

123 FERC ¶ 61,203
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Joseph T. Kelliher, Chairman;
Sudeen G. Kelly, Marc Spitzer,
Philip D. Moeller, and Jon Wellinghoff.

New York Independent System Operator, Inc.

Docket No. ER04-230-034

ORDER ON TARIFF REVISIONS

(Issued May 23, 2008)

1. In this order, the Commission conditionally accepts, and partially rejects, tariff revisions filed by the New York Independent System Operator, Inc. (NYISO) that allow Demand Side Resources to offer Operating Reserves and Regulation Service into the NYISO-administered markets on terms comparable to generators, subject to further compliance filings.

I. Background

2. On March 24, 2008, NYISO submitted proposed revisions to its Market Administration and Control Area Services Tariff (Services Tariff) and Open Access Transmission Tariff (OATT) to enable certain Demand Side Resources to offer Operating Reserves and Regulation Service into the NYISO-administered markets.

3. NYISO notes that it previously implemented new real-time scheduling software and market rules pursuant to which it co-optimizes its energy and ancillary service offers to produce hourly least-cost commitments. NYISO states that it is making this filing in compliance with an order issued by the Commission in July 20, 2006,¹ in which the Commission accepted NYISO's plan to implement its demand side response, real-time market integration project.

4. NYISO states that Demand Side Resources already offer load reduction into certain NYISO energy and capacity markets.² To qualify and participate as suppliers of

¹ *New York Independent System Operator, Inc.*, 116 FERC ¶ 61,043 (2006) (July 2006 Order).

² Demand Side Resources currently offer load reductions through their participation in NYISO's Day-Ahead Demand Response Program and the Emergency

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Operating Reserves and Regulation Services in NYISO's markets, NYISO will require Demand Side Resources to install real-time metering, and to meet certain performance criteria and technical specifications, comparable to those required of generation resources. In case a contingency event occurs, such as an unexpected failure or outage of a Generator, transmission line or other electrical element, then NYISO can call for additional energy by sending new real-time dispatch or scheduling basepoints before the next regularly scheduled, five-minute dispatch is run. To assure NYISO that suppliers are capable of providing the ancillary services when called upon, NYISO will require pre-qualification testing for Demand Side Resources, as it does for generators. In addition, NYISO will extend to Demand Side Resources the existing rule allowing it to disqualify suppliers that consistently fail to provide the level of service expected.³

5. NYISO states that it is seeking to integrate Demand Side Resources into the NYISO-administered markets by "offering them opportunities to provide ancillary services that are comparable to the opportunities available to generation resources," and that so doing will enhance competition.⁴ NYISO further states, however, that it is required to restrict these expanded opportunities to Demand Side Resources that can sustain their ancillary services offer over the course of an hour. NYISO asserts that it is required to do so pursuant to reliability rules established by the Northeast Power Coordinating Council (NPCC) and the New York State Reliability Council (NYSRC). NYISO emphasizes that it recognizes the Commission's policy preference that Demand Side Resources be able to participate in organized markets to the greatest extent practicable,⁵ notes that it has previously worked toward persuading NPCC and NYSRC

Demand Response Program, and as capacity into the Installed Capacity Market through the Special Case Resource Program.

³ Demand Side Resources qualified to offer Operating Reserves or Regulation Service will offer their product in the same manner as generating resources, *i.e.*, by submitting availability bids into either the Day-Ahead or Real-Time Markets. NYISO will optimize these Day-Ahead and Real-Time offers with offers from generating facilities and schedule capacity sufficient to meet its Operating Reserves and Regulation Service requirements from either type of resource on a least as-bid cost basis. Demand Side Resources will also be required to bid as if they were offering energy. NYISO will use this energy economically to schedule the real-time conversion of Operating Reserves to energy and, if the energy offer is economic, to schedule the load reduction as energy in the real-time.

⁴ Transmittal letter, March 24 filing, at 2 (Transmittal).

⁵ NYISO cites to *Preventing Undue Discrimination and Preference in Transmission Service*, Order No. 890, 72 Fed. Reg. 12,266 (March 15, 2007), FERC Stats. & Regs. ¶ 31,241, *order on reh'g*, Order No. 890-A, 73 Fed. Reg. 2984

(continued...)

to change their rules to the extent possible to enable NYISO to submit this proposal, and intends to continue working with interested parties and the reliability organizations to explore future opportunities for participation in NYISO markets by entities that cannot meet the one-hour-sustainability requirement.

6. NYISO states that the one-hour-sustainability requirement may currently restrict participation by some types of entities, such as Batch Loads.⁶ NYISO states that Batch Loads have argued in stakeholder discussions that they should be accepted as reserves providers because they believe that they could provide a response comparable to actual load reductions by simply agreeing not to increase their load (i.e., not to restart their manufacturing cycles) until NYISO indicated the request for additional energy had ceased. NYISO states, however, that the reliability rules under which NYISO operates prevent such participation:

The NYSRC's Rule D-R2 requires the NYISO to "maintain sufficient ten-minute reserves at all times . . . to cover energy loss" A response that provides no actual load reduction can not solve an energy loss and the purchase of a reserves product from its provider that cannot "at all times" provide actual load reductions would violate the NYISO's obligation to operate in compliance with its reliability rules.

