Long Island Power Authority

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NOTICE OF APPEAL OF THE NYISO MANAGEMENT COMMITTEE APPROVAL OF THE ALTERNATIVE LCR METHODOLOGY
March 14, 2018

To: Mr. Michael Bemis, Chairman, NYISO Board of Directors
Mr. Brad C. Jones, President & CEO, NYISO

I. Introduction and Request for Board Action

In accordance with Article 5.07 of the ISO Agreement and Section 1.02 of the Procedural Rules for Appeals to the ISO Board, the Long Island Power Authority and its operating subsidiary, the Long Island Lighting Company d/b/a Power Supply Long Island (collectively "LIPA") submit this notice of appeal of the Management Committee's approval of a proposal to modify the present calculation of locational capacity requirements ("LCRs") through the adoption of an "Alternative LCR Methodology." Further, LIPA requests the opportunity for hearing of this matter before the Governance Committee pursuant to Section 5.02 of the Procedural Rules for Appeals.

As part of its coordination with the New York State Reliability Council ("NYSRC") on the implementation of the statewide installed reserve margin ("IRM"), the NYISO is responsible for the calculation of locational capacity requirements pursuant the Market Administration and Control Area Services Tariff. The purpose of establishing an LCR methodology is to accurately assess the minimum portion of installed capacity requirements that, for reliability purposes, needs to be electrically located within a particular zone. This is necessary where there are zones that have transmission

constraints that otherwise limit the amount of capacity that may be exchanged from one zone to another for the purpose of meeting load requirements.

The present methodology, first adopted for the 2006-07 Capability Year, is commonly referred to as the TAN 45 approach. As recently as November 2017, a NYSRC subcommittee report observed that "the current TAN 45 anchor point (knee of the curve) minimizes exposure to deviations in assumptions and provides the ***most accurate and stable determination*** of IRMs and LCRs by definition." *Installed Capacity Subcommittee Report to the Executive Committee re NYISO Alternative LCR Proposal, p. 2 (Nov. 28, 2017).*

In January 2016, the NYISO initiated a review of the LCR calculation methodology. In its initial briefings on this effort, the NYISO explained that:

> *There are two significant aspects to making any changes to the determination of LCRs*
>
> 1. *Developing a methodology for determining LCRs based on minimizing total NYCA capacity costs while maintaining minimum reliability criteria*
> 2. *Allocating capacity costs fairly to LSEs*
>
> *[LCR Task Force, Alternative Methods for Determining LCRs, p. 3 (Jan. 14, 2016).]*

In a subsequent March 2016 briefing, the NYISO further acknowledged that:

> *The NYISO is still evaluating the following potential concerns with the outlined approach:*
> - *Shifting too much capacity into K*
> - *Shifting too much capacity out of J*
> - *Aligning the MARS model with operating characteristics of system*
>   - *I.e., If 12,000 MW located on LI, then NYISO could not operate the grid*
>
> *[Alternative Methods for Determining LCRs Update, ICAP Working Group, p. 9, March 24, 2016.]*

The potential for shifting capacity to Zone K (Long Island) and the need to fairly allocate capacity costs are concerns that have persisted throughout the development of the Alternative LCR Methodology and have not been adequately addressed.

LIPA respectfully requests that the NYISO Board decline to approve the proposed filing and return it to the stakeholder process for further analysis, as discussed herein. **First**, the Alternative LCR Methodology causes Zone K (Long Island) to bear additional capacity costs to provide a greater portion of the reliability of Zone G-I (Lower Hudson Valley) and Zone J (New York City). This is an improper mismatch between allocation of costs and benefits. **Second**, the Alternative LCR Methodology exhibits excessive volatility that can distort markets and further complicate system planning. NYISO's own calculations have projected that Long Island's LCR would dramatically shift from 104.2% to 107.5% just by updating assumptions from 2017 values to 2018 values. **Third**, the NYISO's economic optimization is founded on flawed estimates of the net cost of new entry (Unit Net CONE).

There is no basis for the NYISO to rush this half-formed and wholly inadequate proposal to FERC. A pause for further evaluation and refinement is warranted given the magnitude of potential impacts and the existing uncertainties presented.

II. Matters Requiring Further Evaluation and Refinement

For the purpose of informing the Board's consideration of this appeal, LIPA provides further explanation of our core concerns.

A. Subsidization Created by the Alternative LCR Methodology

The NYISO and NYSRC have historically studied and sought to avoid the possibility of subsidization in the implementation of the IRM and LCR calculations. In 2007, the NYISO

and NYSRC funded a GE study assessing whether there were either reliability or cost subsidies between Upstate and Downstate Regions. That study concluded that, under the present IRM calculation and TAN 45 methodology, neither reliability subsidies nor cost subsidization were found to occur. However, a finding and recommendation in the report noted that the potential for subsidization existed at certain combinations of the IRM and LCR and "[t]his possibility should be avoided." *GE Report, Final Upstate-Downstate Study Findings and Recommendations, p. 19, June 27, 2007.* A decade later, the NYISO has produced a methodology that presents such an unwarranted subsidization scenario.

