108 FERC ¶ 61,047
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Pat Wood, III, Chairman;
Nora Mead Brownell, Joseph T. Kelliher,
and Suedeen G. Kelly.

New England Power Pool and ISO-New England Inc. — Docket Nos. ER03-1318-002 and ER03-1318-003

ORDER ON REHEARING AND COMPLIANCE FILING

(Issued July 12, 2004)

1. This order addresses the request for rehearing filed by the Dominion Companies[1] of the Commission's November 14, 2003 Order (the November 14 Order)[2] Accepting Forward Reserve Market Filing by the New England Power Pool (NEPOOL) Participants Committee and ISO New England Inc. (ISO-NE) (collectively Applicants). This order also addresses the January 13, 2004 compliance filing by ISO-NE to the November 14 Order. For the reasons set forth below, the Commission denies rehearing, and accepts the January 13, 2004 compliance filing.

I. Background

2. In advancing the reason for a Forward Reserve Market, the Applicants explained that there was no separate market for ISO-NE to procure operating reserves, and under the existing system there was no incentive for market participants to provide such resources. For example, off-line resources did not receive revenues for providing operating reserves unless they were actually called on to produce energy. The Applicants stated that the Forward Reserve Market proposal addresses this shortcoming and provides economic incentives for resources that are highly desirable for ensuring reliability.

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[1] The Dominion Companies are Dominion Resources, Inc., Dominion Energy Marketing, Inc., and Dominion Nuclear Connecticut, Inc.

[2] 105 FERC ¶ 61,204 (2003).

3. The November 14 Order accepted the Forward Reserve Market proposal as a method by which resources that provide operating reserves in New England will be compensated for the value they provide for being ready to produce energy on short notice. The new market enables 10-minute non-spinning and 30-minute operating reserves to be compensated for the reliability services they provide. The Forward Reserve Market acquires resources to satisfy the non-synchronized reserve requirements for New England through an auction held one month in advance of each of two semi-annual service periods that run from June 1 to September 30, and from October 1 through May 31.

4. The auction acquires operating reserves via a call option, or reservation payment, on the selected resources to be available when needed by the ISO during the service period. Resources selected from the auction process will be obligated to bid into the energy market at or above a predetermined Strike Price.[3] These Forward Reserve Resources will be required to provide energy upon request within 10 minutes or 30 minutes depending on the type of reserve being bid, and, if selected, are eligible to set the Locational Marginal Price (LMP) in accordance with existing market rules. The costs of these operating reserves will be allocated to participants based on Real-Time Load Obligations (RTLO) as defined in Market Rule 1.[4]

5. Resources must specify whether their offers are for off-line or on-line reserves and will be evaluated and selected by the ISO to minimize the total cost of Forward Reserves. In this regard, bids for on-line resources are required to include start-up and no-load costs so that the total cost of these resources is included in the evaluation. In addition, Forward Reserve offers will be capped at the ICAP offer or price cap applicable in accordance with Market Rule 1, and if selected, Forward Reserve resources are required to be listed as ICAP resources during the period they are selected to provide operating reserves.

II. Request for Rehearing

6. The Dominion Companies assert that the purpose of the Forward Reserve Market is to provide incentives to those resources that are capable of providing 10- and 30-minute non-synchronized operating and replacement reserves. They contend that the

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[3] The Forward Reserve Strike Price, defined in section 9.6.2 of the proposed rule as the heat rate multiplied by a fuel index, is designed to ensure that Forward Reserves will be dispatched for energy infrequently by using the expected operating profile of a peaking resource. The components of the formula will be reevaluated by ISO-NE for the successive auctions.

[4] RTLO is defined by section 3.2.1 (b)(i) of Market Rule 1 as each participant's real time load in MWhs adjusted for certain transactions.

most efficient way to provide such services is by utilizing quick start resources, mainly combustion turbines. The Dominion Companies disagree with the aspect of the proposal that permits non-quick start (on-line) resources to participate in the Forward Reserve Market by self-committing and foregoing start-up and no-load uplift revenues that are recoverable by on-line resources under the NEPOOL market's operating reserve credit.

7. Under this approach, Dominion Companies argue, on-line resources, which have ongoing operating costs, are given perverse incentives to provide operating reserve services that could otherwise be provided by quick start units at a cheaper price since quick-start units would not incur incremental operating costs. The Dominion Companies assert that the approval of this system may result in a distortion of market price signals in the New England energy market when more efficient on-line resources are backed down when they are committed for reserves. In fact, they contend, the Commission recognized the potential market distortion inherent in the proposal when the November 14 Order expressed concern that the requirement that the selected Forward Reserve Resources must submit bids in excess of the pre-determined strike price "may prevent ISO-NE from meeting its total energy and reserve requirements at least cost in some hours."[5]

8. For these reasons, the Dominion Companies request that the Commission grant rehearing, and modify ISO-NE's proposal so that non-quick start resources may not participate in the Forward Reserve Market auction.