Supplier commitment and availability for an hour at a time is intrinsic to the manner in which the NYISO resolves these system events and any recurring unavailability inside the hour is not a small matter. Upon discovering that a scheduled Supplier cannot actually produce energy (or reduce load)

(January 16, 2008), FERC Stats. & Regs. ¶ 31,261 at P 499 (2007); *Wholesale Competition in Regions with Organized Electric Markets*, Notice of Proposed Rulemaking, 73 Fed. Reg. 12,576 (March 7, 2008), FERC Stats. & Regs. ¶ 32,628, at P 109 (2008) (Competition NOPR); and *Midwest Independent Transmission System Operator*, 122 FERC ¶ 61,172 (2008).

⁶ Batch Loads are Demand Side Resources that, for periods of time inside a scheduling hour, are unable to respond to a NYISO signal to convert their reserves to load reductions because, for process reasons, they have already reduced as much load as is available for reduction. An example of a typical Batch Load would be a manufacturing facility that operates several manufacturing cycles a day, and that would use minimal power at the low point in that cycle, but a significant amount of power at the high point in that cycle. Such a load would encounter difficulties if it received a dispatch instruction to reduce load when it was already at the low point of power use in its manufacturing cycle.

when requested to do so, the NYISO will dispatch a replacement provider to resolve the contingency or other system event within the required ten-minute period allowed for resolution. The NYISO will have also started its 30 minute reserves Suppliers. When energized, these will provide sufficient energy to allow the NYISO to return its ten-minute resources to their reserves schedules. This entire process takes nearly an hour. A Supplier that is regularly unavailable inside the hour compromises the process, is a non-comparable provider, and renders the original Day-ahead commitment, for which it was paid for that hour, less efficient.⁷

7. NYISO further notes that these restrictions are consistent with the principle established by the Commission in the Competition NOPR that Demand Side Resources be treated in a comparable fashion with generation resources and be allowed to offer ancillary services if they are technically capable of providing such services and meet the necessary technical requirements to do so.

8. NYISO will also pay supplemental Bid Production Cost Guarantee (BPCG) payments to Demand Side Resources offering these ancillary services in the event that their Day-Ahead or real-time Operating Reserves or Regulation Service revenues do not completely offset their offers of these products.

9. NYISO is proposing credit requirements for Demand Side Resource Suppliers modeled after the credit requirements imposed on virtual bidders because of their similarities in exposure to balancing costs. NYISO states that generators that routinely show a net payable position in NYISO settlements avoid these credit obligations because NYISO can offset generators' balancing obligation in the ancillary services market against their net payable position.

10. NYISO further notes that it is modifying its tariff provisions regarding ISO Market Power Mitigation Measures, to allow it to effectively monitor Demand Side Resource Suppliers for conduct that may depart significantly from the conduct that would be expected under competitive market conditions.

11. NYISO seeks an effective date of May 24, 2008 for this filing.

⁷ Transmittal at 7.

12. Notice of NYISO's compliance filing was published in the *Federal Register*, with answers, protests, and motions to intervene due on April 14, 2008.⁸ Timely motions to intervene were filed by Nucor Steel Auburn, Inc. (Nucor), Beacon Power Corporation (Beacon), Constellation Energy Commodities Group, and Occidental Chemical Corporation (Occidental). Occidental filed comments generally supporting the filing. Beacon, Nucor, Multiple Intervenors⁹ and New York Transmission Owners (NYTOs) protested the filing. NYISO subsequently filed an answer to the protests and Beacon filed an answer to NYISO's answer.

II. Procedural Matters

13. Pursuant to Rule 214 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.214 (2007)), all timely filed motions to intervene are granted.

14. Rule 213(a)(2) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.213(a)(2) (2007), prohibits an answer to an answer unless otherwise ordered by the decisional authority. We will accept NYISO's answer and Beacon's answer to NYISO's answer because they have assisted us in our decision making.

III. Discussion

A. Participation of Batch Loads and Energy Storage Technologies in the Provision of Operating Reserves and Regulation Service

1. Nucor's Protest with Regard to Batch Loads and NYISO's Answer

15. In its protest, Nucor asserts that the Commission has previously recognized the value of batch load participation in demand response.¹⁰ It thus asks the Commission to

⁸ 73 Fed. Reg. 17,967 (2008).

⁹ Multiple Intervenors describes itself as "an unincorporated association of approximately 55 large commercial and industrial energy consumers with manufacturing and other facilities located throughout New York State." Motion for Intervention of Multiple Intervenors, Docket No. ER04-230-000, at 2 (Dec. 22, 2003).

¹⁰ Nucor cites to the Commission's acceptance of a settlement in September 2006 in which batch load resources were accommodated for participation in the PJM Synchronized Reserves market. *PJM Interconnection, LLC*, 114 FERC ¶ 61,201 (2006). Nucor further points to the Commission's statement that "electric-arc steel furnaces [such as Nucor] have the capability to adjust their consumption rapidly." *Wholesale*

(continued...)

require NYISO to revise its tariff filing so as to enable the participation of batch loads in the provision of demand response.

