.F.R. 385.213 (2013).

[2] This answer focuses on key aspects of the comments and protests and does not attempt to address every assertion that they make. No inference should be drawn from the NYISO's silence on matters that have been raised in comments and protest in this proceeding but that are not addressed herein.

[3] *See Motion to Intervene and Comments of Entergy Nuclear Power Marketing, LLC*, Docket No. ER13-1380-000 (filed May 21, 2013) ("ENPM Comments").

[4] The June 2012 Filing is pending in Docket No. ER12-360-001. It proposed compliance tariff revisions to establish market power mitigation measures in "New Capacity Zones," including but not limited to, the one proposed in this proceeding.

the issues that the comments and protests raise are outside the scope of this proceeding which is focused on two narrow questions. Namely, whether the NYISO properly followed Section 5.16 of its Market Administration and Control Area Services Tariff ("Services Tariff") by proposing to: (i) establish a New Capacity Zone ("NCZ");[5] and (ii) include Load Zones G, H, and I, and J but not Load Zone K (Long Island), within it.[6] To the extent that "out of scope" issues have any potential merit, they should, and can, first be considered through the NYISO stakeholder process.

The Commission should not convene a technical conference, or take any other action that would delay a ruling on the April 30 Filing.[7] It is very important that an order be issued no later than July 1, 2013 authorizing the NYISO to establish an NCZ encompassing Load Zones G, H, I, and J (the "G-J Locality") for the Capability Year beginning May 1, 2014.[8] As the April 30 Filing reiterated, acceptance of the NYISO's proposed tariff revisions by July 1, 2013 "is critical to the schedule of the ongoing ICAP Demand Curve reset process and the processes to implement the G-J Locality."[9] Delay would seriously threaten the NYISO's ability to timely implement the NCZ and new ICAP Demand Curves for the NCZ. The Services Tariff requires that the ICAP Demand Curves be filed by November 30, 2013 and implemented for the period beginning May 1, 2014.

[5] Capitalized terms that are not otherwise defined herein shall have the meaning set forth in the Services Tariff, and if not defined therein, in the NYISO's Open Access Transmission Tariff ("OATT").

[6] *See* Section II.C, below.

[7] *See* Section II.G, below.

[8] *See* April 30 Filing at n. 9 (explaining the tariff basis for the requirement that the proposed NCZ be in place at the start of the NYISO's next Capability Year and concurrent with the implementation of new ICAP Demand Curves, *i.e.,* on May 1, 2014).

[9] *See New York Independent System Operator, Inc.*, Docket No. ER12-360-000 at 7 (filed November 7, 2011) and *New York Independent System Operator, Inc.*, 140 FERC ¶ 61,160 (2012) ("August 2012 Order"). *See also* Section II.G, below.

A delayed response to the April 30 Filing, including even an otherwise timely order that defers important decisions or makes the proposed tariff revisions "subject to refund,"[10] would increase the already high degree of complexity in establishing an NCZ. It also would create harmful uncertainty in the NYISO capacity markets. The Commission has already acknowledged the sensitivity and importance of the NYISO's NCZ implementation timetable. In its August 2012 Order accepting NCZ-related tariff revisions, the Commission "recognize[d] that NYISO must coordinate its workload with other tariff obligations and [it found] that NYISO's filing with respect to the timing and sequencing of the process complies with the September 8, 2011 Order."[11] Further, the Commission previously rejected a proposal to have the ICAP Demand Curve for the NCZ filed separately from the other ICAP Demand Curves finding that this "would introduce unnecessary complexity and delay.[12]

## I. REQUEST FOR LEAVE TO ANSWER

Rule 213 authorizes the NYISO to answer pleadings styled as comments as a matter of right. In addition, the Commission has discretion to accept answers to pleadings styled as protests when they help to clarify complex issues, provide additional information, or are

[10] *See Motion to Intervene and Protest of the Indicated New York Transmission Owners*, Docket No. ER13-1380-000 at 3 (filed May 21,2013) ("Indicated NYTOs Protest").

[11] *See* August 2012 Order at P 32.

[12] *See Id.* at P 33 (stating that "[e]very three years, NYISO performs a review of the ICAP demand curves, and no later than November 30 of the year prior to the year that the revised demand curves are proposed to become effective, makes a Federal Power Act section 205 filing with the commission for acceptance of such revised demand curves. The Commission must then issue an order within 60 days of such filing and the new demand curves do not take effect until May 1 of the following year subject to whatever conditions the Commission attaches to their acceptance. Further, we agree with NYISO that requiring the creation and filing of alternative ICAP demand curves would necessitate an additional filing, which would introduce unnecessary complexity and delay." (Internal citations omitted)).

otherwise helpful in the development of the record in a proceeding.[13] The Commission should accept the NYISO's responses to the issues raised in protests because they will help to clarify a number of complex issues, and will clarify why some of the complex issues raised by the comments and protests are beyond the comparatively narrow scope of this proceeding. This answer also corrects misleading or inaccurate statements found in a the comments, protests, and affidavits that oppose the April 30 Filing.

## II. ANSWER

### A. THE COMMISSION SHOULD REJECT COLLATERAL ATTACKS ON PRIOR COMMISSION ORDERS, ATTEMPTS TO EXPAND THE SCOPE OF THIS PROCEEDING, AND REQUESTS THAT WOULD DELAY ACCEPTANCE OF THE APRIL 30 FILING

The April 30 Filing explained that the tariff provisions governing the establishment of NCZs require the NYISO to conduct a triennial NCZ Study. Under Section 5.16.2, if the NCZ Study identifies a constrained Highway interface into one or more Load Zones, the NYISO must establish and identify the boundary of one or more NCZs. Under Section 5.16.4, the NYISO must file tariff revisions to implement the NCZ(s) along with the study results.

The scope of this proceeding should therefore be limited to the questions of whether the NYISO properly conducted the NCZ Study, correctly concluded that there was a constrained Highway interface (which automatically triggered the requirement that the NYISO identify the NCZ boundary and propose a new Locality,) and whether the proposed NCZ boundary is just and reasonable. It should also encompass issues related to the tariff provisions addressed in the April 30 Filing, such as those addressing the Pivotal Supplier "threshold." Thus, the NYISO

[13] *See e.g.*, *New York Independent System Operator, Inc.*, 108 FERC ¶ 61,188 at P 7 (2004) (accepting the NYISO's answer to protests because it provided information that aided the Commission in better understanding the matters at issue in the proceeding); *Morgan Stanley Capital Group, Inc. v. New York Independent System Operator, Inc.*, 93 FERC ¶ 61,017 at 61,036 (2000) (accepting an answer that was "helpful in the development of the record . . . .").

agrees with the Long Island Power Authority ("LIPA") that this proceeding should not "delve into the computation of the installed capacity ("ICAP") market demand curve for the NCZ auction and resultant pricing, or the computation of the locational capacity requirement ("LCR") in the NCZ or any issue that relates to the mechanics of the NYISO's ICAP markets that are established under existing tariff provisions and market protocols."[14] As discussed below, the Commission should not address issues raised in the comments and protests, that are beyond the scope of this proceeding or that represent collateral attacks on earlier Commission orders.[15]

### 1. Arguments that an NCZ Not Be Established at this Time Are Impermissible Collateral Attacks on the August 2012 Order and Beyond the Scope of this Proceeding

The New York State Public Service Commission ("NYPSC") opposes the NYISO's proposal to establish an NCZ.[16] As noted above, the Services Tariff establishes a straightforward NCZ implementation "trigger," *i.e.,* if the NCZ Study identifies a constrained Highway interface, an NCZ must be created. The current tariff does not allow the NYISO to consider other factors. No party disputes that the Services Tariff contains this requirement. No party sought rehearing of the August 2012 Order that accepted those tariff provisions. There is no dispute that the NYISO correctly identified a constrained Highway interface and adhered to the tariff requirements that it identify an NCZ boundary.

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[14] *See Motion to Intervene and Comments of the Long Island Power Authority*, Docket No. ER13-1380-000 at 3-5 (filed May 21,2013) ("LIPA Protest").

[15] *See, e.g., San Diego Gas & Electric Co. v. Sellers of Energy and Ancillary Services, et al.,* 134 FERC ¶ 61,229 at P 15 (2011) ("[collateral attacks on final orders and relitigation of applicable precedent by parties that were active in the earlier cases thwart the finality and repose that are essential to administrative efficiency and are strongly discouraged.") citing *Entergy Nuclear Operations, Inc. v. Consolidated Edison Co.,* 112 FERC ¶ 61,117, at P 12 (2005)*; see also EPIC Merchant Energy NJ/PA, LP v. PJM Interconnection, LLC,* 131 FERC ¶ 61,130 (2010) (dismissing as an impermissible collateral attack a complaint that merely sought to re-litigate the same issues that were raised in the prior case citing no new evidence or changed circumstances).

[16] *See Notice of Intervention and Protest of the New York State Public Service Commission*, Docket No. ER13-1380-000 at 2, 4 (filed May 21, 2013) ("NYPSC Protest").

Thus, the NYPSC's argument that the NYISO should not create an NCZ despite the results of the NCZ Study is an impermissible collateral attack on the September 2011 Order and August 2012 Order.[17] Similarly, the NYPSC's suggestion that the decision to create an NCZ should consider factors not specified in the Services Tariff[18] would violate the tariff and is a collateral attack on earlier orders.[19]

**2. Arguments that NCZs Should Not Be Established Absent Express Rules Governing Their Elimination or Providing for "Price Convergence" If Deliverability Constraints Are Eliminated Are Impermissible Collateral Attacks on Earlier Orders, Are Beyond the Scope of this Proceeding, and Should Not Delay Commission Action**

The NYPSC argues that the April 30 Filing's proposed tariff revisions are unjust and unreasonable because they do not include a mechanism to eliminate NCZs when the deliverability constraints that necessitate their creation "dissipate."[20] The Indicated New York Transmission Owners ("Indicated NYTOs") suggest that the April 30 Filing is "deficient"[21] because it "eliminated a key component of the deliverability test for reexamining whether the NCZ continues to be necessary,"[22] and because the NYISO has not begun "to work on a mechanism for the removal of the NCZ when the deliverability constraint is eliminated."[23]

The Indicated NYTOs also claim that the April 30 Filing is "deficient" because it is

[17] *See New York Independent System Operator, Inc.,* 136 FERC ¶ 61,165 (2011) (September 2011 Order) (requiring NYISO to "use the deliverability test methodology contained in section 25.7.8 of Attachment S to the OATT" to determine whether NCZs should be created and rejecting consideration of others factors); August 2012 Order at P 50 (finding NYISO compliance tariff revisions to be consistent with September 2011 Order). *See also New York Independent System Operator, Inc.,* 137 FERC ¶ 61,229 (2011) (clarifying September 2011 Order).

[18] NYPSC Protest at 4, 6.

[19] *See* September 2011 Order at PP 51, 59-64 (rejecting use of factors other than the deliverability test in determining whether to establish an NCZ.)

[20] NYPSC Protest at 7-8.

[21] Indicated NYTOs Protest at 2.

[22] *Id.* at 3.

[23] *Id.* at 12.

inconsistent with alleged past "assurances" that "unneeded NCZs would neither create inaccurate price signals, nor cause price separation, once relevant deliverability constraints were eliminated."[24] They criticize the NYISO and the independent Market Monitoring Unit ("MMU") for taking the view that "the NCZ and related price impacts may continue, even when future studies show the underlying deliverability constraints, which formed the basis for creating a NCZ, no longer exist."[25] They further argue that the NYISO "ignored" the underlying criteria for creating NCZs and erred by not attempting to develop mechanisms that would "eliminate price separation when a constraint no longer binds."[26] Similarly, Central Hudson ("Central Hudson Gas & Electric Corporation") argues that the Commission should require that "NCZ LCRs be based on the deliverability constraint and that the LCRs must be eliminated when the deliverability constraint is removed."[27]

The Indicated NYTOs acknowledge[28] that the Commission expressly held that the April 30 Filing was not required to "define criteria regarding the potential elimination of capacity zones."[29] The September 2011 Order clearly instructed the NYISO to establish rules to govern the creation of NCZs, and it expressly authorized the NYISO to defer stakeholder discussions regarding the potential elimination of unneeded capacity zones.[30] It is therefore an impermissible collateral attack on the September 2011 Order to oppose the April 30 Filing on the

[24] *Id.* at 8.

[25] *Id*.

[26] Indicated NYTOs Protest at 10; citing Affidavit of Michael D. Cadwalader ("Cadwalader Affidavit") at P 21.

[27] *Protest of Central Hudson Gas & Electric Corporation*, Docket No. ER13-1380-000 at 10 (filed May 21,2013) ("CH Protest").

[28] Indicated NYTOs Protest at 8-9.

[29] September 2011 Order at P 70.

[30] *Id.*

ground that it does not include NCZ elimination or price separation provisions. The Indicated NYTOs' suggestion that the September 2011 Order was somehow based on false premises or overlooked other considerations[31] is inaccurate and does not make their argument any less of a collateral attack.

The development of rules or criteria for the elimination of a Locality (*i.e.*, an NCZ that has been established) even if not a collateral attack, would be beyond the scope of this proceeding. Furthermore, the fact that the NYISO did not include NCZ elimination (or price convergence) rules in the April 30 Filing had no bearing on its requirement to establish an NCZ. Possible rules addressing NCZ elimination and price convergence are extraneous to and discrete from the Commission's evaluation of the NYISO's filing to establish the new Locality in accordance with the tariff process which is the scope of this proceeding. Furthermore, NCZ elimination rules would apply to more than just the proposed new Locality that is the subject of this proceeding. They would apply to the existing Localities and to any NCZs that result from future triennial filings in accordance with Section 5.16.4(a) of the Services Tariff.[32]

Even if it were procedurally permissible to address the elimination of NCZs or price separation rules in this proceeding, the Commission should not accept the proposals included in the comments and protests because they are without merit, as discussed below in Section II.B and in the attached Answering Affidavit of Dr. David B. Patton,[33] President of Potomac

[31] Indicated NYTOs Protest at 8-9, 11.

[32] The Indicated NYTOs argue that removing the UPNY-SENY interface from the deliverability test because with the creation of the NCZ it is no longer an "Other Interface" would inaccurately reflect whether a Locality should be eliminated. (*See* Indicated NYTOs Protest at 16-17.) The NYISO's proposed tariff revision to revise the Other Interface definition conforms with the tariff.

[33] Dr. Patton is the President of Potomac Economics, Ltd. which is the NYISO's independent MMU.

Economics, ("Patton Answering Affidavit").[34] In any case, there certainly is no need to delay issuing an order in the April 30 Filing to weigh the merits of, or to allow for, such an evaluation.