A reliability subsidy exists where there is a significant shift in LCR values between two interconnected zones at equal risk from a loss of load of load expectation ("LOLE") perspective. Similarly, a cost subsidy exists where one zone incurs significant costs that it would otherwise not incur because of a flawed cost allocation or market design.

The Alternative LCR Methodology is designed as an economic optimization—in which the NYISO focuses on the minimization of the total (i.e., all of NYCA) cost of capacity at the level of excess ("LOE") condition. Within this economic optimization across the localities, two elements drive Long Island's subsidization of New York City's generation adequacy: (1) the NYISO's assumptions for the Unit Net CONE costs for each locality; and (2) the actual contribution to reliability both within and outside each zone when capacity is added within a zone. First, the NYISO's economic optimization relies upon a flawed estimate of the Unit Net Cone value for Zone K (Long Island). Specifically, the NYISO underestimates the gross capacity cost for a new unit in Zone K and also employs an unreasonably high net revenue assumption for the sale of energy and ancillary services.

These flawed assumptions cause the optimization evaluation to improperly shift capacity requirements to Long Island in pursuit of illusory cost savings that cannot be realized.

Reliability subsidization also results from the significant mismatch from the increased the Zone K (Long Island) LCR for 2018, which is estimated to rise to over 107.5% of peak load, while the Zone J (NYC) requirements reach only 79.7% of peak load. Subsidization occurs because the reliability benefit of this additional Long Island LCR requirement primarily will go to New York City. LIPA estimates that over 65% of the reliability benefits of capacity added on Long Island accrue off the island—and most of that benefit goes to New York City. In comparison, less than 8% of the reliability benefits of capacity added in New York City accrue to Long Island. Thus, there will be a direct subsidization of New York City and other regions' generation adequacy needs by the increases in the Long Island LCR resulting from the Alternative LCR Methodology.

B. Significant Volatility in the LCR Results

The Alternative LCR methodology has not been shown to meet the NYISO's goals of stability, robustness and predictability. The differences in the NYISO's projections of LCR values for Zone K between 2017 and 2018 underscore the significant potential for volatility. The NYISO projects that applying the Alternative LCR Methodology to 2017 would have resulted in a Zone K LCR of 104.2%. However, in 2018, using the same methodology, the NYISO projects that the 2018 LCR for Long Island will rise from 104.2% to 107.5%. These 2018 projections are outside of the historic range in year-to-year LCR values, and present a red flag for long-term implementation.

The NYISO has provided no background sensitivities or other analysis fully explaining this drastic shift. In briefings, the NYISO primarily attributed the 2018 volatility to relatively minor changes in certain transmission line ratings. NYISO also indicated that the inclusion of CPV Valley generation in the Lower Hudson Valley locality reduced the net capacity that could be delivered across interfaces upstream of the Lower Hudson Valley and adversely impacted the Long Island LCR. If true, the NYISO's summary analysis on this point means that Long Island ratepayers are being held responsible for generation siting decisions in Zone G. Moreover, neither explanation is a sufficient to ascertain exactly how sensitivities within the LCR methodology produced the dramatic shift within the Long Island 2018 LCR. Given the lack of more robust analysis and explanations from the NYISO, the only conclusion that can be drawn is that the Alternative LCR Methodology can be (and very likely will be) highly volatile in response to changes in transmission system topology.

In the coming years, the overall New York State transmission system will experience significant shifts through Indian Point retirement, AC and Western NY transmission upgrades, and the addition of even greater amounts of renewable resources. Each of these events also could produce short-term volatility in the LCR results. The extreme effect of short-term volatility was demonstrated by the NYISO's recent cost impact analysis. Using a worst-case scenario (i.e., without any hedging), the NYISO projected that Long Island could experience a short-term cost shock of up to $251 million. Notwithstanding the exact monetary amount, the percentage shifts are of equal concern. The NYISO's projection means that the Long Island consumer impact of the Alternative LCR Methodology will

increase by over 5 times by simply updating assumptions from 2017 to 2018 values. Volatility on this order of magnitude does not reflect a stable or predictable methodology.

