



January 15, 2010

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

Re: *Twentieth Quarterly Report and Request to Conclude Reporting Obligation* by
New York Independent System Operator, Inc. in Docket Nos. ER04-230-000,
ER01-3155-006, ER01-1385-015, EL01-45-014 and Docket ER04-230-034

Dear Secretary Bose:

Pursuant to the Commission's directives in its Order on Rehearing in these dockets,¹ and in its May 23, 2008 Order on Tariff Revisions in Docket ER04-230-034,² the NYISO hereby files its *Twentieth Quarterly Report*.

As mentioned in its *Nineteenth Quarterly Report*, the NYISO is also requesting that the Commission conclude the NYISO's reporting obligation in these dockets. As the result of numerous enhancements to the NYISO's market commitment and dispatch software, as are detailed below, the NYISO believes it has complied with the obligation imposed upon it by the Commission in its August 10, 2004 *Order on Rehearing and Compliance Filings* in this docket to "adequately model the bids of combined cycle units" to the greatest extent possible.³ All open issues related to those enhancements have been resolved or are actively being resolved in the 2010 stakeholder process.

In addition, as is further described below, the NYISO has completed the efforts to accommodate batch loads and energy storage technologies on which it reported in its proposal to amend the tariff to provide Operating Reserves and Regulation Service bidding opportunities to demand side resources in ER04-230-000.

Notwithstanding its request to conclude its reporting obligations in these dockets, the NYISO intends to continue to look for opportunities to enhance the economic participation of combined cycle units in its markets and to expand opportunities for demand side resources, and other innovative technologies, to participate as ancillary service providers in a manner that is comparable to existing suppliers.⁴

¹ 111 FERC 61,468 (2005).

² 123 FERC 61,203 (2008) ("May Order").

³ 108 FERC 61,188 (2004), mimeo at p. 9.

⁴ The NYISO will also comply with its obligations with respect to Demand Side Resources in its Order No. 719 compliance proceeding. *New York Independent System Operator, Inc.*, 129 FERC ¶ 61,164 (2009).

A. Accommodating Energy Storage Technologies and Batch Loads in the NYISO-Administered Markets

As noted by Chairman Wellinghoff in his December 10, 2009 testimony before the Senate Energy and Natural Resources Committee, the NYISO has successfully integrated Energy Storage Technologies into its Regulation Services market with the introduction of market design and software changes in Docket No. ER09-836-000. The NYISO has also discussed with representatives of Nucor, a batch load, the current New York State Reliability Council (“NYSRC”) rules that remain obstacles to Nucor’s participation in the NYISO Ancillary Service markets. Although the NYISO has not heard from Nucor, or any other batch load in New York, with regard to these issues since before it filed its *Nineteenth Quarterly Report*, it stands ready to assist Nucor in presenting proposed rule changes to the NYSRC to allow Nucor an opportunity to participate in the NYISO markets.

B. Efforts to Adequately Model the Bids of Combined Cycle Units to Improve the Efficient Utilization of such Facilities

The NYISO is pleased that the Commission has accepted the most recent market rules enhancement for combined cycle units that was filed August 17, 2009.⁵ That enhancement allows the NYISO the opportunity to offer a two-hour minimum run time in the real-time commitment software to eligible combined cycle facilities. This enhancement matches the real-time dispatch software’s economic evaluation of the combined cycle unit’s bids with the unit’s physical two-hour minimum run time characteristic, allowing the combined cycle owner to more realistically price its energy offer.

The NYISO is also pleased to report that its stakeholders and the NYISO Board have agreed to include on the NYISO’s 2010 project list the last of the potential enhancements to current commitment and dispatch software that were previously identified as having the potential to significantly increase the efficient modeling of combined cycle units. This project would allow market participants to increase real-time offers for energy they scheduled in the Day-Ahead Market.⁶ As mentioned in the *Nineteenth Quarterly Report*, this effort is tied to improvements in the NYISO’s market power mitigation procedures, including the opportunity to reflect changes in fuel costs in real-time reference prices when appropriate. Both the market mitigation improvements and the software functionality to allow real-time energy bid increases are funded for development in 2010.

⁵ See: Letter Order, ER09-1596-000, September 24, 2009.

⁶ See MIWG presentation at: http://www.nyiso.com/public/webdocs/committees/bic_miwg/meeting_materials/2008-07-01/Fuel_Related_Offer_Increases.pdf. Additionally, the NYISO continues to monitor the efforts of the California ISO to improve its modeling of Multi-Stage Generating Units (such as combined cycle generating plants) Should those efforts be successful, the NYISO will investigate whether that approach would be useful in New York and whether such an approach would fit within the context of the NYISO’s software.

The NYISO intends to pursue market design and tariff changes for this project with its stakeholders through the governance process and file necessary tariff amendments once those changes have been approved. The NYISO expects this to occur before fourth quarter, 2010.

As outlined below, the NYISO has been evaluating the changes that would be necessary to improve the efficiency with which its commitment and dispatch software evaluates the bids of combined cycle facilities since early in 2005. The NYISO's evaluation efforts and the progress it has made on these issues are outlined below. As a result, the efficiency of combined cycle unit scheduling and dispatch has improved significantly since 2005.