16. Nucor argues that NYISO mischaracterizes the operational characteristics of batch loads. Nucor asserts that NYISO has focused on the relatively brief intervals between cycles in which a batch load's demand is at a minimum (for example, when Nucor's furnace is powered down), taking the position that if the system operator sends a signal to reduce load during that powered-down period, the batch load cannot reduce load, and therefore cannot comply with the system operator's signal. Nucor claims that this position ignores what will happen throughout the course of a reserve event (i.e., the furnace will power back up). Nucor states that for a batch load of its size (about 40 MW), the impact of this increased load would further strain system reliability because the available generation supply may not be able to ramp up as quickly as the load is applied. Nucor asserts that a load would be following dispatch instructions if it *either* reduced load in response to dispatch instructions, *or* avoided bringing that load back on-line. Nucor asserts that this point is specifically addressed in the PJM Batch Load tariff provisions.¹¹

17. Nucor further argues the NYISO misapplies the provision of NYSRC Reliability Rule D-R2 that requires NYISO to "maintain sufficient ten-minute reserves at all times . . . to cover energy loss." Nucor asserts that batch loads do provide an actual load reduction within the time required, in the form of either a decrease of power currently used or stopping the next cycle of increased power consumption. Nucor also asserts that batch loads satisfy section 3.10.4 of the NPCC Operating Reserve Criteria Document, which states "To be eligible to provide Synchronized Reserve, Ten Minute Reserve, or Thirty Minute Reserve, the Resource shall continuously meet the dispatch instruction requirements of the relevant Areas(s)." Nucor states that NYISO's contention that batch loads may not "continuously" maintain load reductions is incorrect: rather, according to Nucor, when a batch load is told to reduce load, that load is dropped and there is nothing in the batch load's operations that would require the process to resume, and thus, the batch load could actually provide a load reduction during that time. Nucor makes the same argument with regard to NYISO's one-hour-sustainability requirement.

18. In its answer, NYISO first stresses that its proposed tariff revisions are not biased against batch loads, because batch loads (or single site aggregations of batch loads) that can reduce load throughout an hour would not be precluded from providing ancillary services. NYISO reiterates that it intends to continue to work with the relevant reliability

Competition in Regions with Organized Electric Markets, Advance Notice of Proposed Rulemaking, FERC Stats. & Regs. 32,617, at P 49 n.49 (2007).

¹¹ PJM Open Access Transmission Tariff § 1.3.1.A.001.

authorities to try to enable batch loads to participate in the ancillary services market. However, NYISO continues to assert that applicable reliability requirements in New York State currently prevent batch loads that cannot provide load reductions at all times throughout an hour from providing ancillary services.

19. NYISO states that, although Nucor argues that NYSRC Rule D-R2 allows this reduction to take the form of either a decrease of power currently being consumed or stopping the next cycle of increased power consumption, the NYSRC itself has taken a contrary interpretation. NYISO cites to a meeting of NYSRC's Reliability Rules Subcommittee, during which a NYISO official asked whether, in order to be eligible to provide Operating Reserves, a DSR or any other load must be able to reduce its consumption, not simply agree not to increase its load going forward. The notes of this meeting state that "[f]rom the time of the dispatch instruction, the [Reliability Rules Subcommittee] ruled that there must be more generation or less load to be considered a reserve ancillary service over the whole of the bid period."¹²

20. As to section 3.10.4 of the NPCC Rules, under which providers of Operating Reserves must be able to "continuously" follow "the dispatch instructions of the relevant Area(s)," NYISO states that this means that resources must be able to follow five minute basepoint schedules over the course of an entire hour, but that Nucor cannot do this because it cannot reduce load in response to the NYISO's instructions at all times throughout the hour, which is the only acceptable form of Operating Reserve that Nucor, as a non-generator, could provide under the NYSRC rules. NYISO states that similarly, section 3.10.2 of the NPCC Rules states that Synchronized Reserve cannot be provided by loads whose "reduction in load is dependent on starting a generator to replace energy that is supplied from the grid." According to NYISO, this indicates that Operating Reserves from DSRs must come from true reductions in load, not from avoidance of load increases as Nucor's interpretation would allow. Finally, section 3.7 of the NPCC rules requires that Operating Reserves must be sustainable for at least one hour from the time of activation. According to NYISO, Nucor suggests that it can meet this requirement because it can maintain load reductions for longer than one hour, but this cannot cure its inability to reduce load at any time throughout the hour.

21. NYISO further states that the PJM case cited by Nucor, in which some batch loads that cannot reduce load at any point within an hour can meet the reliability requirements in PJM by avoiding bringing load back online, does not provide precedent for NYISO,

¹² NYISO Answer at 10 n.23, *citing* Reliability Rules Subcommittee, Meeting Minutes at 5-6, available at <http://www.nysrc.org/pdf/MeetingMaterial/RRSMeetingMaterial/RRSagenda106/RRS%20Draft%20Minutes%20of%20Meeting%20105%20Revised.pdf>.

since PJM is not within NYSRC or the NPCC and not constrained by the requirements of those reliability organizations.