The Indicated NYTOs, Central Hudson, and the NYPSC base their arguments on their stated expectation that system conditions will change markedly in coming years. They focus principally on New York State's "Energy Highway Initiative" which is expressly intended to result in the construction of significant transmission infrastructure improvements. Although the NYSPC requested proposals for upgrades associated with the UPNY-SENY constraint to be in place by 2018, the NYPSC set October 1, 2013 as the date for applications for transmission siting authorizations.[35] Thus, the process is at its early stages and its results and the timing of them are not certain. Even assuming transmission upgrades requested are completed on the NYPSC's identified schedule, they would not be completed for five years. Further, there is no guarantee that "Energy Highway" projects would eliminate the constraint that triggered the creation of the G-J Locality or, more importantly, address reliability, which the ICAP Demand Curve and LCR specific to the G-J Locality are designed to address.

The NYISO notes that the Commission previously declined to excuse ISO New England, Inc. ("ISO-NE") from an obligation to create eight new capacity pricing zones based on insufficiently supported assertions that future transmission development would make the zones unnecessary.[36] The Commission recently conditionally lifted the requirement to create the new zones because it found, based on a substantive showing by ISO-NE, "that many of the constraints previously existing within the New England region either have been or will be

[34] *See* Attachment 1 hereto.

[35] *See* NYPSC Protest at 5; *see also*, NYPSC Docket No. 12-T-0502, *In the Matter of Alternating Current Transmission Upgrades*, available at <http://documents.dps.ny.gov/public/Common/SearchResults.aspx?MC=0&MNO=12-T-0502&DFF=5/5/2013&CI=0>.

[36] *See ISO New England, Inc.*, 142 FERC ¶ 61,017 (2013).

alleviated by new transmission upgrades."[37] The evidentiary showing by ISO-NE underlying the Commission's recent decision is markedly distinct from the facts in the NYCA. The assertions in this proceeding regarding potential future transmission upgrades that may alleviate constraints in the NYCA[38] fall short of the evidentiary showings made by ISO-NE.

### 3. Arguments Addressing the Applicability of Buyer-Side Mitigation Measures to the Proposed G-J Locality and to Potential Future NCZs Are Beyond the Scope of this Proceeding

The NYPSC and the Indicated NYTOs argue that the NYISO has not adequately justified imposing buyer-side mitigation in the G-J Locality.[39] The NYPSC also argues that applying such mitigation measures would be harmful because it would discourage entry by new merchant projects.[40] The Indicated NYTOs contend that the April 30 Filing would result in the improper continuation of buyer-side mitigation measures after the deliverability constraint that gives rise to an NCZ has been addressed. ENPM encourages the Commission to accept the April 30 Filing and act on the June 2012 Filing by the NYISO's requested dates but asks that the Commission either reject or set for further consideration the June 2012 Filing's proposed grandfathering exception.[41]

To the extent that the NYPSC is challenging approved features of the New York City buyer-side mitigation measures that establish the "conceptual framework" for the NYISO's

[37] *ISO New England, Inc.*, 143 FERC ¶ 61,198 at P 34 (May 31, 2013).

[38] *See* Indicated NYTOs Protest at 9, 17, CH Protest at 8, and NYPSC Protest at 5.

[39] *See* Indicated NYTOs Protest at 3, n.2, and NYPSC Protest at 8-9.

[40] NYPSC Protest at 8-9.

[41] *See* ENPM Comments at 7, n. 20, and Attachment 1 ─ Affidavit of Mark D. Younger at P 46 ("Younger Affidavit").

proposed NCZ mitigation measures it is an impermissible collateral attack on the Commission orders addressing the New York City measures.[42]

Except for arguments regarding the Pivotal Supplier threshold proposal that the NYISO made for the first time in the April 30 Filing,[43] arguments regarding the applicability of buyer-side mitigation measures to the G-J Locality are the subject of pending Docket No. ER12-360-000. The Indicated NYTOs, the NYPSC, and ENPM acknowledge that they have already made arguments in that docket.[44] Such arguments have nothing to do with the NYISO's determinations under Section 5.16.2 of the Services Tariff that it was required to establish an NCZ and that it should encompass Load Zones, G, H, I, and J.

Moreover, the concern that buyer-side market power mitigation measures will remain in force in Load Zones where they are no longer necessary arises out of and corresponds to the concern that prices may not converge simply because the deliverability constraint that gave rise to the NCZ is eliminated. There is thus no need to address buyer-side mitigation issues in this proceeding, including by convening a technical conference, just as there is no need to address NCZ elimination or the "price convergence" proposals.[45]

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[42] The pending June 2012 Filing proposed to utilize the conceptual framework of the currently effective ICAP market mitigation measures applicable to the New York City Locality for the NCZ. To the extent the NYPSC is challenging approved features of those existing mitigation measures, it is a collateral attack on prior Commission orders. *See, e.g., New York Independent System Operator, Inc.*, 124 FERC ¶ 61,301 (2008) and *New York Independent System Operator, Inc.*, 131 FERC ¶ 61,170 (2010).

[43] *See* Indicated NYTOs Protest at 50; at Cadwalader Affidavit at PP 40-50.

[44] *See* Indicated NYTOs Protest at 3, n. 2, NYPSC Protest at 8, and ENPM Comments at 12, n. 44.

[45] Should the Commission consider the Indicated NYTO's proposal, Section II.G, below, addresses and disposes of it.

LIPA's request to be exempted from future buyer-side mitigation to the extent that Load Zone K is ever included in an NCZ[46] is likewise beyond the scope of this proceeding. LIPA's arguments should be made, and considered, in Docket No. ER12-360, or in future proceedings concerning any future NCZ proposal that includes Long Island. There is no need to consider them at this time.

#### 4. Arguments Regarding Indicative NCZ LCRs Are Beyond the Scope of this Proceeding

Central Hudson and the Indicated NYTOs make a number of claims regarding supposed deficiencies in the NYISO's approach to calculating the Indicative NCZ Locational Minimum Installed Capacity Requirement ("Indicative NCZ LCR") for the G-J Locality. Central Hudson in particular claims that alleged errors in the NYISO's approach to calculating the Indicative NCZ LCR should lead to changes in the NYISO's proposed NCZ boundary.[47]

The Services Tariff and April 30 Filing are both very clear that Indicative NCZ LCRs are used "solely for establishing revised ICAP Demand Curves in accordance with Section 5.14.1.2." The Indicative NCZ LCR for the proposed G-J Locality will be an element of the November 2013 ICAP Demand Curve Reset filing. It is not relevant to the issue of whether an NCZ will be created. The determination of the Indicative NCZ LCR also had nothing to do with the NYISO's identification of the NCZ boundary. The Indicative NCZ LCR for the G-J Locality was mentioned in the April 30 Filing solely to confirm for the Commission that the NYISO had satisfied Section 5.16.3's requirement, for the sake of completeness, and as background information. The April 30 Filing also made it very clear that the NYISO would "continue to discuss with stakeholders the Indicative NCZ LCR, and its use in the ICAP Demand Curve reset

[46] *See* LIPA Protest at 7-8.

[47] *See* CH Protest at 8-9.

process."[48] Accordingly, questions regarding the Indicative NCZ LCRs are not pertinent to the actual issues in this proceeding and the Commission should not take them up at this time.[49]

### B. THE NYPSC'S AND INDICATED NYTOS' SUBSTANTIVE ARGUMENTS REGARDING NCZ ELIMINATION, PRICE CONVERGENCE, AND THE PIVOTAL SUPPLIER THRESHOLD SHOULD BE REJECTED ON THE MERITS

As described in Section A.2. above, the NYPSC argues that the April 30 Filing should have included a "process to allow for NCZs to be eliminated" when "transmission system improvements have eliminated the need for them."[50] It asks that Commission to direct the NYISO to develop a mechanism for determining when "unneeded zones" should be eliminated and for eliminating them.[51] The Indicated NYTOs claim that the April 30 Filing was "deficient" because of its alleged inconsistency with earlier Commission findings, and supposed NYISO and MMU representations, related to "price separation."[52] They assert that the NYISO has departed from a requirement that "price separation resulting from recognition of a deliverability constraint warranting the NCZ will be eliminated if and when that deliverability constraint is eliminated."[53] The Indicated NYTOs also contend that once the deliverability constraint that gives rise to an NCZ is eliminated there would cease to be any justification for buyer-side market power mitigation within the NCZ.[54] They warn that continuing mitigation in such circumstances would

[48] *See* April 30 Filing at 5.

[49] Should the Commission consider Central Hudson's proposal, Section II.G, below, addresses and disposes of it.

[50] NYPSC Protest at 7.

[51] *Id.* at 7-8.

[52] Indicated NYTOs Protest at 5.

[53] *Id.*

[54] *Id.* at 14-15.

inappropriately mitigate new entry.[55] The NYPSC makes similar arguments.[56] Regarding supplier-side mitigation, the Indicated NYTOs argue that the NYISO's proposal endorsed by the MMU would "exempt some entities that have a financial interest in withholding NCZ UCAP from the offer cap, causing prices to rise without proper justification."[57]

Sections II.A.2 above explains why the Commission should not, and need not, address NCZ elimination and price convergence arguments in this proceeding. To the extent that the Commission chooses to consider them, the *Answering Affidavit of Henry Chao, Ph.D., and John M. Adams* ("Chao/Adams Answering Affidavit")[58] and Patton Answering Affidavit explain why they are without merit.

Section II of the Chao/Adams Answering Affidavit distinguishes the manner in which LCRs are utilized to ensure that reliability criteria are met, from the way in which deliverability test results are used to show system constraints.[59] It notes that LCRs are an input in the deliverability tests' base case.[60] The Chao/Adams Answer Affidavit also compares the deterministic nature of deliverability tests to the probabilistic simulations used to calculate the loss of load expectation ("LOLE")[61] that determine LCRs. The Chao/Adams Answering

[55] *Id.* at 15.

[56] *See* NYPSC Protest at 8-9.

[57] *Id.* at 15.

[58] *See* Attachment 2 hereto.

[59] The Chao/Adams Answering Affidavit also explains (at PP 10 - 21) the similarities, and the one significant difference, between the deliverability tests performed for the NCZ Study and in the Class Year process.

[60] *See* Chao/Adams Answering Affidavit at P 13.

[61] *See Id.* at PP 19-20. The LOLE is a New York State reliability requirement which specifies that the probability that customers will lose electric service, shall not exceed one day in ten years (or 1 days per year).

Affidavit establishes that deliverability tests are not designed to maintain LOLE criteria[62] and that it is "essential that reliability needs be considered when establishing LCRs."[63] "Setting LCRs based on a deliverability test that is not designed to evaluate reliability criteria for a range of possible system conditions would not ensure that the LOLE is maintained at the one day in ten years criterion."[64] Thus, Dr. Chao and Mr. Adams both concluded that the "probabilistic methodology used to set the LCR is a truer representation of reliability needs for the NCZ than a deliverability methodology."[65] They therefore each state their opinion that "the use of probabilistic methods to set LCRs is clearly superior to the use of deliverability-based methodologies."[66]

The Patton Answering Affidavit builds on the Chao/Adams Answering Affidavit's assessment of deterministic deliverability and probabilistic LCR analyses. Dr. Patton defines the key issue raised by the Indicated NYTOs, Central Hudson, and the NYPSC as "whether the LCR or the deliverability test should govern the locational prices in the capacity market."[67] Dr. Patton concludes that "the answer to this question is clear – once defined, the LCR should govern locational pricing in the NYISO capacity market . . ."[68] Thus, price convergence should not be required simply because a deliverability constraint ceases to exist. Instead, price separation should "be determined based on the costs of satisfying the LCR for the NCZ."[69]

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[62] Chao/Adams Answering Affidavit at P 22.

[63] *Id.* at P 4.

[64] *Id.* at P 24.

[65] *Id.*

[66] *Id.*

[67] Patton Answering Affidavit at P 12.

[68] *Id.*

[69] *Id.* at P 11.

This is the case because LCRs are "a much better indicator of the resource adequacy needs in the NCZ"[70] whereas the deliverability test "is not designed to provide an accurate indication of the reliability needs in the NCZ."[71] Because the LCR "is the amount of capacity that is necessary in the NCZ to satisfy the LOLE criterion, the NYISO will not be satisfying the LOLE criterion if less than the LCR is procured."[72] Therefore, "if a deliverability test is used to eliminate the NCZ (or otherwise eliminate price separation) when the LCR would otherwise bind, this process will cause the NYISO to violate a reliability requirement."[73]

Dr. Patton also opposes proposals that would eliminate NCZs once they have been established. Section IV of the Answering Patton Affidavit expresses serious concern that eliminating NCZs or adopting price convergence requirements tied to the resolution of deliverability constraints could create severe market instability. Such rules could place the NYISO in the position of having to continuously define, "un-define," and then re-define NCZs as changing system conditions cause deliverability constraints to bind, cease to bind, and then became binding again.[74] Adopting this kind of framework could "undermine the stability of the market and introduce substantial risks for investors . . . ."[75] The Patton Answering Affidavit explains that there is no reason to accept such disadvantages because LCRs should ultimately determine whether NCZ prices rise above ROS prices.[76] When LCRs are no longer binding prices will not separate and the fact that the NYISO is modeling an NCZ will become

[70] *Id.* at P 13.

[71] *Id.* at P 14.

[72] Id. at P 15.

[73] *Id.* at P 15.

[74] *See* Patton Affidavit at P 16.

[75] *Id.*

[76] Patton Answering Affidavit at P 17.

"academic."[77] In short, Dr. Patton concludes that it is "simply an economically flawed assertion" to claim that price separation should not occur simply because the deliverability test in not binding."[78] Dr. Patton warns that adopting the price convergence arguments made by certain parties in this proceeding "would undermine the performance of the NYISO capacity market."

With respect to buyer-side mitigation, although the Indicated NYTOs claim that there are potential drawbacks to continuing it after deliverability constraints have been eliminated, they overlook potential problems associated with ending it too quickly. There is, at a minimum, cause for concern that potential disadvantages would outweigh all of the purported benefits asserted by the Indicated NYTOs. Removing buyer-side mitigation from an established NCZ after a deliverability constraint has been resolved would provide incentives for entities capable of exercising buyer-side market power to evade the rules. This would be accomplished by providing sufficient incentives for incremental capacity to be built to alleviate the reliability constraint. Turning buyer side mitigation rules on and off could create opportunities for them to be circumvented.

The Indicated NYTOs, through the Cadwalader Affidavit, propose a different methodology to determine the Pivotal Supplier threshold, from the one used by the NYISO and supported by Dr. Patton, and recommend removing the minimum size threshold.[79] The NYISO's proposal, which is supported by the MMU, is a structure that has been effective in New York City and will likewise be an effective structure for the G-J Locality.[80] Because the Indicated

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[77] *Id.*

[78] *Id.* at P 20.

[79] *See* Cadwalader Affidavit at PP 39-54, and 56.

[80] The Patton Affidavit proposed an additional adjustment to the rules to address a concern that "UCAP that is sold in advance of the monthly spot auction is deducted from the portfolio of the supplier." *See* Patton Affidavit at PP 29, 32; s*ee also* April 30 Filing at 20-21.