- April, 2005: Production of a *White Paper* discussing the changes or additions to NYISO's market software that would be necessary to provide the increased functionality desired by CCU owners. Although the *White Paper* identified options to improve the manner in which the NYISO's market software could accommodate multi-unit CCUs, the *White Paper* concluded that such options would be significantly difficult to implement.
- April, 2005: Analysis of comments from combined cycle unit owners on the *White Paper*, some of which indicated that the type of structural changes suggested in the *White Paper* would require substantial cost and effort on their part and would also make bidding their units into the NYISO systems substantially more difficult.
- April 2005: NYISO staff recommended to the Business Issues Committee that combined cycle modeling-related software upgrades be phased in and that the NYISO look to existing software enhancements to improve combined cycle unit market efficiency. NYISO also presented a proposal to amend the settlement rules applicable to start up and shutdown periods to eliminate persistent undergeneration penalties and pay for all energy produced during these periods.
- June, 2005: NYISO implemented "pseudo-modeling" in its market software to recognize individual 'pseudo' units within a combined cycle facility. Each pseudo unit is comprised of a single gas turbine and its associated portion of the steam turbine capacity. This allowed combined cycle unit owners to better reflect the actual operating constraints of the multiple units in their single facility and to participate in the ancillary service markets while still complying with ICAP bidding obligations. This new model is still operating.
- September 2005: The Commission accepted, in Docket No. ER05-1291-000, tariff amendments implementing new settlement rules during start-up and shut-down periods.
- September – December 2005: NYISO staff and interested Market Participants explored possible solutions to the two major difficulties surrounding the issue of improved combined cycle modeling: (i) the difficulty in redesigning NYISO's commitment and dispatch software to recognize the multiple characteristics of combined cycle units from changing production costs, minimum run times and

minimum down times, as the unit moves through its operating stages, to start-up costs associated with each operating stage; and (ii) the required redesign of the market's bid/post system that would be necessary to account for these multiple characteristics. Two Market Participant proposals were found to be unworkable.

- December, 2005: NYISO and ISO-NE jointly issued a review of existing technologies which could be made available to address the combined cycle modeling challenges in an LBMP market environment.⁷ That study confirmed that while there are off-the-shelf technologies, or techniques, with which to incorporate combined cycle units into the NYISO software, they have only been implemented in environments that are significantly different from, or are smaller than, the NYISO's LBMP system. The NYISO found that any reviewed technology, if available at all, would present at least the same challenges and risks as would the ABB described solutions, discussed in the *White Paper*, if incorporated into the NYISO's market operations.
- 2006: NYISO clarified its operating practices to ensure its pseudo-unit modeling of combined cycle units was appropriately recognized in all NYISO processes. This ensured that a combined cycle unit owner could fulfill a Day-Ahead schedule by operating any of its pseudo-units, not necessarily the pseudo-unit that had actually been scheduled Day-Ahead. NYISO also provided additional information to combined cycle owners on avoiding perceived limits on bidding available capacity, beyond DMNC levels, on days that are colder than the DMNC-design day.
- December 2006: NYISO filed Tariff amendments exempting generators, including combined cycle unit owners, from penalties for operating above or below their real-time basepoints when running certain equipment tests and to pay them for all output during such tests. The Commission accepted the proposal in January, 2007.
- April 2008: NYISO filed an expansion of the enhancements to the special market rules available to combined cycle and other grouped units during Start-up and Shut down periods to ensure that while any single 'pseudo unit' was in start up or shut down mode, the entire set of pseudo units was treated as in such mode for settlement purposes. The Commission accepted the proposal May 30, 2008.
- December 2008: NYISO notified FERC of the two remaining issues that were of particular interest to combined cycle unit owners -- reducing the 75-minute window within which real-time energy offers must be submitted and providing an opportunity to increase real-time offers for energy scheduled in the Day-Ahead Market. The NYISO pursued both.
- May, 2009: NYISO informed FERC that a solution to the first issue had been found in expanding the minimum run time with which the NYISO's real-time market

⁷ See: http://www.nyiso.com/public/webdocs/committees/bic_mswg/meeting_materials/2006-02-15/3103_Commitment_Techniques_for_CCGUs.pdf.

software analyzes the economics of a combined cycle unit. The need to offer their energy 75 minutes before the Dispatch hour was seemingly preventing economic commitments in real-time for these gas turbines. After extensive conversations with interested market participants, the NYISO proposed a method to resolve these concerns without changing the offer window by introducing a two-hour minimum run time for the gas turbines in a combined cycle owner's facility.

- September, 2009: FERC accepts for filing tariff amendments implementing two-hour minimum run times for qualified facilities.

With these enhancements to the NYISO's market commitment and dispatch software, the NYISO believes it has improved the manner in which it models the bids of combined cycle unit to improve the efficiency of those units in the NYISO markets to the greatest extent possible. As discussed in earlier *Quarterly Reports*, the NYISO, with the concurrence of its stakeholders, has concluded that more comprehensive incorporation of the characteristics of combined cycle facilities into the NYISO's market software would require substantial cost and effort and would make the bidding of combined cycle units into the NYISO systems substantially more difficult. This effort was not viewed by its stakeholders as providing the benefits necessary to justify its financial cost and resource dedication.

As a result, the NYISO believes that its compliance obligations in these dockets have concluded. The NYISO respectfully requests that the Commission accept this *Twentieth Quarterly Report* as its last quarterly report in the dockets listed and conclude its reporting obligations. The NYISO has electronically provided all parties in this docket with a link to the NYISO website where the filing can be viewed.

Respectfully submitted,

/s/ Mollie Lampi

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CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon all parties listed on the official service list maintained by the Secretary of the Commission in Docket Numbers ER04-230-000, ER01-3155-000, ER01-1385-000, and EL01-45-000 in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure 18 C.F.R. § 385.2010 (2010).

Dated at Rensselaer, New York this 15th day of January, 2010.

/s/ Mollie Lampi
Counsel for
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