22. NYISO further states that, although NUCOR states that its filing does not comply with the July 2006 Order because it does not "fully integrate" Demand Side Resources into the NYISO-administered markets, in fact the July 2006 Order is clear that the opportunities to participate in ancillary service markets may only be made available to Demand Side Resources to the extent that reliability rules permit. NYISO similarly states that its filing complies with Order Nos. 890 and 890-A, because those orders do not require Demand Side Resources to be allowed to participate in ancillary services markets without any limitation for technical or reliability reasons; NYISO points to the statement in Order No. 890 that non-generation resources should be permitted to provide ancillary services "where appropriate on a comparable basis to service provided by generation resources."¹³

2. Beacon's Protest with Regard to Energy Storage Technology and NYISO's Answer

23. Similarly, Beacon argues that NYISO's proposed tariff revisions are discriminatory in that they fail to permit provision of regulation service by non-generation technologies capable of providing such service. Beacon asserts that the revisions discriminate against energy storage technologies that do not fit within the operating characteristics of either a generator or a demand side resource.¹⁴

24. Beacon states that its flywheel technology is capable of providing 20 MW of "up and down" regulation within four seconds of receiving a control signal. When grid power supply exceeds load, Beacon's flywheels absorb excess energy. Conversely, when load increases, Beacon returns the stored energy to the grid. Thus, half the time Beacon operates like a load by absorbing energy, and half the time it operates like generation by supplying energy to the grid. Beacon asserts that its ability to respond quickly to moment-by-moment changes in load makes this technology ideal for providing Regulation Service.

25. Beacon argues, however, that it cannot competitively bid against generators to provide regulation service under NYISO's proposed rules. To provide regulation service, Beacon would be required to be considered a generator and bid into the energy market,

¹³ NYISO Answer at 14 n.42, *citing* Order No. 890 at P 888.

¹⁴ Beacon further notes, in its answer, that NYISO is proposing shortly to revise its Ancillary Services Manual in a manner that will also preclude Beacon's flywheel storage technology from participating in the ancillary services markets.

and could therefore be called to provide either energy or operating reserves even though it only wishes to provide Regulation Service.¹⁵ Beacon states that its facility is technically unable to provide energy at its maximum discharge rate for a sustained period beyond 15 minutes;¹⁶ thus, it would be unable to provide energy for a full hour at its maximum rate if called to do so and could be subject to significant financial penalties.¹⁷ Beacon states that there is no bidding strategy that would enable Beacon to ensure that it would not be called on for energy. Thus, according to Beacon, NYISO's tariff revisions do not incorporate FERC's policies seeking to ensure competition for new technologies to provide regulation service.

26. Beacon notes that NYISO has created new rules to enable Demand Side Resources to participate in the Regulation Service market, such as the fact that NYISO's tariff provisions provide that Demand Side Resources selected to provide ancillary services are not committed to provide energy. Beacon states that this rule benefits Demand Side Resources, but no such accommodation is made for energy storage facilities such as Beacon. Beacon suggests that, in order to rectify such disparate treatment, unlike other demand response providers, it be allowed to receive both energy and reserve payments. Beacon states that under NYISO's tariff, Demand Side Resources that provide regulation service do not receive a settlement payment for energy, which is appropriate for Demand Side Resources that are simply reducing load. However, Beacon states that it continually recycles energy from the grid, using energy to charge its flywheels when supply exceeds demand and releasing energy to the grid when load exceeds supply. Therefore, Beacon urges a rule under which energy settlements would net out the amount of energy purchased to charge the flywheels when regulating down against the energy that is released by the flywheel when regulating up.

27. Beacon states that, although in its regulation service tariff, NYISO has replaced the term "Generator" with the term "Supplier," this change still does not enable storage

¹⁵ Under NYISO's co-optimization rules, a resource may be called to provide either energy or reserves, depending on which choice is more economically advantageous to the system.

¹⁶ Beacon explains that, unlike generators that produce energy and always operate at a positive output, its flywheels operate on a net 0 MW basis, continually cycling between absorbing up to 20 MW/minute and then discharging up to 20 MW/minute as needed to provide regulation, which results in a net energy consumption close to zero.

¹⁷ As noted above, NYISO takes the position that, according to section 3.7 of the NPCC rules, Operating Reserves must be sustainable for at least one hour from the time of activation, and that Regulation Service must similarly be sustainable for an hour. Beacon states in its answer that it disagrees with this view.

technologies like Beacon to participate in providing regulation service. Further, Beacon states that the Commission has supported the development of new technologies, and the treatment of such technologies comparably with traditional generation. Beacon further asserts that, although NYISO's assessment of Beacon's demonstration project was favorable,¹⁸ it remains unclear how and whether Beacon would qualify to provide regulation services. Beacon requests that NYISO be required to publish details on technical requirements prior to the effective date of the tariff changes proposed here, and to meet its commitment to ensure software and market rules are in place for flywheel technologies to offer regulation service in 2008. Beacon further asks the Commission to require NYISO to work with Beacon to develop tariff changes and to require NYISO to report on its progress within 60 days.

28. NYISO states in its answer to the protests that it is willing to work with, and is continuing to work with, Beacon to find way to address the challenge associated with its new technology. However, NYISO asserts that Beacon has only recently initiated the stakeholder discussions before NYISO's Business Issues Committee that must be taken to resolve the issues here. Thus, NYISO asks the Commission not to impose an arbitrary deadline to resolve Beacon's issues, or to impose a reporting requirement, at this time.