NYTOs' proposal does not contain a minimum threshold it could result in potential over-mitigation of small suppliers, particularly when the market is long on capacity and prices are low. The NYISO believes that some minimum threshold component is important because it balances mitigating those suppliers that are pivotal with the risks of over-mitigation. In addition, under the Indicated NYTOs' proposal, ICAP suppliers in Load Zone J would be subject to two thresholds (the Load Zone J threshold and the G-J Locality threshold) set in significantly different manners. Therefore, the Indicated NYTOs' proposal could cause confusion and possibly unanticipated adverse consequences, whereas the NYISO's proposal has clarity for Market Participants.[81] The Commission should therefore accept the NYISO's proposed threshold and not adopt the Indicated NYTOs' proposal.

### C. THE COMMISSION SHOULD ACCEPT THE NYISO's NCZ BOUNDARY COMPRISED OF LOAD ZONES G, H, I, AND J

Multiple Intervenors ("MI") and the Consolidated Edison Company of New York, Inc., Orange and Rockland Utilities, Inc., and Central Hudson (collectively "CE/CH") argue that the NYISO should be required to include Load Zone K (*i.e.,* Long Island) in the NCZ. Both MI and CE/CH allege that the NYISO had decided to include Load Zone K in the NCZ only to change its decision.[82] By contrast, LIPA supports the NYISO's decision not to include Load Zone K.

The NYISO's January 30 ICAP Working Group presentation was clear that it was describing a "preliminary" boundary definition and would only "identify the final boundary after

[81] Because the NYISO does not believe that Mr. Cadwalader had demonstrated that the market power mitigation proposal in the April 30 Filing is unjust or unreasonable the NYISO has not attempted to evaluate whether it would be practicable to implement in the necessary timeframe (given the potential need for software changes) or feasible to administer.

[82] *See Motion to Intervene and Protest of Multiple Intervenors*, Docket No. ER13-1380-000 at 5-6 (filed May 21,2013) ("MI Protest"); *Protest of Consolidated Edison Company of New York, Inc., Orange and Rockland Utilities, Inc., and Central Hudson Gas and Electric Corporation*, Docket No. ER13-1380-000 at 5-6, 10, 16 (filed May 21,2013) ("CE/CH Protest").

receiving stakeholder input."[83] The NYISO subsequently made it clear, including in the April 30 Filing, that its preliminary boundary determination changed after it completed additional analysis and evaluation.

### 1. The NYISO's Identification of the NCZ Boundary Comprised of Load Zones G-J is Consistent with Section 5.16 of the Services Tariff and is Just and Reasonable

Section 5.16.2 of the Services Tariff states that:

> In determining the New Capacity Zone boundary, the ISO shall consider the extent to which incremental capacity in individual constrained Load Zones could impact the reliability and security of the constrained Load Zones, taking into account interface capability between constrained Load Zones.

CE/CH argues that this provision requires the NYISO to include a Load Zone in an NCZ if incremental capacity in that Load Zone would impact the reliability and security of adjacent constrained zones. They contend that the NYISO's analysis should have focused solely on an evaluation of Load Zone K's ability to impact reliability and security in the NCZ without reference to Load Zone J's ability to do so.[84]

Section 5.16.2 does not require, and it would be unreasonable to interpret it to require, that any Load Zone that has ***any*** impact on reliability and security in adjacent constrained zones be included in the NCZ. Section 5.16.2 establishes the specific trigger for the creation of an NCZ, and it provides that the boundary of the NCZ "may encompass a single constrained Load Zone or a group of Load Zones including one or more constrained Load Zones on the constrained side of the Highway."[85] It does not require that it include all Load Zones on the

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[83] *See* NYISO, *New Capacity Zone Preliminary Boundary Definition and Indicative LCR* at cover, 2 (January 30, 2013), available at <http://www.nyiso.com/public/markets_operations/committees/meeting_materials/index.jsp?com=bic_icapwg>.

[84] CE/CH Protest at 7-8.

[85] Services Tariff Section 5.16.2.

constrained side of the triggering interface. The Services Tariff expressly provides for the NYISO to exercise its judgment because it specifies that the NYISO must "consider the extent to which" capacity additions in a given Load Zone could impact the reliability and security of the other constrained Load Zones. This language necessarily permits the NYISO to make a reasonable determination based on its expertise and judgment.

The Commission should therefore not review the NYISO's boundary identification decision in this proceeding as if there were only one possible "correct" configuration under the Services Tariff. Nor should it conclude that, contrary to the express words in the Services Tariff, the NYISO is automatically required to include all Load Zones on the constrained side of a constrained Highway in the NCZ. Instead, the Commission should apply the "just and reasonable" standard and accept the NYISO's determination if it concludes that it represents a reasonable outcome.[86] Stated otherwise, the NYISO should not be required to demonstrate that an NCZ boundary encompassing Load Zones G, H, I and J was the only possible result. Doing so is not only contrary to the "just and reasonable" standard of review for the proposed Services Tariff revisions to establish the NCZ; such a demonstration would almost certainly be impossible to make. The April 30 Filing's boundary identification determination was just and reasonable because the reliability and transmission security analyses described in the April 30 Filing showed that incremental capacity in Long Island cannot effectively provide reliability benefits to the other Load Zones in the NCZ due principally to transfer capability limitations. Moreover, Dr. Patton noted that the NYISO's proposal to not include Load Zone K in the NCZ was "consistent with market design principles"[87]

[86] 16 U.S.C. §824(d) (2012).

[87] Patton Affidavit at P 17.

### 2. The NYISO Is Required to Follow the NCZ Boundary Identification Requirement As Written in Section 5.16.2 of the Services Tariff and Is Not Bound to Apply the Additional "Indicators" that CE/CH Would Read Into It

CE/CH claims that the April 30 Filing "does not comport" with the NYISO's November 2011 Filing and that the NYISO did not "appropriately apply" the two "indicator tests" that allegedly must be applied under Section 5.16.2.[88] According to CE/CH: (i) the "positive indicator test" requires that a Load Zone be included in an NCZ if it would "impact reliability and security" of that NCZ;[89] and (ii) the "negative indicator test" requires that the NYISO "assess whether a zone is 'relatively electrically isolated' from other candidate Load Zones within the potential NCZ."[90]

It is true that the November 2011 Filing referenced these potential considerations and that the August 2012 Order mentioned this reference when it summarized that filing. It is also true, however, that the NYISO considered both "indicators" in its analyses in the manner contemplated by both the August 2012 Order and the November 2011 Filing.[91] Importantly, neither "indicator test" is a component of the Services Tariff provision pursuant to which the NYISO is to identify the boundary. Nor did the August 2012 order require that the NYISO apply the "indicator tests" in the manner favored by CE/CH. Indeed, the August 2012 Order stated that the NYISO's methodology was "specified" in Section 5.16, indicating that extrinsic "non-specified" references would not be required parts of every analysis. It also noted that the Services Tariff gave the NYISO a "reasonable level of flexibility in consideration and evaluation

[88] CE/CH Protest at 9.

[89] *Id.* at 10.

[90] *Id.* at 19.

[91] *See* Sections II.C.3 and II.C.4 below.

of new capacity zones" thereby further indicating that the NYISO was not bound to apply the "indicator tests."

The November 2011 Filing similarly did not present the "indicator tests" as absolute requirements or as the entirety of the NYISO's boundary identification analysis. Instead, it described them as factors that may be relevant to an analysis but not absolutely essential, or necessarily dispositive, parts of the analysis. The November 2011 Filing stated simply that "[t]o the extent that excess capacity in an individual Load Zone within the region of consideration for a New Capacity Zone can improve the reliability and security of a potential New Capacity Zone, it is a positive indicator for including that Load Zone as part of the New Capacity Zone."[92] It also said that "Load Zones that are relatively electrically isolated from other candidate Load Zones within the potential New Capacity Zone would tend to be a negative indicator for including it in the New Capacity Zone."[93]

### 3. Claims that the NYISO's Boundary Identification Analysis Was Flawed Because it Did Not Adhere to the "Positive Indicator Test" Have No Merit and Should Be Rejected

CE/CH argues that NYISO's boundary identification analysis should be rejected, and that Load Zone K should be included in the NCZ based on its flawed interpretation of Section 5.16.2 and the "positive indicator test." According to CE/CH, the "positive indicator test" automatically requires the inclusion of Load Zone K in the NCZ merely because Load Zone K has an impact on reliability and security on Load Zones G, H, and I ("Load Zones GHI").[94] MI

[92] *See New York Independent System Operator, Inc.*, *Compliance Filing* Docket No. ER12-360-000 at 6 (filed November 7, 2011) ("November 2011 Filing").

[93] *Id*. Similarly, the NYISO's January 30 ICAP Working Group presentation stated that relative electrical isolation would "tend to be a negative indicator" highlighting that the "negative indicator" was a factor in the NYISO's analysis, not a binding requirement.

[94] *See, e.g.*, CE/CH Protest at 10.

makes a similar argument.[95] As noted above, both CE/CH and MI claim that the NYISO's analysis should have focused on "an evaluation of Zone K's ability to impact reliability and security in the proposed NCZ" as an individual Load Zone, "separate and apart from Zone J's ability" to provide support.[96] CE/CH, and its witness, Dr. Mayer Sasson ("Sasson Affidavit"), make a number of additional arguments for the propositions that: (i) Load Zone K "provides reliability benefits, support and security to the proposed NCZ;" and (ii) the April 30 Filing's analysis was flawed because it supposedly overlooked or understated these benefits and allegedly ignored other relevant factors.[97]

The NYISO explains above that CE/CH and MI are mistaken when they assert the "positive indicator" test automatically requires that a Load Zone be included in the NCZ if it confers any reliability and security benefit on the NCZ. This is not what the Services Tariff requires and is not a reasonable test for setting NCZ boundaries. Indeed, the April 30 Filing indicated that even External Control Areas located adjacent to the Load Zones G-J had some impact on reliability and security within it, but that this did not mean that they too should be included in the NCZ.[98]

In reality, the Services Tariff allows the NYISO to consider the extent to which a Load Zone benefits the NCZ. This flexibility allows the NYISO to consider the extent to which different Load Zones would benefit an NCZ and to weigh in its boundary analysis a comparison of the relative benefits of including different Load Zones.

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[95] *See* MI at 10-11, 16.

[96] *See* CE/CH Protest at 8; *see also* MI at 10-11, 16.

[97] *See, e.g.,* CE/CH Protest at 10 and Sasson Affidavit at P 21.

[98] *See* April 30 Filing ─ Affidavit of Mr. Gary Jordan at P 12 ("Jordan Affidavit").

The NYISO was therefore permitted to perform the NCZ boundary analysis in the manner that it judged was suited to determining which Load Zones should be included in the NCZ. The Chao/Adams Answering Affidavit reiterates that the most valid approach to defining an NCZ's boundary is to determine the extent to which incremental capacity additions in a Load Zone would impact a new Locality.[99] This is best ascertained by conducting the comprehensive capacity "fungibility" analyses that the NYISO used, and that were described in the April 30 Filing. As was explained in the Chao/Adams Affidavit provided with the April 30 Filing ("Chao/Adams Affidavit"), the NYISO made this determination by running extensive simulations using the General Electric's Multi-Area Reliability Simulation ("MARS") model. These simulations demonstrated that capacity in Load Zones GHI was not fungible with capacity in Load Zone K (and was much more fungible with capacity in Load Zone J). This was a strong indication that Load Zone J should be included in the NCZ but that Load Zone K should not be.[100] The other analyses described in the April 30 Filing corroborated this conclusion.[101] The Chao/Adams Answering Affidavit reaffirms the conclusion's validity.[102] In addition, it reiterates that, contrary to MI's assertion, the analyses did include looking at Load Zone K separate from Load Zone J and jointly with it.[103]

The Chao/Adams Answering Affidavit refutes CE/CH's arguments against the NYISO's capacity fungibility analysis, which CE/CH refers to as the "First Test." For example, CE/CH claims that the two resource adequacy analyses discussed in the April 30 Filing. And the "Second Test" ignored "the complex interactions that occur when shifting capacity form the

[99] Chao/Adams Answering Affidavit at P 28.

[100] *See* Chao/Adams Affidavit at PP 19-22.

[101] *Id.* at PP 23-27.

[102] *See* Chao/Adams Answering Affidavit at PP 6, 27-33.

[103] *Id.*

LHV Zone to Zone K as well as when adding capacity to Zone K," and misinterpreted the results of those tests. The Chao/Adams Answering Affidavit explains that it is CE/CH, not the NYISO, that ignores the "complex interactions" that exist on the system and are accounted for in the MARS model.[104]

Thus, it is misleading for CE/CH to assert that the First Test "incorrectly concluded" that the transfer limit between Load Zone K and Load Zones GHI was 300 MW instead of 530 MW. As the Chao/Adams Answering Affidavit makes clear, CE/CH ignores the Load Zone K to Load Zone J transfer limit and treats the Load Zone K to Load Zone GHI transfer limit as if it were wholly independent of the transfer limit to Load Zone J. In reality, the simultaneous transfer limit from Load Zone K to Loads Zones J and GHI can be more limiting and must be considered. CE/CH also ignores the impacts that generator availability can have on transfer limits from Load Zone K. In short, it is true that 530 MW is the maximum transfer limit from Load Zone K to Load Zones GHI but the actual limit will often be significantly lower because of simultaneous transfer and generator availability impacts. The NYISO's MARS analyses and "unified methodology" used in the resource adequacy analysis accounted for all of these factors and supported both the NYISO's use of a 300 MW transfer limit[105] and its assessment that limited transfer capability from Load Zone K is a reason for not including Load Zone K in the NCZ.[106]

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[104] *Id.* at PP 38-43.

[105] *Id.* at PP 36-42.

[106] CE/CH assert (at 13) that even assuming that 300 MW were the correct transfer limit value that it still represented a "material" amount of capacity. This suggestion is irrelevant, however, because whether it is possible to export a "material" amount of capacity from a Load Zone to the NCZ is not the test for determining whether that Load Zone should be included in an NCZ. *See also* Chao/Adams Affidavit at P 32.

Similarly, the Chao/Adams Answering Affidavit explains that it is misleading for CE/CH to focus on average values.[107] Loss-of-load events are rare and usually occur when the system is stressed. Focusing on average values and ignoring extreme cases results in conclusions not suited for the purpose of determining which Load Zones should be included in an NCZ.[108]

The Chao/Adams Answering Affidavit also explains why CE/CH is incorrect to claim that transmission transfer limits were not the reason why NYCA LOLE exceeded the established 0.1 loss of load LOLE when more than 300 MW of capacity were removed from Load Zone GHI and added to Load Zone K as incremental capacity.[109]

Finally, in addition to questioning the NYISO's resource adequacy analyses, CE/CH contends that the NYISO's transmission security analysis incorrectly assessed the impact that Load Zone K has on Load Zones GHI.[110] CE/CH alleges that Load Zone K has the ability to simultaneously export "much more than 233 MW during normal conditions."[111] The Chao/Adams Answering Affidavit reiterates that the transmission security analysis corroborated the results of the resource adequacy analyses. It explains that CE/CH is effectively asking the NYISO to assess transmission security in a manner that contravenes applicable reliability requirements.[112]

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[107] *See* Chao/Adams Answering Affidavit at P 49.