C. Persistent Reliability Subsidy.

Shifting locational capacity requirements from New York City to Long Island is not savings—it is subsidization. The optimization approach and inaccurate assumptions embedded in the Alternative LCR Methodology mean that New York City will gain the benefit of Long Island's long-term and short-term capacity procurement—whether that procurement occurs through bilateral agreements or under the auction. The net effect of changing the Long Island LCR is that the last 215 MW of excess capacity in LIPA's capacity portfolio, which otherwise might be retired in the future, must be retained at a cost to LIPA customers while the Zone J LCR and Zone J prices go down. This means that LIPA's long-term hedge is subsidizing NYC's locational capacity requirements at a significant value. Moreover, at the point where LIPA would need to add capacity to meet the higher LCR, the actual cost to LIPA customers would be much greater than estimated by NYISO. LIPA estimates this cost to be at least $60 million per year for an additional 215 MW, as compared to the NYISO's estimate of $37 million. By shifting locational MWs from New York City to Long Island, the NYISO is essentially giving New York City the long-term value, and reliability benefit, of Long Island capacity—without commensurate allocation of costs to Zone J.

D. Inadequate Analysis of Future Conditions.

In a November 2017 report by the Installed Capacity Subcommittee of the NYSRC, it was recommended as "Additional Considerations" that:

> *The NYISO should consider running additional sensitivity cases to examine the behavior of the alternative methodology – in addition to the optimal economic value – for evaluating the final LCRs as part of the 2018 NYISO project scope:*
>
> - *Changes to the generation mix/topology in future – additional renewable resources, distributed generation as well as behind the meter resources*
> - *The uncertainty of key study parameters including cost assumptions;*
>
> *NYISO is currently working through the ICAP WG concepts for elimination and creation of capacity zones – the NYISO should examine the results of the optimized method on Zones J and K with the elimination of Zone G- J.*
>
> *[NYSRC Installed Capacity Subcommittee Report to Executive Committee at p. 2, Nov. 28, 2017.]*

Further, from the inception of this process in 2016 and throughout 2017, LIPA made similar requests directly to the NYISO. At no time during the stakeholder process has the NYISO released or briefed stakeholders on any sensitivity cases or analyses of how the methodology will perform under the future system changes such as Indian Point retirement, completion of the AC and Western New York transmission upgrades or the significant expansion of onshore and offshore renewable resources that are now under consideration through the New York Clean Energy Standard. Likewise, the NYISO has not provided any analysis of how the Alternative LCR methodology would perform in the event of the elimination of Zone G-J.

E. Inaccurate Assumptions Regarding Long Island Capacity Costs

A key element of the Alternative LCR Methodology is the use of the Unit Net CONE for each locality in the optimization runs. In order to ensure an effective optimization, however, the NYISO must accurately estimate capacity values within each locality. The NYISO fails to do so for Zone K (Long Island). First, the NYISO underestimates the gross

capacity cost for a new unit in Zone K. This error is then compounded by the NYISO also assuming an unreasonably high net revenue assumption for the sale of energy and ancillary services for the proxy unit. The NYISO's inaccurate assumptions consequently depress the Long Island Unit Net CONE which, when incorporated into the Alternative LCR optimization runs, creates a false delta in capacity costs between localities that incorrectly shifts locational capacity requirements to Long Island.

III. Conclusion and Request for Board Action

LIPA is gravely concerned with the process under which the Alternative LCR Methodology was developed as well as the unreasonable and unjustified shifting of capacity obligations and costs to Long Island that will result from this methodology. LIPA has long planned for, and met, the capacity and energy needs for its customers…and it will continue to do so. However, acquiring locational capacity for the purposes of subsidizing the reliability of New York City or Lower Hudson Valley is not in LIPA's mission and represents a material and adverse cost-shifting and reliability subsidy.

LIPA supports adoption of appropriate measures that address the counter-intuitive results that have occurred in Lower Hudson Valley--if it results in a meaningful improvement to the calculation of LCR requirements for all locational zones. The NYISO's present proposal does not meet the goal of a zonally neutral, meaningful improvement of the LCR methodology. Instead, we are presented with a highly volatile methodology that, in the service of erroneous optimization, will require Long Island to subsidize other localities' capacity requirements without a commensurate cost allocation that meets the "beneficiary pays" principle.

We urge the Board to decline to approve the Alternative LCR Methodology and, instead, require the NYISO staff to continue working with LIPA and other stakeholders on refinements to this approach. In particular, LIPA respectfully requests that the NYISO Board, in exercising its independent oversight, direct the NYISO to:

- Transparently analyze and inform the stakeholders of how an elimination of the Lower Hudson Valley zone (G through I) would affect the LCR calculations for NYC and Long Island;
- Confirm the extent and magnitude of the optimization process' effect on the volatility seen in the Long Island LCR between the NYISO's December 2017 and February 2018 modelling of potential cost impacts;
- Examine whether there are other underlying factors and modelling sensitivities that bias or otherwise inject volatility into the LCR calculation, to the detriment of the overall system resiliency; and
- Should the Alternative LCR Methodology continue to be pursued after these analyses, the NYISO must identify cost allocation or other measures that ensure that, as a result of "optimization," one locational zone is not bearing the costs of another locational zone's reliability needs associated with generation adequacy.

Respectfully Submitted,

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