29. NYISO further asserts that it believes that there are three preliminary issues that must be resolved to address Beacon's problems: (1) whether the same reliability requirements that prevent Nucor from participating in the Operating Reserves markets would limit the amount of Regulation Service that Beacon could provide, given that NPCC appears to consider Regulation Service to be subject to the same one-hour sustainability requirement as Operating Reserves; (2) how Beacon should be treated for energy settlement purposes, and whether this issue could be resolved through developing netting rules that net out Beacon's provision of energy and consumption of energy; and (3) whether there is a bidding strategy that Beacon could develop to avoid being called for energy. NYISO asks the Commission to reaffirm that Beacon, like all other resources, is entitled to comparable but not preferential treatment, and that all suppliers in NYISO's market should work within the framework of NYISO's co-optimization market design, and similarly, that no resource should be subsidized by any other. NYISO asserts that these statements would be useful, since Beacon may believe that it should be able to draw energy from the grid without paying the market price for that energy, and that the co-optimized nature of NYISO's markets is itself a discriminatory obstacle to Beacon's participation in the market. NYISO further states that, contrary to assertions by Beacon, this compliance proceeding is not relevant to NYISO's efforts to comply with Order No. 890, and that NYISO's ancillary services rate schedules accommodate non-generation resources to the greatest extent practicable at this time; thus, NYISO asks the

¹⁸ Beacon Protest at 11.

Commission not to conflate its treatment of this compliance filing with its ruling on NYISO's separate compliance filing to Order No. 890.

3. Commission Ruling

30. On the basis of the evidence and applicable reliability rules to which NYISO cites, and its answer, we conclude that NYISO is currently prevented by NYSRC and NPCC rules from permitting a batch load such as Nucor to participate in providing Operating Reserves if it cannot meet the reliability requirement of reducing load upon receipt of a dispatch instruction over the whole of the bid period. As noted above, NYISO states that, although Nucor argues that NYSRC Rule D-R2¹⁹ allows this reduction to take the form of either a decrease of power currently being consumed or stopping the next cycle of increased power consumption, NUCOR's reading is contrary to NYSRC's interpretation of that rule.

31. We further agree that, based on NYISO's interpretation of section 3.10.4 of the NPCC Rules (stating that providers of Operating Reserves must be able to "continuously" follow "the dispatch instructions of the relevant Area(s)") to mean that resources must be able to follow five minute basepoint schedules over the course of an entire hour, and that Nucor cannot comply with this rule because it cannot reduce load in response to NYISO's instructions at all times throughout the hour.

32. The Commission will, therefore, not require NYISO to amend its tariff as Nucor requests. However, the Commission agrees with Nucor that batch loads have the potential to bestow a useful benefit on the system in the provision of ancillary services. As Nucor points out, its load can be as high as 40 MW, which in some cases would be easily the largest single load within a control area. The development of a regime under which such a large load could be compensated for not re-starting a periodic cycle could provide relief to NYISO during hours when usage is high, and NYISO should give further consideration in the stakeholder process to the development of market rules providing that a demand resource's ability to cancel the re-start of its periodic load cycle, where this load cycle has followed a highly regular and predictable pattern in historical

¹⁹ NYISO's tariff indirectly incorporates Rule D-R2 in its FERC Electric Tariff, Original Volume No. 1, section 1.28c (Fifth Revised Sheet 42) and Original Volume No. 2, section 2.129 (Third Revised Sheet No. 55A), as follows (emphasis added):

The ISO will administer Operating Reserves markets, in the manner described in Article 4 and Rate Schedule 4 of this ISO Tariff, to satisfy the various Operating Reserves requirements, including locational requirements, established by the *Reliability Rules and other reliability standards*.

usage over a period of years, may be equivalent to that demand resource's ability immediately to follow dispatch instructions to reduce load. NYISO should also consider the development of market rules that establish the appropriate baseline and verification mechanisms for batch load customers, whose load is known to follow highly regular, periodic cycles with predictable start and restart patterns. Moreover, the inability of batch loads to comply with NYSRC and NPCC requirements appears to prevent such loads from participating in NYISO's ancillary service markets. We note, however, that the NYISO intends to "continue to work with interested parties, and the reliability organizations, to explore possible future opportunities for participation in NYISO's markets by utilities that cannot meet the one hour sustainability requirement."²⁰ We see no reason to question the NYISO's commitment. Of course, these efforts must be consistent with the need to maintain reliability.

33. A generator provides Regulation Service by varying its energy production (up when grid frequency needs to be increased and down when it needs to be reduced) but this generator-provided Regulation Service always involves a net injection of energy so there seems to be good support for the existing requirement that generators providing Regulation Service would invariably provide energy as well and a requirement that generators be able to provide Regulation Service for a minimum of one hour would seem to be equivalent to a requirement that they be able to provide energy for a minimum of one hour in order to qualify as a Regulation Service provider. However, a flywheel provides regulation in a completely different way; by alternately producing and absorbing energy. At their maximum discharge rate, Beacon's flywheels can only discharge to produce energy for 15 minutes at a time because that is how long it takes to fully discharge at the maximum rate. However, as long as each individual discharge cycle is separated by a recharge cycle of similar length, (during which the flywheel is also providing Regulation), and neither of which the discharge cycle nor the recharge cycle exceeds the amount of time it takes to fully charge or discharge the flywheels, it should be able to provide regulation service (both discharging and recharging) for an indefinitely long period of time. As noted above, our understanding is that the typical needs of Regulation Service would, in fact, involve this type of regular and rapid switch from recharging to discharging so that Beacon could typically provide Regulation Service for an entire hour. The only support that the current record contains for the idea that NPCC wishes the one-hour sustainability requirement to apply to Regulation Service at all is a single sentence in NYISO's May 2nd Answer that states: "The NYISO understands, however, based on its participation in NPCC working group meetings, that the NPCC considers Regulation Service to be subject to the same sustainability requirement as Operating Reserves." Given the discussion above, we will require more support for

²⁰ Transmittal letter at 2.