[108] *Id.*

[109] *Id.* at PP 44-48.

[110] *See* CE/CH Protest at 17-19.

[111] *Id.* at 18.

[112] *See* Chao/Adams Answering Affidavit at P 52.

### 4 Claims that the NYISO's Boundary Identification Analysis Was Flawed Because it Did Not Adhere to the "Negative Indicator Test" Have No Merit and Should Be Rejected

CE/CH argue that Load Zone K should be included in the NCZ under the "negative indicator test" because it is "electrically connected and integrated in the LHV Zone" and is not "electrically isolated" from it.[113] The NYISO has already explained that the "negative indicator test" is not a mandate. The Services Tariff does not prescribe that the NYISO include every Load Zone located on the constrained side of a constrained Highway interface in an NCZ, let alone prescribe that it do so unless it is completely electrically isolated from other Load Zones. Instead, the "negative indictor test" simply reflects the fact that the NYISO's NCZ boundary identification analysis should consider the extent to which an individual Load Zone is relatively electrically isolated. Contrary to what CE/CH claim this "negative indicator" was considered in the analyses described in the April 30 Filing.[114] The NYISO therefore applied the "negative indicator test" in the manner that it suggested that it would in the November 2011 Filing.

CE/CH's specific "negative indicator test" arguments all seek to establish the undisputed fact that Long Island is connected to, and thus not totally electrically isolated, from the rest of the NYCA. Because this fact is not determinative under section 5.16.2 of the Services Tariff, there is no need for the NYISO to respond to these arguments. The NYISO notes only that the April 30 Filing demonstrated the relevant implications of Long Island's relative electrical isolation, *i.e.,* the lack of fungibility of incremental capacity between Load Zone K and G-J Locality. No party disputes the fact that Long Island is not as electrically connected to the rest of the NYCA than Load Zone J or other existing Load Zones and it would have been unreasonable for the NYISO to have ignored this fact.

[113] *See* CE/CH Protest at 19; *see also* MI at 15.

[114] *See* Chao/Adams Answering Affidavit at PP 27-33.

### 5. It Is Not True that an Increase in Generation on Long Island Could Realistically Provide Significant Support to the G-J Locality

CE/CH asserts that if the addition of new generation resources to Load Zone K could provide relief to Load Zones G-J then Load Zone K should be included in the NCZ.[115] As support they point to Dr. Patton's observation that NCZs are "intended to reflect the reliability needs of the system over the planning horizon, since this allows the capacity market to attract investment to the areas where investment provides the greatest reliability benefit."[116] They contend that the April 30 Filing incorrectly concluded that including Load Zone K would be inconsistent with this market design principle "because it would incent capacity additions in Load Zone K even though such additions would provide considerably less reliability value to other Load Zones located on the constrained side of the UPNY-SENY interface and to the NYCA as a whole. According to CE/CH, the April 30 Filing "overlooks" that adding new generation into Load Zone K would increase transfer capability from Long Island to the NCZ, and, supposedly provide significant benefits to Load Zones GHI.

The Chao/Adams Answering Affidavit explains that this argument is misleading.[117] The pertinent issue in determining whether a proposed NCZ boundary is just and reasonable is not whether the transfer limit may increase. What is pertinent is an evaluation of the effect on the one day in ten years LOLE requirement.[118] In addition, the Chao/Adams Answering Affidavit emphasizes that it would be inconsistent with Dr. Patton's recommendations for the NYISO to send an additional investment signal, above and beyond the one that already exists because Load Zone K is already a Locality, that would incent generation development in an already export

[115] *See* CE/CH Protest at 22-24.

[116] *See* CE/CH Protest at 22-23.

[117] *See* Chao/Adams Answering Affidavit at P 54.

[118] *Id.*

constrained area.[119] CE/CH's unsupported assertion that the addition of new capacity on Long Island would increase the transfer limit also ignores the effects of the potentially prohibitive cost of system upgrades that may be required to achieve such a result.

### 6. Central Hudson's Arguments Regarding the NYISO's Boundary Identification Analysis Should Be Rejected Because They Are Wholly Irrelevant and Based on Erroneous Assumptions

Central Hudson claims that that NYISO's NCZ boundary analysis was flawed because of supposed faults in the NYISO's Indicative NCZ LCR analysis. It asserts that because the NYISO is required to use the "Highway Deliverability Test"[120] to determine whether an NCZ is to be created it somehow follows that "deliverability concepts" must be used to develop "the details" of an NCZ, including its boundary.[121] Central Hudson argues that there is no place for "reliability concepts" in the NCZ identification or Indicative NCZ LCR analyses.[122] It contends that the NYISO's use of a "reliability based methodology resulted in an indicative LCR which is not related to the UPNY/SENY constraint."[123] Central Hudson proffers its own alternative deliverability-based methodology for computing Indicative NCZ LCRs and asks that NYISO be required to adopt it.

As noted above in Section II.A.4, the NYISO's Indicative NCZ LCR calculation has nothing whatsoever to do with determinations related to the creation of, or the identification of boundaries for, NCZs. Central Hudson's Indicative NCZ LCR arguments are therefore wholly irrelevant to this proceeding. In addition, there is no requirement in either the Services Tariff or the Commission's precedent that "reliability concepts" be excluded from decisions related to the

[119] *Id.*

[120] *See* April 30 Filing – Patton Affidavit at P 11.

[121] *See* CH Protest at 8.

[122] *Id.*

[123] *Id.* at 7.

boundaries of NCZs or the calculation of Indicative NCZ LCRs. It is simply not accurate to assert that because the Commission appropriately required the NYISO to use a deliverability test to identify whether an NCZ should be created, that it may only use such a test to define their boundaries. As explained above in Section II.B, and in the affidavits supporting this answer, there are also a number of reliability and market design reasons why it is not appropriate to ignore "reliability concepts" in favor of a total reliance on "deliverability concepts."[124]

In particular, the Chao/Adams Answering Affidavit explains that Central Hudson fails to recognize that the UPNY-SENY transmission interface is modeled explicitly by MARS to set the Installed Reserve Margin for the NYCA and the LCRs for Localities. The reliability requirement established to meet the NYSRC resource adequacy criterion will be used to ensure that sufficient capacity is procured to satisfy the criterion. Accordingly, the NYCA Minimum Installed Capacity Requirement must be based on the reliability criterion to ensure that sufficient capacity is procured to meet the 0.1. LOLE criterion. And the LCRs for the Localities will be determined so the reliability criterion is met, too. Central Hudson's proposed deliverability-based methodology should therefore not be considered further by the Commission.

### 7. The Commission Should Not Accept MI's Alternative Proposal for Load Zone K

Finally, MI proposes that if the Commission were to conclude that Load Zone K should be included in the NCZ, Load Zone K should also receive some kind of "special consideration" that the NYISO should be directed, citing a suggestion in the Patton Affidavit, to "further consider whether modeling Long Island as an export-constrained zone is warranted."[125] MI suggests that in the event that implementing this kind of modeling is not practicable, the NYISO

[124] *See, e.g.,* Chao/Adams Answering Affidavit at P 55-57 and Patton Answering Affidavit at PP 19-20.

[125] *See* MI Protest at 8, 18, citing April 30 Filing at Patton Affidavit at P 17.

be directed to initially include Long Island in the NCZ and transition it to the new modeling system over time.[126]

There is no need for the Commission to consider MI's "alternative" proposal because the NYISO's decision not to include Load Zone K in the NCZ was just and reasonable for the reasons specified in the April 30 Filing and in the Chao/Adams Answering Affidavit. If, however, the Commission decides to consider MI's proposal, the Commission should allow time for further study and discussions with stakeholders, rather than simply imposing it. The concept has been recommended by the MMU but it has not yet been developed in any detail and its potential costs and benefits have not yet been evaluated.

### D. THE COMMISSION SHOULD ACCEPT THE NYISO'S PROPOSED RULES GOVERNING THE ELIGIBILITY OF EXTERNAL CAPACITY TO SATISFY LOCATIONAL CAPACITY REQUIREMENTS

The April 30 Filing proposed to modify Section 5.12 of the Services Tariff to clarify that capacity associated with External CRIS Rights, Grandfathered External Installed Capacity Agreements listed in Attachment E of the Installed Capacity Manual, and Existing Transmission Capacity for Native Load for the New York State Electric & Gas Corporation is only qualified to satisfy a NYCA Minimum Unforced Capacity Requirement and is not eligible to satisfy a Locational Capacity Requirement ("LCR"). Just as it does not now, this restriction would not apply to External capacity associated with Unforced Capacity Deliverability Rights ("UDRs"). The NYISO explained that this distinction was just and reasonable and not unduly discriminatory because although it was possible "that some portion of the Energy associated with External capacity may satisfy a Locality's need under certain circumstances," there was no assurance that

[126] *Id*.

it would actually do so unless External capacity were "associated with controllable transmission equipment that is considered a Scheduled Line (*i.e.,* a UDR)."[127]

The April 30 Filing specifically noted that the NYISO had "rejected a stakeholder request that External capacity over a transmission line from ISO-New England be permitted to satisfy a G-J Locality LCR."[128] It did so because "it is impossible for External capacity from New England, and the associated Energy, to be controlled to make it deliverable to the G-J Locality."[129]

The only objection to this tariff clarification was made by Consolidated Energy Solution, Inc. ("CES"). CES claims that the April 30 Filing failed to recognize that capacity imported from New England is more deliverable and therefore has a higher reliability value than capacity from other external regions, or even from within the NYCA. CES asserts that this is attributable to the physical configuration of the transmission grid, specifically including the 345 KV Pleasant Valley to Long Mountain/Frost Bridge (PV-LM) line that connects directly to Load Zone G. The potentially higher reliability value is reflected in the lower shift factors assigned to imports from New England.[130] It also argues that the April 30 Filing's proposal would result in asymmetrical import and export rules for the NCZ.[131] Finally, CES argues that instead of treating External capacity as entirely unable to meet LCRs, the NYISO should determine how much energy is deliverable over PV-LM line during peak load and use that to set the level of deliverable capacity.

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[127] April 30 Filing at 15.

[128] April 30 Filing at 16; *citing* Nelson Affidavit at P 22.

[129] *Id.*

[130] *See Motion to Intervene and Comments of Consolidated Edison Solutions, Inc.*, Docket No. ER13-1380-000 at 3-4 (filed May 21, 2013) ("CES Comments").

[131] *See* CES Comments at 4.

It is true that the NYISO assigned lower shift factors to imports from New England into the constrained Load Zone G, H, I region in the 2012 Summer Capability Period than it did to imports from other External regions.[132] It is also true that this indicates that New England imports were relatively more likely to be deliverable to the NYCA in that time period than those from Ontario, Quebec, or PJM. But it does not mean that the NYISO has sufficient assurance that New England capacity will be deliverable to justify treating it as deliverable to a Locality, and counting it towards satisfying LCRs. New England imports do not provide the same assurance of delivery that the NYISO has when External capacity is associated with UDRs (*i*.e., when it is utilizing a controllable Scheduled Line.)

While it is true that the physical configuration of the transmission grid includes the PV-LM line and that this facility connects to Load Zone G, the fact remains that the PV-LM line is not a controllable Scheduled Line like those associated with UDRs. The NYISO therefore does not have any way to effectuate delivery along the PV-LM line because the facility lacks controllable equipment that would ensure delivery across it, and delivery also is not scheduled. The PV-LM line therefore does not provide a basis for treating capacity from New England as if it were certain to be deliverable to the G-J Locality.

Similarly, the fact that the April 30 Filing might arguably result in asymmetrical import and export rules for the G-J Locality should not cause the Commission to conclude that the NYISO should accept capacity that may not be deliverable. The NYISO cannot dictate the capacity ISO New England, Inc. ("ISO-NE") accepts as deliverable. But the NYISO has an important reliability obligation to ensure that imports that may not be deliverable to a Locality in

[132] *See* <http://www.nyiso.com/public/webdocs/markets_operations/market_data/icap/ICAP_Auctions/2012/Summer_2012/External_Rights/Summer_2012_-_External_Import_Rights_Availability.pdf>.

the NYCA are not treated as though they are. Moreover, because the April 30 Filing merely clarified the NYISO's current approach to capacity imports it is not creating a new "seam" between the NYISO and ISO-NE market rules that the Commission would have a reason to address in this proceeding.

### E. THE NYISO STRONGLY SUPPORTS THE IMPLEMENTATION OF THE PROPOSED G-J LOCALITY ON MAY 1, 2014 BUT TAKES NO POSITION ON THE QUESTION OF WHETHER A PHASE-IN OF CAPACITY PRICE INCREASES IS WARRANTED ON NON-ECONOMIC GROUNDS

The Indicated NYTOs argue that the NYISO should be directed to phase-in the capacity price increases that the NCZ is expected to cause in Load Zones G, H, and I.[133] They point to Commission precedent that favors "softening" the impact of "substantial" price increases on consumers and to the fact that the NYISO's original ICAP Demand Curve proposal in 2003 included a phase-in.

As stated above, the NYISO continues to strongly support the April 30 Filing's proposal to establish the G-J Locality and for it to be implemented for the May 1, 2014 start of the 2014/2015 Capability Year. The NYISO believes that the April 30 Filing's proposal is consistent with market design principles and that it will be in the ultimate/long-term economic interests of all New York consumers (including those that experience a short-term price increase) for the G-J Locality to be implemented on May 1, 2014. The NYISO has considered the equitable dimension of the Indicated NYTOs' request for a phase-in. The NYISO understands that the independent MMU considers it very important to establish the G-J Locality on May 1, 2014 without adopting a phase-in that would delay the capacity markets' ability to send more

[133] *See* Indicated NYTOs Protest at 7.

efficient investment price signals.[134] The NYISO also notes that it cannot yet evaluate whether any phase-in option would be administratively feasible or would threaten the timing of the implementation of the NCZ (or the ICAP Demand Curves). The NYISO expects that other parties will create a complete record on the equitable considerations posed by phase-in proposals. Accordingly, the NYISO do*es* not believe that there is anything further for it to add to the record on this issue at this time.

### F. TRADITIONAL TRANSMISSION RATEMAKING AND COST ALLOCATION CONCEPTS ARE NOT RELEVANT TO THE ESTABLISHMENT OF NCZS

Central Hudson advances novel claims that the April 30 Filing is somehow inconsistent with Commission precedents governing traditional ratemaking and the allocation of regulated costs. Central Hudson argues that NYISO's proposed NCZ allocates a majority of the impact of the binding constraint at the UPNY/SENY interface to Load Zones G, H and I and thereby shifts costs from Load Zones J and K to G-I .[135] It even asserts that the "Commission should find that the NYISO's cost allocation proposal is not just and reasonable."[136] Contrary to Central Hudson's assertion, the April 30 Filing is not a cost allocation proposal. It is a proposed market design enhancement intended to ensure the NYISO's capacity market is sending efficient locational

[134] Potomac Economics, *2012 State of the Market Report for the New York ISO Markets* (April 2013) at 52 *available at* <http://www.nyiso.com/public/webdocs/markets_operations/committees/mc/meeting_materials/2013-04-24/4_NYISO%202012%20SOM%20Report.pdf> ("2012 SOM Report") ("In summary, the creation of a SENY capacity zone before 2014 would have facilitated more efficient investment in both new and existing resources where the Reliability Needs Assessment has identified resources are necessary for resource adequacy over the next ten years. Nonetheless, it should remain a high priority for the NYISO to move forward expeditiously to create and price the SENY zone.").

[135] See CH Protest at 11.

[136] *Id.*

investment signals that will attract investment where it is most needed and will provide the greatest reliability benefit.[137]

Central Hudson wrongly asserts that market price signals are intended to comport with cost causation principles, and ignores the fact that the justness and reasonableness of Commission-jurisdictional competitive markets is ensured through the interplay of competitive market forces (and market monitoring) not traditional cost-based ratemaking restrictions.[138] "The capacity market is designed to ensure that sufficient capacity is available to reliably meet New York's planning reserve margins."[139] Capacity price signals should reflect the value of capacity in each area. By setting a distinct clearing price in each location, the capacity market facilitates investment in areas where it is most needed.

Central Hudson fails to cite a single relevant precedent to support its notion that cost-based ratemaking principles apply in this context of this proceeding. It ignores extensive Commission precedent establishing capacity and energy market pricing zones without reference to cost-of-service type cost-causation or cost allocation principles.[140] The fact that new capacity pricing zones have been established in neighboring Commission-jurisdictional organized capacity markets without cost allocation filings or reviews confirms the inapplicability of the ratemaking principles that Central Hudson has invoked. Similarly, from the time of their inception, the NYISO capacity market has included locational capacity requirements for New

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[137] April 30 Filing at 7.

[138] *Central Hudson Gas & Electric Corp.*, *et al.*, 86 FERC ¶61,062 (1999) (accepting the tariff and market rules and approving the proposed market-based rates of the NYISO).

[139] 2012 SOM Report at 49.

[140] *See, e.g., Central Hudson Gas & Electric Corp., et al., 95 FERC ¶63,013 (2001)*("reject[ing] MEUA's argument that a complete Section 205 filing, with full cost and revenue support, is required to show that the proposed changes are just and reasonable"); *New York Independent System Operator, Inc.*, 103 FERC ¶61,201 at 61,757 (2003) (May 20 Order) (rejecting request for cost-benefit analysis and concluding that "NYISO's analyses adequately demonstrate that the proposal will benefit customers").

York City and Long Island. The NYISO established those capacity zones based on the market design principles described above without reference to cost-of-service type cost allocation principles. The Commission should reject all claims by Central Hudson that the NCZ proposed in the April 30 Filing fails to satisfy cost causation ratemaking requirements because such cost allocation concepts are not relevant to the establishment of NCZs.

### G. THE COMMISSION SHOULD NOT CONVENE A TECHNICAL CONFERENCE OR ACCEPT THE FILING "SUBJECT TO REFUND"

The Indicated NYTOs and Central Hudson call on the Commission to "immediately" convene a technical conference to explore NCZ elimination, price convergence, buyer-side mitigation, and certain issues that are of interest to them.[141] They suggest that the Commission should not allow the NYISO to implement the NCZ until after the technical conference has led to a resolution of these issues. The Indicated NYTOs also ask the Commission to suspend the April 30 Filing for one day and make it effective subject to refund.[142]

The NYISO does not believe that there is any need for a technical conference in this proceeding, especially if it would be a pre-requisite to a Commission ruling on the April 30 Filing. The Indicated NYTOs' and Central Hudson's concerns lack merit, for the reasons set forth in Section II.B. above, so there is no reason for the Commission to address them at all. However, to the extent that the Commission concludes that they have some merit, there is more than sufficient time for the Commission to permit them to be considered in the NYISO stakeholder process in the first instance. The Commission should be wary of the potential danger that a technical conference would jeopardize the NYISO's ability to prepare the G-J Locality ICAP Demand Curve, result in a harmful and unnecessary delay in NCZ implementation, impair

[141] *See* Indicated NYTOs Protest at 17-18 and CH Protest at 11.

[142] *See* Indicated NYTOs Protest at 2.

the NYISO's ability to adhere to the Services Tariff's requirements to introduce new ICAP Demand Curves and the NCZ concurrently and in time for the beginning of the Capability Year on May 1, 2014.[143] There is no need to risk such delay, or to dedicate the Commission's and the parties' resources to a technical conference, given the availability of the stakeholder process.

The Commission should also not make the April 30 Filing effective subject to refund. For the reasons set forth above: (i) the NYISO's proposed tariff revisions are just and reasonable; and (ii) the Indicated NYTOs' arguments against them are premature, beyond the scope of this proceeding and, in some cases, collateral attacks on earlier Commission rulings. Making the April 30 Filing subject to refund has the potential to create great uncertainty and disruption in the capacity market. It would add uncertainty to investment decisions to buyer side mitigation determinations, and threaten the implementation of the ICAP Demand Curves. It could also effectively make the entire capacity market "subject to refund" to the extent that requests for rehearing of a Commission order on the April 30 Filing are still pending before the Commission beyond May 1, 2014. This could undermine the entire market design by effectively preventing capacity prices from performing their intended investment signaling function.

## H. THE COMMISSION SHOULD REJECT OTHER PROPOSED CHANGES TO THE NYISO'S DELIVERABILTY TEST

### 1. It Is Appropriate and Consistent with Attachment S to the NYISO OATT to Treat the UPNY-SENY Interface as an Other Interface After the G-J Locality is Established

The Indicated NYTOs argue that removing UPNY-SENY as a Highway interface in the deliverability test, and not providing for it to be automatically examined as such in the deliverability test again if the constraint is removed, would inappropriately insulate new

[143] It also would impair the NYISO's issuance of buyer-side mitigation determinations for projects in the NCZ, should the Commission accept the NYISO's filing pending in Docket No. ER12-360-000.

resources from paying deliverability upgrade costs. According to the Indicated NYTOs, the Commission must act to "rectify changes to the deliverability test that will render it incapable of assigning costs for System Deliverability Upgrades ("SDUs") to new entrants that degrade newly created deliverability headroom."[144] They argue that, at a minimum, the tariff should be revised to require the NYISO to perform an appropriate deliverability test "if a market participant makes a reasonable request."[145]

The NYISO's proposed OATT revisions to remove UPNY-SENY from the defined term "Highway" and include it in the definition of an Other Interface is consistent with the framework of the NYISO's deliverability requirement. Under that framework, "Highways" and "Byways" are identified transmission facilities located within a Capacity Region[146] over which deliverability within that Capacity Region is evaluated. "Other Interfaces" are specified interfaces between Capacity Regions or external regions that are subject to a separate deliverability evaluation.

Under the current tariff (*i.e.*, prior to the establishment of the NCZ,) UPNY-SENY is within the Rest of State ("ROS") Capacity Region (defined as Load Zones A through I)[147] and, therefore, properly identified as a Highway. However, with the creation of the G-J Locality, UPNY-SENY will be an interface between Capacity Regions (*i.e.*, between ROS and the G-J Locality). Therefore, it would be inconsistent with the deliverability framework to continue to evaluate UPNY-SENY as a Highway and to allocate deliverability upgrade costs to developers on that basis. UPNY-SENY should instead be evaluated as an Other Interface under the

[144] *See* Indicated NYTOs Protest at 14.

[145] *Id.* at 16-17.

[146] "Capacity Region" is a defined term in Section 25.1.2 of OATT Attachment S.

[147] *Id.*

applicable test in Section 25.7.9 of Attachment S, which requires developers to fund deliverability upgrades if a project degrades the transfer capability of the Other Interface beyond the *de minimis* level identified in Attachment S.

### 2. There Is No Need for the Commission to Use this Proceeding to Consider Whether Special Case Resources Should Be Accounted for in the NCZ Study

ENPM accepts that the NCZ study was completed in accordance with the current provisions of the Services Tariff but nevertheless suggests that it should have accounted for all available capacity, including Special Case Resources ("SCRs").[148] ENPM concedes, however, that regardless of whether NYISO included SCRs in the NCZ Study the results would indicate a substantial overload of the UPNY/SENY interface and require the NYISO to implement a NCZ.[149]

The NYISO agrees that this issue does not have a direct bearing on the requirement to create an NCZ or the G-J Locality as the boundary. The deliverability methodology in OATT Attachment S was developed after a lengthy stakeholder process, and was approved by the Commission. The methodology is prescriptive in several technical areas regarding the inputs and assumptions of the "Deliverability Test," and modeling SCRs is not among the prescribed inputs and assumptions. The NYISO is not prepared to take a position at this time on the technical merits of ENPM's suggestion and there is no need to delay action on the April 30 Filing because of it.

[148] *Id*. at 8 and Attachment 1 – Younger Affidavit at PP 14, 27, 28.

## III. CONCLUSION

For the reasons specified above, the NYISO respectfully requests that the Commission accept this answer, accept all of the tariff revisions proposed in the April 30 Filing without requiring any modification, grant the various effective dates requested in the April 30 Filing, and permit the NYISO to implement its proposed NCZ encompassing Load Zones G, H, I, and J for the May 1, 2014 start of the 2014/2015 Capability Year.

Respectfully submitted,

*/s/ Gloria Kavanah*
Gloria Kavanah
Senior Attorney
New York Independent System Operator, Inc.

June 5, 2013

## CERTIFICATE OF SERVICE

I hereby certify that I have this day caused the foregoing document to be served upon each person designated on the official service list compiled by the Secretary in this proceeding in accordance with the requirements of Rule 2010 of the Commission Rules of Practice and Procedure, 18 C.F.R. § 385.2010 (2013).

Dated at Washington, D.C. this 5th day of June 2013.

*/s/ Catherine Karimi*
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# ATTACHMENT 1

**UNITED STATES OF AMERICA**
**BEFORE THE**
**FEDERAL ENERGY REGULATORY COMMISSION**

| | | |
|---|---|---|
| **New York Independent System Operator, Inc.** | ) | **Docket No. ER13-1380-000** |

**ANSWERING AFFIDAVIT OF**

**DAVID B. PATTON, PH.D.**

**JUNE 5, 2013**

## I. Purpose and Summary

1. My name is David B. Patton. I am an economist and the President of Potomac Economics. Our offices are located at 9990 Fairfax Boulevard, Fairfax, Virginia 22030. Potomac Economics is a firm specializing in expert economic analysis and monitoring of wholesale electricity markets. Potomac Economics serves as the Market Monitoring Unit ("MMU") for the New York Independent System Operator ("NYISO"). Potomac Economics serves in a substantially similar role for ISO New England ("ISO-NE"), the Midwest Independent Transmission System Operator, Inc., and the Electric Reliability Council of Texas.

2. I filed an affidavit previously in this case ("April 29 Affidavit") The April 29 Affidavit supported the NYISO's April 30, 2013 filing in this proceeding ("April 30 Filing") to establish a new Locality comprised of Load Zones G, H, and I, and J (the "SENY NCZ", referred to in the April 30 Filing as "G-J Locality ), including its configuration. It also discussed issues related to the rationale for the minimum size threshold that the NYISO would use to determine which suppliers would be subject to supply-side market power mitigation within the NCZ.

3. The purpose of this affidavit is to respond to: (i) the *Motion to Intervene and Protest of the Indicated New York Transmission Owners* ("Indicated NYTOs"), and the supporting *Affidavit of Michael D. Cadwalader* ("Cadwalader Affidavit"), (ii) the *Protest of Central Hudson Gas & Electric Corporation*, and the supporting *Affidavit of John J. Borchert*; and (iii) the *Notice of Intervention and Protest of the New York State Public Service Commission* ("NYPSC") to the extent that they argue that NCZs, and/or "price separation" between zones must be eliminated whenever deliverability constraints cease to bind.

## II. Summary of Arguments Addressing Zonal Price Separation

4. This section of my affidavit summarizes the arguments that: (i) prices in the NCZ should not separate from the NYCA ICAP Demand Curve prices applicable to the Rest of State ("ROS")[1] if the deliverability constraints are no longer binding, and (ii) the

[1] As the April 30 Filing explains, the definition of Rest of State would be revised with the establishment of the NCZ of the G-J Locality to consist of Load Zones A-I.

recommendations that price separation and capacity zones be eliminated in such cases. Sections III and IV of my affidavit explain why such arguments are flawed from an economic standpoint and would undermine the ability of the NYISO capacity market to facilitate efficient investment to maintain adequate resources to meet New York's reliability standards.

5. The Cadwalader Affidavit argues that under the April 30 Filing's proposal "capacity prices will often differ between the proposed NCZ and the Rest-of-State ("ROS") region, even if all of the capacity in ROS can be delivered to the NCZ."[2] According to Mr. Cadwalader this result would be "demonstrably inconsistent" with the Commission's expectations as reflected in the September 2011 Order[3] and August 2012 Order[4] regarding the NYISO's establishment of NCZs.[5] Mr. Cadwalader also states that it would be contrary to "claims" that I have previously made, and which Mr. Cadwalader asserts that the Commission relied upon when it issued those orders.[6]

6. Mr. Cadwalader believes that the April 30 Filing's proposal must be modified to "ensure that unjustified price separation does not occur." He warns that such "unjustified price separation" would have a number of adverse impacts on the market.[7]

7. Mr. Cadwalader proposes a number of "potential solutions" intended to "prevent inappropriate price separation and other price signal inefficiencies and inaccuracies"[8] by

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2 Cadwalader Affidavit at P 7.

3 *New York Independent System Operator, Inc.*, 136 FERC ¶61,165 (2011).

4 *New York Independent System Operator, Inc.*, 140 FERC ¶61,160 (2012).

5 Cadwalader Affidavit at PP 7, 10. *See also Id.*at 10 *quoting* September 2011 Order at P 53 ("an unneeded zone should not experience price separation from the neighboring zones") and asserting that this expectation was why "the Commission declined to direct the NYISO to develop procedures to eliminate unneeded capacity zones." *See also Id.* at 11 *quoting* August 2012 Order at P 51 ("[I]f [a binding Highway] constraint has resolved, price convergence between two capacity zones will occur . . . . Because separate capacity zones do not inherently create unneeded or inefficient price separation, or any other inaccurate price signals . . . it is unnecessary for NYISO to determine whether existing zones can be combined into a 'super-zone'.")