NYISO's assertion that NPCC would only allow a storage operator to qualify to provide Regulation Service if it can provide energy for a full hour.

34. We further note that the Midwest Independent Transmission System Operator, Inc. (Midwest ISO) has submitted proposed tariff sheets that will permit new energy storage technologies to participate in its energy and operating reserve markets by creating a new resource type, to be designated a "stored energy resource," that would be capable of offering and supplying regulating reserve, spinning reserve and supplemental reserve.²¹ NYISO may wish to consider MISO's proposal and see whether it provides any guidance to NYISO as it also engages with this problem.

35. We recognize that NYISO is already working with Nucor and Beacon, the rest of its stakeholders, and relevant reliability organizations to accommodate the needs of batch loads and energy storage technologies, and we encourage that process. We agree with NYISO that this process should be guided by the principles that (a) all suppliers in NYISO's market should work within the framework of NYISO's co-optimization market design, (b) non-traditional suppliers such as Nucor and Beacon are entitled to comparable but not preferential treatment, and (c) no resource should be subsidized by any other resource. We will, therefore, require NYISO to provide information on the progress of this ongoing process to accommodate batch loads and energy storage technologies in providing Operating Reserves and Regulation Service in the Quarterly Reports already being filed in Docket Nos. EL01-45-031, ER01-1385-032, ER01-3155-023 and ER04-230-033, beginning with the Fifteenth Quarterly Report, and to add the subdocket of this filing (Docket No. ER04-230-034) to those reports.

B. Mitigation Provisions

1. Multiple Intervenors' Protest and NYISO's Answer

36. Multiple Intervenors generally support the compliance filing. However, they raise an issue with respect to section 3.2.3 of NYISO's Market Power Mitigation Measures (MMM), set forth in Attachment H to the Services Tariff. MMM section 3.2.3 currently requires NYISO to make a filing under section 205 with the Commission seeking

²¹ The Midwest ISO proposed to include in its tariff two operational provisions specific to these resources: the first would exempt stored energy resources from a tariff requirement mandating that resources be able to deploy operating reserves for a continuous period of 60 minutes or more; the second would limit the amount of operating reserve that can be supplied by stored energy resources in the Midwest ISO's day-ahead or real-time energy and operating reserve markets. See Midwest Independent Transmission System Operator, Docket No. ER07-1372-007, (April 25, 2008) compliance filing.

authorization to apply an appropriate mitigation measure to "conduct that departs significantly from the conduct that would be expected under competitive market conditions" and that has "a significant effect on market prices or guarantee payments."²² That section requires NYISO to make a section 205 filing if one of the two following thresholds are exceeded: (1) there is an increase of 100 percent in the hourly day-ahead or real-time Location-Based Marginal Price at any location, or of any other price in a NYISO-administered market, or (2) there is an increase of 100 percent in guarantee payments to a market party for a day.

37. In this compliance filing, NYISO seeks to add the following language to MMM section 3.2.3:

In addition, [NYISO] shall make a filing under § 205 with the Commission seeking authorization to apply an appropriate mitigation measure to conduct of a Demand Side Resource participating in NYISO's Operating Reserves or Regulation Service markets that departs significantly from the conduct that would be expected under competitive market conditions unless [NYISO] determines, from information provided by the Market Party or Parties that would be subject to mitigation or other information available to [NYISO] that the conduct and associated price or payments are attributable to legitimate competitive market forces or incentives.

However, this language is added at the end of section 3.2.3, so that it is not clear from the language whether NYISO intended to apply the tests contained in subsections (1) and (2) above to the determination of mitigation measures for Demand Side Resources.

38. Multiple Intervenors ask the Commission to order NYISO to modify MMM section 3.2.3, arguing that NYISO's ability to make section 205 filings regarding market mitigation for Demand Side Resources would be limited in the same way that it is limited with respect to all other market participants -- i.e., determined by the tests contained in subsections (1) or (2).

²² This section speaks to conduct that "departs significantly from the conduct that would be expected under competitive market conditions but does not rise to the thresholds specified in sections 3.1.1 through 3.1.3 above if that conduct has a significant effect on market prices or guarantee payments as specified below, unless the ISO determines, from information provided by the Market Party or Parties that would be subject to mitigation or other information available to the ISO that the conduct and associated price or guarantee payments are attributable to legitimate competitive market forces or incentives." *See* MMM section 3.2.3.

39. NYISO in its answer opposes this relief. It states that, while MMM section 3.2.3 sets forth a presumption that a section 205 filing is appropriate when the circumstances specified in subsections (1) or (2) have occurred, in fact, section 3.2.3 permits NYISO to make a section 205 filing at any time that its market monitoring activities reveal that market power abuse has occurred. NYISO further states that any such section 205 filing must set forth the justification for mitigation, and will not result in mitigation unless approved by the Commission; thus, according to NYISO, the section 205 filing provisions do not confer any purely discretionary mitigation authority on NYISO. NYISO states that Multiple Intervenors' position would unduly limit NYISO's ability to monitor the markets in which Demand Side Resources participate and bring instances of market power abuse to the Commission's attention, and constitute a collateral attack on the provisions already accepted by the Commission.²³ NYISO therefore asks the Commission to accept its proposed revisions to section 3.2.3 without modification.