6 *Id.*

7 Cadwalader Affidavit at PP 7, 26-32.

8 Indicated NYTOs at 13.

ensuring that "price separation between ROS and the NCZ is eliminated whenever deliverability constraints no longer prevent capacity from being delivered from ROS to the NCZ."[9]

8. Mr. Cadwalader's proposed "solutions" would look to the Highway Deliverability Test that was used to establish the NCZ to force price convergence when deliverability constraints are resolved. His solutions would tie the determination of Locational Minimum Installed Capacity Requirements ("LCRs") to the application of deliverability tests.

9. The Borchert Affidavit makes a similar claim that the "NYISO has erred in attempting to resolve a deliverability issue by using a reliability tool through the use of the reliability based LCR rules and methodologies to establish the LCR of the NCZ."[10] Mr. Borchert also proposes a methodology for the "establishment and allocation" of "deliverability-based" LCRs for NCZs.

10. The NYPSC argues that the NYISO "has failed to develop a process to allow for NCZs to be eliminated" after "a deliverability issue dissipates."[11] It "encourages the Commission to direct the NYISO to develop a just and reasonable mechanism for determining when the elimination of an NCZ is warranted, and to provide a mechanism to eliminate unneeded zones."[12]

## III. The Appropriate Basis for Price Separation in NYISO

11. Once an NCZ is defined, price separation will be determined based on the costs of satisfying the LCR for the NCZ. To the extent that LSEs must incur costs through the capacity auction to satisfy the LCR that exceed the marginal costs of satisfying the ROS capacity requirements, the Market Clearing Price in the NCZ will rise. Therefore, the resulting prices could only be considered just and reasonable if the LCR is an accurate representation of the resource adequacy needs in the NCZ. It is important to understand

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9 Cadwalader Affidavit at P 33.

10 Borchert Affidavit at P 11.

11 NYPSC at 7.

12 NYPSC at 8.

that prices may rise in the NCZ even if slightly more capacity clears in the NCZ than the LCR (which will be governed by the ICAP Demand Curve for the NCZ.) This is not a concern and, in fact, is required in order for the NYISO markets to provide adequate economic signals to motivate investment over time to satisfy the NCZ capacity requirements.

12. Therefore, price separation in the NCZ will be driven by the capacity demand curve for the NCZ that is based on the LCR. The scenario envisioned by Mr. Cadwalader and Mr. Borchert is one in which the deliverability test yields results that are inconsistent with the LCR and associated ICAP Demand Curve. In the simplest possible terms, therefore, the issue at hand is whether the LCR or the deliverability test should govern the locational prices in the capacity market. I believe the answer to this question is clear – once defined, the LCR should govern locational pricing in NYISO's capacity market for the reasons I state below.

13. The LCR is a much better indicator of the resource adequacy needs in the NCZ. As explained in the *Answering Affidavit of Henry Chao, Ph.D., and John M. Adams* ("Chao/Adams Answering Affidavit"), the LCR is based on probabilistic analysis of potential events and system conditions that indicates the capacity needed to allow the NYISO to satisfy the Loss of Load Expectation ("LOLE") reliability criterion.[13]

14. In contrast, the deliverability test is a deterministic analysis that is not designed to provide an accurate indication of the reliability needs in the NCZ. For example, the deliverability test does not model a realistic array of contingencies the operators must have the resources to address. I have explained the shortcomings of the deliverability test in prior filings and reports.

15. Finally, given that the LCR is the amount of capacity that is necessary in the NCZ to satisfy the LOLE criterion, the NYISO will not be satisfying the LOLE criterion if less than the LCR is procured. Therefore, if a deliverability test is used to eliminate the NCZ (or

[13] The LOLE criterion calls for NYISO to only expect to experienced involuntary load curtailments one day in ten years.

otherwise eliminate price separation) when the LCR would otherwise bind, this process will cause the NYISO to violate a reliability requirement.

## IV. Market Stability Concerns

16. One of the inevitable outcomes of accepting arguments that elimination of a deliverability constraint should result in price convergence is that the NYISO could be in a position of defining an NCZ, eliminating it, and defining it once again if the deliverability constraint binds again. Given how lengthy the process is for defining an NCZ, instituting such additional processes would undermine the stability of the market and introduce substantial risk for investors considering entering in the NCZ.

17. This instability and associated risk is unnecessary, given the fact that the LCR should ultimately determine whether prices rise in the NCZ above the prices in the ROS. There is no need to "undefine" an NCZ after it has been created. When the LCR is no longer binding, the prices will not separate and the fact that NYISO is modeling the NCZ becomes academic. It is possible, for example, that the transmission network could be upgraded and the transfer capability into the NCZ could be increased. This would likely cause the LCR to fall because higher import capability into the NCZ should generally cause less capacity to be required locally. This reduction in the LCR could cause the LCR constraint to no longer bind and the prices in the NCZ to converge with the ROS. Importantly, the capacity prices in the NCZ could once again rise if conditions change and the LCR binds without the need to engage in a lengthy, contested process for re-defining the NCZ.

18. This framework will be much more effective in facilitating efficient investment because investors will understand that prices in the NCZ will rise and separate from the ROS when and if necessary.

## V. Conclusions

19. Given that the reliability analysis underlying the LCR is a more accurate indicator of the capacity needs in the NCZ than the deliverability test, I urge the Commission to reject the arguments and proposals of the Indicated NYTOs, Central Hudson, and the NYPSC described in Section II. Once the NCZ is defined, the market should determine when price

separation occurs. There is no reason to actively eliminate capacity zones once they are created since they will simply stop binding and cease to cause prices to rise above the ROS level. The Commission has recognized this fact in approving both the PJM and MISO capacity markets, which include many zones. Most of these zones simply do not bind and, therefore, do not affect the capacity clearing price. However, the fact that many of the zones have never bound and, therefore, never affected capacity prices has not led the participants in these markets to actively pursue their elimination. I believe this is the case because the zones simply do not have a substantial impact on the prices if they do not bind.

20. Therefore, I conclude that the NYISO's proposal is reasonable and respectfully recommend that the Commission accept it. Likewise, I recommend that the Commission reject the arguments summarized in Section II asserting that price separation should not occur if the deliverability test is not binding. This is simply an economically flawed assertion that, if accepted by the Commission, would undermine the performance of the NYISO capacity market.

21. This concludes my affidavit.

## ATTESTATION

I am the witness identified in the foregoing affidavit. I have read the affidavit and am familiar with its contents. The facts set forth therein are true to the best of my knowledge, information, and belief.

David B. Patton

June 5, 2013

Subscribed and sworn to before me
this 5th day of June, 2013

Notary Public

My commission expires: Nov. 30 2013

MATTHEW JAMES CARRIER
Notary Public
City/County of Fairfax
Commonwealth of Virginia
Notary registration number - 7233763
My commission expires - Nov. 30, 2013

# ATTACHMENT 2

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

**New York Independent System Operator, Inc. ) Docket No. ER13-1380-000**

**ANSWERING AFFIDAVIT OF HENRY CHAO, PH.D. AND JOHN M. ADAMS**

Dr. Henry Chao and Mr. John Adams each declare:

1. I have personal knowledge of the facts and opinions herein and if called to testify could and would testify competently hereto.

## I. Purpose of this Affidavit

2. I submit this affidavit in support of the New York Independent System Operator, Inc.'s ("NYISO") *Answer to Comments and Request for Leave to Answer and Answer to Protests* in this proceeding. I previously prepared an affidavit in support of the NYISO's "April 30 Filing"[1] in this proceeding ("Chao/Adams Affidavit").

3. That affidavit explained the process the NYISO followed to determine the boundary for the New Capacity Zone[2] ("NCZ") that it has proposed in this proceeding and the separate process used to determine the Indicative NCZ Locational Minimum Installed Capacity Requirement ("Indicative NCZ LCR"). It also discussed the results of the analyses performed using those processes.

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[1] New York Independent System Operator, Inc., *Proposed Tariff Revisions to Establish and Recognize a New Capacity Zone and Request for Action on Pending Compliance Filing* (April 30, 2013).

[2] Capitalized terms that are not otherwise defined herein shall have the meaning set forth in the Answer and if not defined therein, they shall the meaning set forth in the Services Tariff, and if not defined therein, in the NYISO's Open Access Transmission Tariff ("OATT").

4. In Section II of this affidavit, I address arguments by the Indicated New York Transmission Owners ("Indicated NYTOs")[3] and Central Hudson Gas & Electric Corporation ("Central Hudson"),[4] including those proffered in the Affidavit of John J. Borchert ("Borchert Affidavit"), related to their claims concerning "price separation" and the supposed need to use deliverability-based tests to establish Locational Minimum Installed Capacity Requirements ("LCRs") for NCZs. I distinguish the manner in which the LCRs are utilized to meet reliability criteria; from the way in which deliverability test results are used to show system constraints. I demonstrate that it is essential that reliability needs be considered when establishing LCRs, and that consideration of deliverability issues is not suited for establishing LCRs. In addition, along with the *Answering Affidavit of Dr. David B. Patton* this section of the affidavit responds to other elements of the price separation claims.

5. In Sections III and IV, I address certain comments of Multiple Intervenors ("MI")[5] and the Consolidated Edison Company of New York, Inc., Orange and Rockland Utilities, Inc., and Central Hudson ("CE/CH") which argue that the NYISO should be required to include Load Zone K (*i.e.*, Long Island) in the NCZ. I demonstrate that the NYISO's decision to include Load Zones G, H, I ("Load Zones GHI") and J in the NCZ, and to not include Load Zone K, was reasonable.

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[3] *See Motion to Intervene and Protest of the Indicated New York Transmission Owners* (May 21, 2013).

[4] *See Protest of Central Hudson Gas & Electric Corporation* (May 21, 2013).

[5] *See Motion to Intervene and Protest of Multiple Intervenors* (May 21, 2013).

6. More specifically, in Section III, I reiterate that the NYISO's NCZ boundary analysis, which focused principally on using simulated capacity shifts to assess the fungibility of capacity between Load Zones K and GHI, as well as between Load Zones J and GHI (the "fungibility test"), was reasonable, complete, and accurate. In Section IV, I demonstrate that MI's and CE/CH's objections, including those proffered in the Affidavit of Dr. Mayer Sasson ("Sasson Affidavit"), to the resource adequacy and transmission security analyses that were described in the Chao/Adams Affidavit are misleading, incomplete, and inaccurate.

7. Finally, in Section V, I refute Central Hudson's claims that it was somehow inappropriate for the NYISO to account for reliability factors in its NCZ boundary analysis. I also highlight critical flaws in Central Hudson's proposed "deliverability-based" methodology for defining NCZ boundaries.

## II. Deliverability Tests Are Well-Suited to Analyzing the Need to Establish NCZs But Should Not Be Relied Upon to Establish LCRs Because They Would Not Ensure that All Applicable Reliability Criteria Are Satisfied

8. The Indicated NYTOs believe that the NYISO has departed from a supposed requirement that "price separation resulting from recognition of a deliverability constraint warranting the NCZ will be eliminated if and when that deliverability constraint is eliminated."[6]

9. Central Hudson claims that the "NYISO [is] attempting to resolve a deliverability issue by using a reliability tool through the use of the reliability based LCR rules

[6] *See* Indicated NYTOs at 5.

and methodologies to establish the LCR of the NCZ."[7] Central Hudson implies that the deliverability issue with the binding UPNY/SENY interface cannot be resolved via establishment of the NCZ. It further argues that if the NCZ is established, it should include all the Load Zones on the constrained side of UPNY-SENY so that the cost would be shared among all the Load Zones, with higher LCR requirements for Zones J and K.

10. The deliverability test performed by the NYISO for the NCZ Study is very similar to the deliverability test it performs in the Class Year process. The deliverability test methodology differs from the methodology used to establish LCRs. In addition, the deliverability test and LCRs were designed for and serve two different purposes.

11. The NCZ Study methodology and procedures largely incorporate by reference to OATT Attachment S the Class Year deliverability study process. The primary difference between the deliverability test in the NCZ Study and the deliverability test in the Attachment S Class Year process is that in the NCZ Study test evaluation is limited to deliverability across Highways and does not consider Byways or Other Interfaces, in accordance with Section 5.16.1 of the Services Tariff.[8]

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[7] Borchert Affidavit at P 11.

[8] *See* NYISO's October 11, 2011 *Request for Clarification, or in the Alternative Rehearing* in Docket No. ER04-449-023 ("Request for Clarification") at p. 5; *New York Independent System Operator, Inc.*, 137 FERC ¶ 61,229 (2011) ("We grant clarification that the section 25.7.8 Highway Capacity Deliverability Test methodology to be used in the context of determining whether a new capacity zone is needed should only be the test that in section 25.7.8 which applies to Highway facilities.")

12. The purpose of the NCZ Study is to determine whether there is a constrained Highway interface into one or more Load Zones. The purpose of the Class Year Deliverability Study is to identify the upgrade facilities needed for projects in the Class Year to become qualified Capacity Resource Interconnection Service ("CRIS") resources.

13. The LCRs are an input in the deliverability tests' base cases. They are one of several assumptions required by the deliverability test process. As an input, the LCRs can affect the outcome of the deliverability test.

14. The deliverability tests are deterministic. A deterministic evaluation is a process by which the result is entirely determined by its initial settings and inputs. The deliverability tests utilized in the NCZ Study and the similar one used in the Class Year Deliverability Study utilize inputs that are specified in the Services Tariff and OATT, respectively. The results are not random or stochastic.

15. The deliverability tests performed for a given study primarily examine the transmission system with all generators available but with capacity derated according to the average Equivalent Demand Forced Outage Rate (EFORd) at that specific point in time in accordance with the respective tariffs. The deliverability tests also are performed at a specific peak load level that includes a specific peak load forecast and a specific level of Load Forecast Uncertainty. The deliverability tests are a useful tool for their respective purposes because they indicate when transmission capacity is not sufficient to deliver capacity under the specified peak load condition. They were not developed for or designed to be an analytical process to ensure that reliability criteria will be met under multiple scenarios.

16. The LCR, on the other hand, determines the "portion of the NYCA Minimum Installed Capacity Requirement that must be electrically located within a Locality, or possess an approved Unforced Capacity Deliverability Right, in order to ensure that sufficient Energy and Capacity are available in that Locality and that appropriate reliability criteria are met."[9] The loss of load expectation ("LOLE") is the paramount reliability criterion required to be met for resource adequacy.