2. Commission Ruling

40. MMM section 3.2.3 currently reads as follows, with the language that NYISO proposes to add in this filing in italics:

*In addition, t*The ISO shall make a filing under § 205 with the Commission seeking authorization to apply an appropriate mitigation measure to conduct that departs significantly from the conduct that would be expected under competitive market conditions but does not rise to the thresholds specified in sections 3.1.1 through 3.1.3 above if that conduct has a significant effect on market prices or guarantee payments as specified below, unless the ISO determines, from information provided by the Market Party or Parties that would be subject to mitigation or other information available to the ISO that the conduct and associated price or guarantee payments are attributable to legitimate competitive market forces or incentives. For purposes of this section, conduct shall be deemed to have an effect on market prices or guarantee payments that is significant if it exceeds one of the following thresholds:

- (1) an increase of 100 percent in the hourly day-ahead or real-time energy LBMP at any location, or of any other price in an ISO Administered Market; or
- (2) an increase of 100 percent in guarantee payments to a Market Party for a day.

²³ Presumably NYISO is here referring to the Commission's earlier acceptance of section 2.3.2.

In addition, the ISO shall make a filing under § 205 with the Commission seeking authorization to apply an appropriate mitigation measure to conduct of a Demand Side Resource participating in NYISO's Operating Reserves or Regulation Service markets that departs significantly from the conduct that would be expected under competitive market conditions unless the ISO determines, from information provided by the Market Party or Parties that would be subject to mitigation or other information available to the ISO that the conduct and associated price or payments in the ISO markets are attributable to legitimate competitive market forces or incentives.

41. Before the addition of the language proposed in this filing, MMM section 3.2.3 required NYISO to make a filing with the Commission to apply mitigation measures if it observed certain conduct, and certain impacts created by that conduct. Subsections 3.2.3 (1) and (2) set forth the tests for when such conduct and impact shall be deemed to have occurred. In the italicized paragraph above, in the new language that NYISO seeks to add to section 3.2.3, NYISO proposes also to make a filing with the Commission to apply mitigation measures when it observes conduct by a Demand Side Resource that "departs significantly from the conduct that would be expected under competitive market conditions."

42. Multiple Intervenors argue that NYISO is proposing here to treat Demand Side Resources differently from the way it treats other resources. They assert that, under the existing language of MMM section 3.2.3, NYISO will not make a filing to apply mitigation measures to other resources unless the events described in subsections 3.2.3 (1) and (2) occur, but in the proposed new language, NYISO is proposing to make a filing to apply mitigation measures to other resources without making clear whether the tests contained in subsections 3.2.3 (1) and (2) also apply to Demand Side Resources.

43. We agree that the language of MMM section 3.2.3, as it now exists with the inclusion of the language proposed here by NYISO, is not clear. We will therefore require NYISO to take the following steps, and require a compliance filing. NYISO must insert, at the beginning of MMM section 3.2.3, the following italicized language: "In addition, *with regard to conduct by all Market Parties other than Demand Side Resources*, the ISO shall make a filing under § 205 with the Commission seeking authorization to apply an appropriate mitigation measure"

44. NYISO must also move its new proposed language regarding Demand Side Resources into a new section. Thus, the paragraph beginning, "In addition, the ISO shall make a filing under § 205 with the Commission seeking authorization to apply an appropriate mitigation measure to conduct of a Demand Side Resource participating in NYISO's Operating Reserves or Regulation Service markets that departs significantly from the conduct" must become a new section. We will require NYISO to take these actions within 60 days of the date of this filing.

45. The Commission agrees that, as Multiple Intervenors suggest, NYISO is proposing to treat Demand Side Resources somewhat differently from the way it is currently treating other Market Parties. NYISO has not fully explained why such different treatment is appropriate or necessary. Therefore, we will not accept this provision, but will require NYISO, within 60 days of the date of this filing, to make a filing that does one of the following three things: (a) includes subsections in its new tariff section addressing Demand Side Resources that are identical to MMM subsections 3.2.3 (1) and (2) (i.e., providing that an increase of 100 percent in the hourly day-ahead or real-time energy LBMP at any location or of any other price in an ISO Administered Market; or an increase of 100 percent in guarantee payments to a Market Party for a day) are appropriate tests to determine when a Demand Side Resource is engaging in conduct that violates the tariff; or (b) includes subsections in its new tariff section addressing Demand Side Resources that set forth appropriate tests to determine when a Demand Side Resource is engaging in conduct that violates the tariff; or (c) explains why NYISO believes it is inappropriate to require specific tests to determine whether conduct by Demand Side Resources is anti-competitive. NYISO should also support whichever choice it makes.

C. Tariff Language Regarding Bid Production Cost Guarantees

1. NYTOs' Protest and NYISO's Answer

46. The NYTOs limit their comment to the tariff language that NYISO has proposed to use in section IV.B for Attachment C to the Services Tariff when calculating the Bid Production Cost Guarantee (BPGC) payments that some Demand Side Resources may receive. BPCG payments are made to resources in the event that the revenues they receive from NYISO markets fail to cover their as-bid cost of providing service. NYISO proposes to provide these payments to Demand Side Resources that are providing Operating Reserves, and has proposed language to achieve this goal as follows:

A supplemental payment to a Demand Side Resource with a synchronized Operating Reserves schedule in the real-time Market shall be calculated by setting to zero all terms provided in Section I.B, of this Attachment C, with which real-time supplemental payments are calculated, with the exception of the term $NASR_{gi}^{TOT}$ [Net Ancillary Services revenue paid to a generator as a result of having been committed to operate] which shall be calculated pursuant to its description.²⁴

²⁴ NYTOs protest at 3, *citing* NYISO filing, First Revised Sheet No. 424.

47. NYTOs assert that this language inadvertently provides for double compensation of Demand Side Resources,²⁵ and propose alternative language.

48. NYISO states in its answer that it does not object to NYTOs proposal, believes that the modification they suggest would be appropriate, and states that it would have no objection to making this change.

2. Commission Ruling

49. The Commission agrees that the proposed language could result in overcompensation of Demand Side Resources and therefore orders NYISO to change the

²⁵ NYTOs state:

As a result of zeroing out these terms in the equation in section I.B of Attachment C, a Demand Side Resource that provides synchronized Operating Reserves in the Real-Time Market would be eligible for a real-time BPCG payment if $-NASR_{gi}^{TOT}$ (i.e., the negative of $NASR_{gi}^{TOT}$), when summed over all eligible Real Time Dispatch intervals i in a day, is positive. Services Tariff, Second Revised Sheet No. 423. The term $NASR_{gi}^{TOT}$ is defined in section I.B of Attachment C as "Net Ancillary Services scheduled revenue paid to Generator g as a result of either having been committed Day-Ahead to operate in [the] hour that includes RTD interval i or having operated in interval i" Id. Therefore, $-NASR_{gi}^{TOT}$ is the opposite: It is the amount by which each such resource's as-bid cost to provide Operating Reserves and Regulation Services in both the Day-Ahead and Real-Time Markets exceeds the revenues that it earns in both of those markets as a result of having been scheduled to provide or having provided those services. But the NYISO's day-ahead BPCG payment will already have compensated any such resource for any amount by which its day-ahead revenue for providing Operating Reserves and Regulation fell short of its as-bid costs to provide those services. Therefore, such shortfalls should not also be included in the calculation of the real-time BPCG for which this resource may be eligible. Otherwise, it may be compensated twice for the same shortfall.

NYTOs Protest at 3-4.

language of its tariff revisions, as proposed by NYTOs, within 60 days of the date of this order.

D. Creditworthiness Requirements for Customers

50. NYISO is proposing credit requirements for Demand Side Resource Suppliers modeled after the credit requirements imposed on virtual bidders because of their similarities in exposure to balancing costs. NYISO states that generators that routinely show a net payable position in NYISO settlements avoid these credit obligations because NYISO can offset generators' balancing obligation in the ancillary services market against their net payable position.

1. Commission Ruling

51. We recognize that credit requirements are important for a well-working market and it may be that NYISO's proposed credit requirements are reasonable. However, NYISO has not yet provided sufficient information to justify its proposal. Therefore, we will reject NYISO's proposal without prejudice to NYISO re-filing its proposal in 60 days with adequate support.

The Commission orders:

(A) The Commission accepts NYISO's filing subject to further compliance filings as ordered below.

(B) Within 60 days of the date of this order, NYISO is required to change the language of sections I.B and IV.B for Attachment C to the Services Tariff so as to prevent double compensation with regard to the payment of Bid Production Cost Guarantees, as proposed by NYTOs.

(C) Within 60 days of the date of this order, NYISO is required to make a filing that makes changes to MMM section 3.2.3 of Attachment H to its Services Tariff, that, as discussed above, divides the existing language of the section into two sections, and then, with regard to the new tariff section addressing Demand Side Resources, does one of the following three things: (a) includes subsections in its new tariff section that are identical to MMM subsections 3.2.3 (1) and (2) (i.e., providing that an increase of 100 percent in the hourly day-ahead or real-time energy LBMP at any location or of any other price in an ISO Administered Market; or an increase of 100 percent in guarantee payments to a Market Party for a day), are appropriate tests to determine when a Demand Side Resource is engaging in conduct that violates the tariff; or (b) includes subsections in its new tariff section addressing Demand Side Resources that set forth appropriate tests to determine when a Demand Side Resource is engaging in conduct that violates the tariff; or (c) explains why NYISO believes it is inappropriate to require specific tests to determine whether conduct by Demand Side Resources is anti-competitive.

(D) We reject NYISO's proposed credit provision for demand resources without prejudice to NYISO re-filing the proposal with adequate support in 60 days.

(E) NYISO is required to provide information on the progress of its ongoing process to accommodate batch loads and energy storage technologies in providing Operating Reserves and Regulation Service in the Quarterly Reports already being filed in Docket Nos. EL01-45-031, ER01-1385-032, ER01-3155-023 and ER04-230-033, beginning with the Fifteenth Quarterly Report, and to add this subdocket to those reports.

By the Commission.

(S E A L)

Nathaniel J. Davis, Sr.,
Deputy Secretary.