17. The Services Tariff requires that "[i]n establishing [the LCRs], the ISO will take into account all relevant considerations, including the total NYCA Minimum Installed Capacity Requirement, the NYS Power System transmission Interface Transfer Capability, ... the Reliability Rules and any other FERC-approved Locational Minimum Installed Capacity Requirements."[10]

18. The Chao/Adams Affidavit described that the NYISO utilizes the General Electric Multi-Area Reliability Simulation ("MARS") model to establish the LCRs for the existing Localities (*i.e.*, Load Zones J and K). The MARS model "accounts for the ability of the transmission system to transfer power, the distribution of resources relative to the capability of the transmission system and load can result in multiple sets of statewide IRM and LCRs for Localities J and K that meet the LOLE criterion" of no more than one day in every ten years.[11]

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[9] Services Tariff Section 2.12 at definition of LCR. A Commission-accepted NCZ would be a Locality. *See* November 2011 Filing at n.3; *see also* April 30 Filing at 13.

[10] Services Tariff Section 5.11.4.

[11] Chao/Adams Affidavit at P 19, 17.

19. Unlike the deliverability tests which are deterministic, the MARS model used to run the simulations performed in setting the LCRs is probabilistic.

20. The LCR-setting methodology uses probabilistic techniques to determine LOLEs considering generation availability, transfer capability between load zones, transmission cable outages, variability in load levels, and assistance from neighboring Control Areas. The process used by the NYISO is designed to ensure that for the IRM established by the New York State Reliability Council ("NYSRC"), the LCRs, which are selected from among the numerous possible system condition simulations, satisfy all applicable reliability criteria.[12]

21. Under that methodology, when transfer capability into the Locality is increased, the LCR decreases.

22. The Indicated NYTOs and the Borchert Affidavit claim that the LCR in an NCZ should be set using a deliverability test. However, the deliverability tests are not designed to maintain LOLE criteria. In fact, as noted above, the deliverability tests use the LCRs determined according to the LOLE criterion as an input.

23. Using a deliverability test methodology to set the LCR for the G-J Locality also would establish the LCR using a methodology that is inconsistent with the methodology that is used to establish the LCRs for the two existing Localities (Load Zone J and K,) and the statewide IRM.

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[12] *See* Chao/Adams Affidavit at PP 37-39.

24. Setting LCRs based on a deliverability test that is not designed to evaluate reliability criteria for a range of possible system conditions would not ensure that the LOLE is maintained at the one day in ten years criterion. Thus, relying on deliverability tests would not ensure that reliability criteria would be satisfied. The NYISO used the same probabilistic methodology to determine the Indicative LCR for the G-J Locality that it currently uses to set LCRs for existing Localities. For the reasons set forth above, the probabilistic methodology used to set the LCR is a truer representation of reliability needs for the NCZ than a deliverability methodology. The mere elimination of a deliverability constraint does not guarantee that the LOLE will be met. Thus, it is my opinion that the use of probabilistic methods to set LCRs is clearly superior to using deliverability-based methodologies.

25. The Borchert Affidavit's deliverability-based approach to setting LCRs would not identify the capacity needed for reliability.[13] It is an untested approach founded on unsupported claims and does not provide any reason to believe, let alone certainty, that it would yield a solution that would meet the LOLE reliability criterion.

26. In order to not have a reliability violation, Central Hudson's deliverability-based approach would require a significant increase in the LCRs for Load Zones J and K, thereby requiring more locational capacity to be procured in those Localities. Based on the quantity of capacity presently in those Localities, higher LCRs would be expected to increase capacity prices in those Localities substantially.

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[13] *See* Borchert Affidavit at PP 16-22.

## III. The NYISO Correctly Interpreted and Assessed the Value and Impact of Load Zone K Capacity to Load Zones GHI

27. The "fungibility test" was the primary test utilized by the NYISO in its NCZ boundary analysis. It was intended to determine how well incremental capacity in Load Zone J and Load Zone K, evaluated one at a time, would maintain the NYCA LOLE criterion of 0.1 days per year or 1 day in ten years versus an equivalent amount of capacity in Load Zones GHI. The key analytical threshold was whether capacity in a Load Zone could be substituted one-for-one with capacity in Load Zones GHI. The results of test of the fungibility of capacity as measured by LOLE demonstrated that this was the case for Load Zone J but not Load Zone K.

28. The NYISO's use of the fungibility test as its primary methodology to determine the NCZ boundary was reasonable.[14] The Affidavit of Gary Jordan ("Jordan Affidavit") and the Affidavit of Dr. David B. Patton ("Patton Affidavit") provided with the April 30 Filing both endorsed its use.[15] It represented the most useful, valid, and comprehensive approach available to the NYISO to conduct the NCZ boundary analysis.

29. Further, the Services Tariff requires that "[i]n determining the New Capacity Zone boundary, the ISO shall consider the extent to which incremental Capacity in individual constrained Load Zones could impact the reliability and security of constrained Load Zones, taking into account interface capability between

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[14] It is also my understanding that the use of the fungibility test is consistent with Section 5.16.2 of the Services Tariff for the reasons specified in Section II.C of the NYISO's answer and the additional reason described in P 31 below.

[15] Jordan Affidavit at P 8; Patton Affidavit at P 9.

constrained Load Zones."[16] Consistent with that requirement, the LOLE analysis for the fungibility test described in the Chao/Adams Affidavit is an evaluation of the impact of incremental capacity on the reliability of adjacent Load Zones on the constrained side of the Highway interface. It was correctly performed and the results presented in Chao/Adams Affidavit are accurate. Based on the LOLE analysis, the results demonstrates that incremental capacity equivalent to less than 7% of the existing capacity in Load Zones GHI (referred to by CE/CH as "LHV") is fungible with capacity in Load Zone K. That small value confirms that not including Load Zone K in the NCZ is reasonable.

30. CE/CH and MI argue that because Load Zone K can provide some level of reliability benefit to Load Zones GHI, it should be included in the NCZ notwithstanding the fact that Load Zone J provides significantly more benefit to Load Zones GHI than Load Zone K.[17] It argues that the NYISO's decision to not include Load Zone K in the NCZ was based solely on a comparison with the benefit of including Load Zone J, and that the decision on whether to include Load Zone K should have been based solely on an analysis of the benefits of Load Zone K alone. As described in the Chao/Adams Affidavit,[18] and in paragraph 27 above, the NYISO's analysis to determine the appropriate NCZ boundary first identified that it should consist of Load Zones GHI, and examined whether it should be: (i)

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[16] Services Tariff Section 5.16.2.

[17] *See* CE/CH Protest at 8; *see also* MI at 10-11, 16. The NYISO Answer states further reasons that CE/CH and MI are wrong to claim that the NYISO was required to include a Load Zone in the NCZ if it made any positive contribution to reliability or security in the NCZ.

[18] *See* Chao/Adams Affidavit at P 12-34.

combined with no other Load Zones on the constrained side of the UPNY-SENY interface; or (ii) combined with one or both of the other Load Zones on the constrained side of UPNY-SENY, *i.e.*, – Load Zones J and/or K. Both of the tests performed by the NYISO determined that Load Zone J could fully provide assistance to Load Zones GHI as a substitute for all the existing capacity in GHI, and that Load Zone K could provide only minimal assistance as a substitute for all the existing capacity in GHI.[19]

31. The "fungibility test" is based on an LOLE analysis. It determined that incremental capacity in Load Zone J, which was the result of shifting capacity from Load Zones GHI to Load Zone J, could replace all the capacity in Load Zones GHI and still maintain NYCA at criterion – *i.e.,* it was fully fungible. The same analysis for Load Zone K found that only a small portion of existing capacity in Load Zones GHI could be replaced by capacity in Load Zone K. The NYISO therefore concluded that Load Zones GHI capacity is not fully fungible with capacity in Load Zone K. To be clear, the NYISO's analysis was not a comparison of which one of the two Load Zones provided the greatest reliability benefit. It was an evaluation of whether capacity in Load Zones GHI could be fully replaced by incremental capacity in Load Zone K or Load Zone J or both. The analysis demonstrated that this was the case for Load Zone J capacity but not Load Zone K capacity.

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[19] *Id.* at P 19-22.

32. CE/CH suggests that a 300 to 500 MW unit is a "reasonably sized generating unit."[20] A 500 MW unit added in Load Zone K could not fully replace a 500 MW unit in Load Zones GHI, but the same 500 MW unit in Load Zone J could fully replace a 500 MW unit in Load Zones GHI. Capacity additions in the NCZ should be equally fungible in all Load Zones in the NCZ. Developers should not be restricted to what size unit that they want to develop in the NCZ – *i.e.*, an incremental capacity addition no matter what size should be fully fungible everywhere in the NCZ.

33. Even assuming that the transmission limit described in the Sasson Affidavit of the Load Zone K to Load Zone I of 530 MW was even close to realistic, increasing the amount incremental capacity available from 300 MW to 500 MW in order to maintain the 0.1 criterion would only result in approximately 11% of Load Zone GHI capacity being fungible in Load Zone K capacity.

## IV. CE/CH's and MI's Objections to the Resource Adequacy and Transmission Security Analyses Presented in the Chao/Adams Affidavit Lack Merit and Are Misleading

34. CE/CH and the Sasson Affidavit make numerous assertions concerning the NYISO's resource adequacy analysis which, as noted above, was based on the fungibility test, and its transmission security analysis. They label as the "First Test" and "Second Test" the two steps of the NYISO's analysis to determine the NCZ boundary, which are described in the Chao/Adams Affidavit. They claim that the NYISO (a) did not fully assess the value and impact that capacity in Load Zone

[20] CE/CH Protest at 13.

K provides to the proposed NCZ, (b) misinterpreted the effect of Load Zone K's transmission line transfer capability with other Load Zones on the constrained side of the UPNY-SENY interface, and (c) "ignored the complex interactions that occur when shifting capacity from the LHV Zone to Zone K as well as when adding capacity to Zone K."[21] This affidavit demonstrates the flaws in these assertions and thereby invalidates CE/CH's objections to the analyses set forth in the April 30 Filing.

35. This section also demonstrates that contrary to CE/CH's assertions, it is CE/CH, not the NYISO, that fails to recognize and acknowledge the complex interactions such as the Load Zone K to Load Zones J+GHI simultaneous transfer limits or that transfer limits can vary based on generation availability. Second, CE/CH's focus on the Load Zone K to Load Zone I interface limit,[22] which is utilized or needed in very few hours, while ignoring the joint interface limit of K to (J+I) as the basis for its conclusions is misleading because it is based on incomplete facts, and results in CE/CH reaching an incorrect conclusion.

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[21] CE/CH Protest at 11.

[22] References to the transfer capability between Load Zone K and Load Zones GHI, and between Load Zone K and Load Zone I, are considered the same electrically. Therefore, references to transfers between Load Zone K and Load Zone I, and between Load Zone K and Load Zones GHI, are interchangeable because of the electrical connectivity that exist between and among Load Zones G, H, and I; *i.e.*, large transfer capability between Load Zones G, H, and I.

### A. The Resource Adequacy Analyses Described in the April 30 Filing Were Reasonable, Complete, and Accurate

36. CE/CH asserts that the NYISO's April 30 Filing "incorrectly concluded from the First Test that the transfer limit between Zones K and the Zone LHV [*i.e.*, Load Zones GHI] is 300 MW. The transfer limitation under current circumstances is not 300 MW but rather 530 MW. As indicated in Dr. Sasson's Affidavit, Zone K is connected to Zone LHV via two 345kV lines that currently has a transfer limit of 530 MW. Thus, the [April 30 Filing] erred in stating that the transmission limitation had been reached at 300 MW."[23]

37. Thus, CE/CH bases its transfer limit claim solely on Dr. Sasson's review of the Load Zone K to Load Zones I transmission transfer limit. CE/CH states that "Dr. Sasson 'examined the flows on the Zone LHV to Zone K interface in both directions at the 300 MW shift level' and found that 'the average flow from K to I [part of Zone LHV] was only 130 MW and there were flows in this direction for only 215 hours for the year.' Also that '[t]he transfer capability limit flow [530 MW] was reached for an average of less than one hour [per year].[']  The evidence merely shows that the cause for the NYCA LOLE increasing beyond 0.1 at a capacity shift of 300 MW. The test does not establish a transmission limitation."[24]

38. The Sasson Affidavit focuses on the Load Zone K to Load Zones GHI transfer capability, ignoring the "complex interactions" that take place between Load Zone K, Load Zone J and Load Zones GHI. Load Zone K not only has transmission

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[23] CE/CH Protest at 12.

[24] *Id.* at 14 citing Sasson Affidavit (internal citations omitted).

ties/connection to Load Zones GHI but also has ties to Load Zone J. Therefore, Load Zone K can provide support to Load Zone J or Load Zones GHI, or simultaneously to both Load Zone J and Load Zones GHI. As noted by CE/CH and the Sasson Affidavit, the maximum independent transfer capability between Load Zone K and Load Zones GHI is 530 MW, and between Load Zone K and Load Zone J is 510 MW. However, CE/CH and Dr. Sasson fail to recognize that the simultaneous transfer limit between Load Zone K to Load Zones GHI and Load Zone J will often be lower than the sum of the separate transfer limits. CE/CH and Dr. Sasson also fail to recognize that the Load Zone K to J transfer limit of 510 MW is its maximum value, and that the actual value can be as low as 283 MW.

39. Interface transfer limits can have multiple values because they are in large part a function of available generation. The MARS model accounts for both the existence of the simultaneous transfer limit and the variations in transfer limits as available generation changes. It therefore can determine how a transfer limit can vary as a function of available generation.

40. The analysis performed by the NYISO and described in the Chao/Adams Affidavit[25] utilized the same transmission topology used for the most recent New York State Reliability Council's Installed Capacity Requirement Study for the May 2013 through April 2014 Capability Year (the "2013/2014 IRM Study"),[26] with modifications to three transmission limits from Load Zones J to Load Zone I, Load

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[25] *See* Chao/Adams Affidavit at P 28.

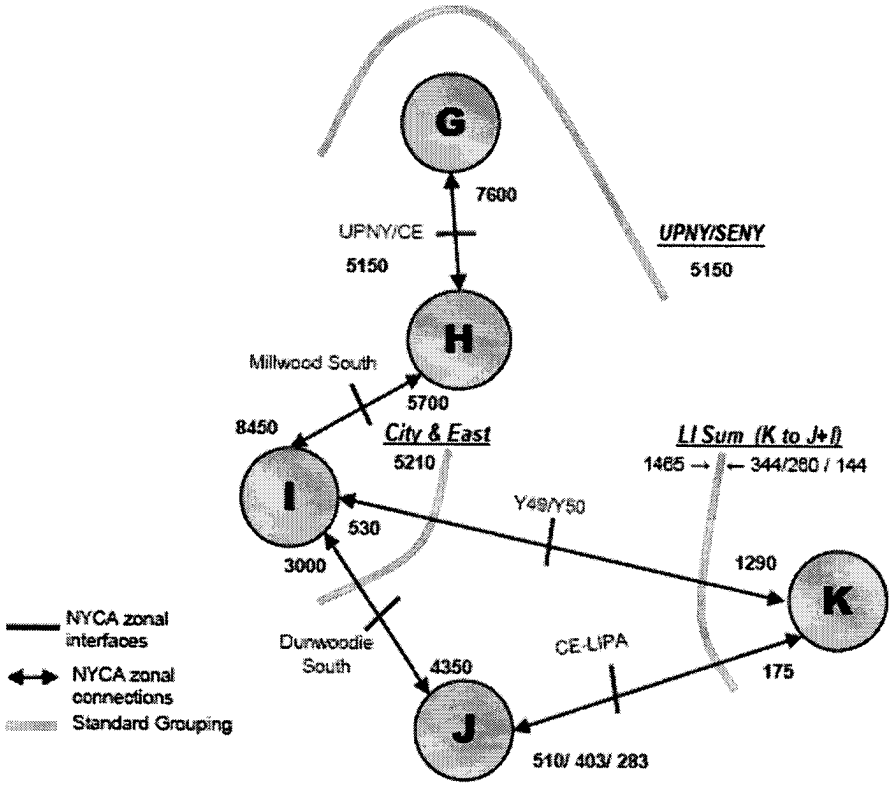
[26] The topology in the IRM Study is also available at < http://www.nysrc.org/pdf/Reports/Final%202013%20IRM%20Report%2012-7-12.pdf>.

Zone I to Load Zone H, and Load Zone H to Load Zone G pertinent to determining the NCZ boundary. The modifications were to the transfer capabilities and were necessary because it is necessary to reflect true transmission capabilities between the Load Zones, in both directions when conducting the fungibility test.[27]

41. Diagram 1 below depicts the joint interface of Load Zone K to (J+GHI). It shows that the Load Zone K to Load Zone J interface (labeled CE-LIPA) can take on three different values as function of the available generation.

[27] In the IRM and LCR studies, there was not a significant amount of MW flows from Load Zones J to Load Zone I, Load Zone I to Load Zone H, and Load Zone H to Load Zone G simply due to nonexistence of resources to support such flows. Therefore, in the IRM and LCR studies, those three interface limits in these directions were assigned a default value of 1999 MW. It would not be appropriate to use that kind of default value in the fungibility test, which needs to reflect actual transfer capability.

**Diagram 1: Load Zones and Transfer Limits Identified in the NYISO MARS Analysis For NCZ Boundary Determination**




42. The transfer capability for the joint interface from K to (J+GHI) was one of the inputs to the 2013/2014 IRM Study and was used in the analyses to determine the NCZ boundary. It has three possible values: 344 MW, 260 MW, and 144 MW. As noted above, the different values of transfer capability are a function of the availability of specific Load Zone K generators. The MARS model monitors specific Load Zone K generators to determine their availability, which determines the appropriate transfer capability to be used for that scenario.

43. It appears that CE/CH's erroneous conclusion that the NYISO's determination to not include Load Zone K in the NCZ was based on CE/CH's own failure to recognize the complex interactions of the transfer limits between and among the

various groupings of Load Zones described above and the impact on transfer limits of the availability of specific generation in Load Zone K.

44. That failure is compounded because it led to CE/CH making another error. CE/CH claims that the transmission transfer limits were not the reason why the NYCA LOLE exceeded 0.1 when more than 300 MW of capacity were removed from Load Zone GHI and added to Load Zone K under the fungibility test in order to determine whether incremental capacity in Load Zone K could be a substitute for capacity in Load Zones GHI.

45. The MARS model utilizes a Monte Carlo simulation process to simulate thousands of different load level and generation availability scenarios. These are combined probabilistically to determine an LOLE value. Since Load Zone J has less generation than its peak load, it will need some level of support from adjacent areas for many hours of the summer months to meet its load. When Load Zone K has excess capacity that is not required to meet its own load during the Monte Carlo simulation it will share it proportionally with other Load Zones in the NYCA based on their capacity deficiency. Depending on the particular scenario, Load Zone K capacity may be transferring to only Load Zone J, or only to Load Zone I, or simultaneously to (J+GHI).

46. As noted above, the transmission transfer capability is a function of the availability of specific generation in Load Zone K and where the capacity is being transferred. Therefore the expected value of flows from Load Zone K to Load Zone I reported in the Sasson Affidavit is a probability weighted average of all the different scenarios. As shown in Diagram 1, the transfer limit that can be encountered in any

particular scenario can be considerably less than the 530 MW and 510 MW cited in the CE/CH Protest and Sasson Affidavit. It can be as low as 144 MW.

47. The NYISO's review of the simulations it performed to determine the NCZ boundary found that when Load Zone K had excess capacity to share with other Load Zones, approximately 48% of the time the capacity transfers were from Load Zone K to (J+GHI), 47% of the time they were from Load Zone K to Load Zone J, and only 5% of the time they were from just Load Zone K to Load Zone I.

48. MARS uses a linear programming algorithm to optimize the amount of excess capacity that can be transferred to minimize the LOLE subject to the available transmission transfer capability. Of the thousands of scenarios that the NYISO's analysis considered, there were very few hours in which Load Zone K had excess capacity when Load Zones other than Load Zone J also needed support. The related result is that the use of the Load Zone K to Load Zone I path when Load Zone K is only transferring excess to Load Zone I is the least likely scenario. Thus, it is not surprising that CE/CH and the Sasson Affidavit reported that that there were so few hours when the Load Zone K to Load Zone I was binding (less than one hour among thousands of Monte Carlo simulations) and that even the total number of hours is low for those times when Load Zone K's excess was only needed by Load Zones GHI and not Load Zone J. The CE/CH Protest and Sasson Affidavit totally ignored those many hours (48% of the time versus 5% of the time) when the Load Zone K to Load Zone I path was used for part of the transfer of Zone K's excess capability to J+I simultaneously. The Load Zone K to J+I is the more restrictive case than just Load Zone K to Load Zone I.

49. In addition, the fact CE/CH and the Sasson Affidavit tend to focus on average values is surprising and, in my view, questionable. Loss-of-load events are rare and usually occur at the extremes or under a condition when the system is stressed, not under average conditions. It does not require many hours of system stress to trigger loss-of-load events. Thus, focusing on averages is misleading and results in conclusions not suited for the purpose of determining which Load Zones should be included in the NCZ. The actual simulation results from the MARS analyses, which I present above, clearly demonstrate that CE/CH's primary focus on the Load Zone K to Load Zone I transfer capability is flawed and thus that CE/CH's conclusion regarding the NYISO's "First Test," is incorrect.

### B. The Transmission Security Analysis Described in the April 30 Filing Was Reasonable, Complete, and Accurate

50. CE/CH's Protest asserts that April 30 Filing's "transmission security analysis incorrectly assessed the transmission security impact and value Zone K can provide to the LHV NCZ." It argues that contrary to the NYISO's analysis, "Zone K has the ability to export simultaneously to Zones J and LHV much more than 233 MW during normal conditions." [28]

51. As described in the Chao/Adams Affidavit, the NYISO performed a transmission security analysis, often referred to as an "N-1" analysis, when determining the NCZ boundary. As described in the Chao/Adams Affidavit the transmission system topology and limits used in the MARS model are derived from the N-1 analysis.[29]

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[28] CE/CH Protest at 18.

[29] Chao/Adams Affidavit at P 28.

The transmission security analysis provides a "deterministic perspective and information about specific operation conditions . . . ." and "a different view of real-time system operation conditions when compared to the probability weighted measures provided by the MARS analysis."[30] The examination confirmed the results of the First Test: that the appropriate NCZ boundary was Load Zones G-J. The Jordan Affidavit and Patton Affidavit also confirmed the reasonableness of the use of this test.[31]

52. What CE/CH is in effect asking is that the NYISO establish and follow a procedure in assessing transmission security that is in direct violation of North American Electric Reliability Council, Northeast Power Coordinating Council, and NYSRC standards requiring the N-1 analysis be performed at all demand levels, which includes the peak load condition.[32] Even if it were permissible, a calculated transmission transfer limit could be increased by basing the calculation on off-peak load conditions. But there are other contingency events under these load conditions that could result in higher transmission loading, which exceed the calculated limit. Also, the so called "peak hour" load level is the baseline load forecast at the design weather condition. In Load Zone J, the design condition is a 1-in-3 chance of load occurrence; and in Load Zone K, it is a 1-in-2 chance of occurrence. Higher temperatures (*e.g.*, 95 Degree F or higher in New York City and Long Island) can easily push the system load to a much higher load level (e.g., the 1-in-10 chance of

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[30] *Id.*

[31] Jordan Affidavit at P 13; Patton Affidavit at PP 9, 16.

occurrence). Under these higher load conditions, Load Zone K export transfer capability could be even lower than the 233 MW studied.[33]

53. CE/CH's second assertion related to transmission security is that the April 30 Filing's "modeling assumption that the 233 MW limit will exist for the next 10 years is not supported and assumes that no generation or transmission will be built in Zone K during that time . . . . As discussed in the Dr. Sasson Affidavit, if transmission is built across the current Eastern to Western LI bottleneck or if generation was built in Western Long Island these limits would increase significantly." The Sasson Affidavit alleges that an increase of export capability from Load Zone K should be expected from a scenario in which proposed generation in the NYISO interconnection queue in the Eastern part of Load Zone K would pay its cost allocation for System Deliverability Upgrades ("SDUs") identified by the NYISO Class Year Deliverability Study in order to receive CRIS. However, any such SDUs would only address deliverability within Load Zone K, not constraints to export power from Load Zone K. Therefore, it cannot

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[32] *See NERC TPL-002-0b – System Performance Following Loss of a Single BES Element: Requirement R1.3.6* available at <http://www.nerc.com/_layouts/PrintStandard.aspx?standardnumber=TPL-002-0b&title=System Performance Following Loss of a Single Bulk Electric System Element (Category B)&jurisdiction=United%20States>. *See also NPCC Regional Reliability Reference Directory #1 – Design and Operation of the Bulk Power System: Section 5.4* available at <https://www.npcc.org/Standards/Directories/Directory%201%20-%20Design%20and%20Operation%20of%20the%20Bulk%20Power%20System%20%20Clean%20April%2020%202012%20GJD.pdf>. *See also NYSRC Reliability Rules: Section B, paragraph 1* available at <http://www.nysrc.org/pdf/Reliability%20Rules%20Manuals/RR%20Manual%20V32%20Final%201-11-13%20.pdf>.

[33] LIPA Protest at 6 (referencing the "long-recognized understanding in New York that transmission constraints exist between Zone K and GHI that preclude incremental generation in Zone K from providing value to GHI that is commensurate with capacity constructed in Zones G-J").

be assumed that adding capacity to Load Zone K will increase Load Zone K's transmission capability to export power in the foreseeable future.

### C. CE/CH's Claims Regarding the Potential Benefits of New Capacity Additions on Long Island (Load Zone K) to Other Regions Is Misleading and Unrealistic

54. In addition to the capacity addition arguments that I refuted above, CE/CH argues that "when new generation is added to zone K, its current transfer limit of 530 MW, which is based on the current location of both generation and transmission on Long Island, will increase."[34] CE/CH's claim is misleading. The pertinent question in determining whether the NCZ boundary proposed by the NYISO is reasonable is not limited to whether the transfer limit may increase. The evaluation needs to consider the effect on a one day in ten years LOLE requirement. It should also consider whether it is efficient to send a price signal to add more capacity where it may not be deliverable. The purpose of establishing NCZs is to provide price signals for economic investment in locations where capacity is needed. Including Load Zone K in an NCZ might incent generation development in an already export constrained area. Providing that incentive is a central tenet of the April 30 Filing's proposal and of the Patton Affidavit's description of the market design reasons for not including Load Zone K.[35]

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[34] CE/CH Protest at 24.

[35] *See* April 30 Filing at 1; *see also* Patton Affidavit at 13.

## V. Central Hudson's Arguments Against the NYISO's NCZ Boundary Analysis Are Based on Irrelevant and Inappropriate Considerations and its Proposed Deliverability-Based Methodology Would Fail to Satisfy Reliability Criteria

55. Central Hudson asserts that the NYISO's "reliability based methodology resulted in an indicative LCR which is not related to the UPNY/SENY constraint. The error with the NYISO methodology is that it includes all capacity in Zones G-I and any changes in G-I generation will not affect the LCR the NYISO would calculate for the NCZ. Moreover, the addition of new generation in Load Zones G-I (which will be incented through the increase in capacity prices) will not result in a change in the LCR of the proposed NCZ; new G-I generation would, however, reduce the LCRs of Zones J and K. The flaw in the NYISO methodology is in the treatment of Load Zone G-I, and J capacity within the newly formed nested zone."[36]

56. Central Hudson's arguments are built on fundamentally flawed premises. In accordance with the Services Tariff, the Indicative NCZ LCR is utilized solely to determine the ICAP Demand Curve for the NCZ.[37] The actual LCR for the new Locality will be established concurrent with the LCRs for the other Localities. Indicative NCZ LCRs had, and should have, nothing to do with the NYISO's identification of NCZ boundaries.

57. However, because Central Hudson's assertions regarding the Indicative NCZ LCR relate to its suggestion that deliverability criteria should be utilized, I will respond

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[36] Central Hudson Protest at 7.

[37] *See* Services Tariff at 5.16.3.

to it briefly.[38] Central Hudson fails to recognize that the UPNY/SENY transmission interface is modeled explicitly by the MARS to set the IRM for the NYCA and the LCRs for the Localities. The reliability requirement established to meet the NYSRC resource adequacy criterion will be used to ensure that capacity to meet the criterion is procured. Therefore, the NYCA Minimum Installed Capacity Requirement, and the LCRs, need to reflect reliability requirements in order to ensure that sufficient capacity is procured to meet the 0.1 LOLE criterion.

58. This concludes my answering affidavit.

[38] My silence on other assertions in the Central Hudson Protest should not be construed as concurrence with them.

ATTESTATION

I am the witness identified in the foregoing Affidavit of Henry Chao dated June 5, 2013 (the "Answering Affidavit"). I have read the Answering Affidavit and am familiar with its contents. The facts set forth therein are true to the best of my knowledge, information, and belief.

Henry Chao, Ph.D.
Vice President of System and Resource Planning
New York Independent System Operator, Inc.

Subscribed and sworn to before me
This 5th day of June 2013

Notary Public

My commission expires: March 21, 2014

DIANE L. EGAN
Notary Public, State of New York
Qualified in Schenectady County
No. 4924890
Commission Expires March 21, 20 14

ATTESTATION

I am a witness identified in the foregoing Affidavit of Dr. Henry Chao and John Adams dated June 5, 2013 (the "Answering Affidavit"). I have read the Answering Affidavit and am familiar with its contents. The facts set forth therein are true to the best of my knowledge, information, and belief.

John M Adams

John Adams
Principal Electric System Planner
New York Independent System Operator, Inc.

Subscribed and sworn to before me
This 5th day of June 2013

Diane L. Egan

Notary Public

My commission expires: March 21, 2014

DIANE L. EGAN
Notary Public, State of New York
Qualified in Schenectady County
No. 4924890
Commission Expires March 21, 20 14