Commission Response

9. The Commission disagrees with Dominion Companies' contention that the inclusion of on-line resources in the Forward Reserve Market would result in a distortion of market signals. Dominion Companies' contention is based on the argument that on-line resources would have the incentive to provide operating reserve services that could otherwise be provided by quick start units at a cheaper price. However, it is reasonable to expect that the resources that can provide operating reserves at the lowest cost will submit the lowest bids and will be selected in the auction in preference to higher cost resources. If quick start units are cheaper than on-line resources, as Dominion Companies argue, then the quick start units will likely submit lower bids and be selected before on-line resources. Allowing all capable resources to compete in the auction should allow the ISO to acquire Forward Reserves at a lower cost; excluding capable resources is likely to increase the ISO's cost of procuring Forward Reserves. As a result of these provisions, on-line resources with low operating costs have high energy opportunity costs (foregone energy revenues and loss of startup and no-load recovery through uplift) associated with bidding. Consequently, on-line resources are not likely to

[5] 105 FERC at 61,066 P 20.

be selected in the auction unless they have high operating costs (and thus, low opportunity costs). As is discussed in the Compliance Filing section, the results of the first forward reserves auction confirmed this expectation. The inclusion of on-line resources adds to market efficiency, and does not produce a distortion of market signals. While Dominion Companies reference the Commission's concern regarding the effect of the strike price provision on the ability of the ISO to meet energy and reserve requirements at least cost, that concern did not indicate that it was the Commission's intent to restrict certain types of resources from participation in the Forward Reserve Market. On this basis, the Commission denies rehearing.

III. Compliance Filing

10. In the November 14 Order, the Commission expressed its concern that the provisions in the Forward Reserve Market proposal may prevent ISO-NE, in some hours, from meeting its total energy and reserve requirements at least cost, because of the requirement for Forward Reserve sellers to submit energy bids above the strike price. The order explained that a Forward Reserves seller might be able to produce energy more cheaply than some other generators in the control area. If a Forward Reserve seller is required to submit an energy bid above its costs to comply with the strike price provisions, the seller might be directed to provide reserves (and not energy) in some hours when it could have produced energy more cheaply than other generators that were dispatched. In addition, other generators (that did not sell Forward Reserves) might be able to provide reserves during those hours at a low cost.

11. The Commission suggested an alternative option that would allow sellers to bid below the strike price and would give ISO-NE the authority to direct a seller to provide reserves rather than energy in order to meet its requirements at least cost. While the order did not require ISO-NE to modify its proposal on this issue, it directed ISO-NE to file, within 60 days of the order, an explanation that addresses the concerns regarding the requirement to bid above the strike price. The order also directed ISO-NE to include an analysis of the effects of the requirement that Forward Reserves sellers bid above the strike price and an analysis of the performance of the failure to reserve penalty in its Annual Review for 2004.

12. On January 13, 2004, ISO-NE filed the compliance report required by the November 14 Order. Notice of ISO-NE's filing was published in the *Federal Register*, 69 Fed. Reg. 4124 (2004), with protests and motions to intervene due on or before February 3, 2004. A timely motion to intervene was filed by New England Power Pool Participants Committee, with no comments.

13. The report provides a brief description of the design of the Forward Reserve Market, the results of the first Forward Reserve auction, which cleared in December 2003, and explains how those results demonstrate that sub-optimal dispatch does not appear to be a significant concern. ISO-NE states that the results of the auction demonstrate that performance, rather than opportunity costs, was the primary driver of the Forward Reserve clearing price, and that the self-selection mechanism in the Forward Reserve Market performed as designed.

14. The report states that the clearing price of the first auction was $4,495/MW-Month, which is approximately 70 percent of the estimated carrying cost of a new combustion turbine in New England. ISO-NE states that the level of participation in the initial auction appears to have been adequate as 54 percent of the offered megawatts were accepted. Also, the report states that the price for both 10-minute and 30-minute reserves was the same because lower priced 10-minute offers were substituted for higher-priced offers for the 30-minute reserves.

15. The report presents evidence that sub-optimal dispatch is not a significant concern. The ISO-NE Market Monitoring Unit states that only four of the units selected in the auction had marginal energy costs (not including start-up and no-load costs) likely to fall below the Forward Reserve Strike Price and, according to the report, the effect of this on market dispatch is modest. The report also presents evidence that units selected in the auction were high cost units such as internal combustion units, combined cycle units with duct firing, and the expensive high end operating limit of coal units. These are units that would have the lowest opportunity costs and shows that the self selection mechanism of the market performed as designed. The report also states that the outcome is the result of market competition and not administrative pricing mechanisms.

16. The report goes on to state that unnecessary opportunity costs could be further reduced with the implementation of a bilateral market where day ahead clearing prices could be estimated. The report also states that given the decision not to develop a bilateral market as part of the Forward Reserve Market filing in September, 2003, the ISO has not explored implementing a day-ahead centralized Forward Reserve Market.

17. The report also addresses the Commission’s proposal in the November 14 Order that would permit suppliers to offer reserves below the strike price, while giving the ISO the right to direct the supplier to provide reserves and forgo opportunity costs. ISO-NE states that the existing Forward Reserve Market design is preferable because, under the suggested alternative, the suppliers would have no incentive to offer their energy at marginal cost. Suppliers with marginal cost below the strike price are unlikely to reveal that fact, and instead would offer their energy at the strike price and maintain that this

was the best representation of their marginal cost. Thus, the final result of this alternative proposal would likely be the same as the existing Forward Reserve Market design in that all Forward Reserve Resources would offer their energy at or above the strike price.

18. Similarly, the report explains that the Commission's further suggestion that "the seller could be compensated for some opportunity costs, but only for the difference between the energy LMP and the strike price (or the seller's energy bid, if higher than the strike price)" does not improve the Forward Reserve Market design because it could undermine the incentive compatible self-selection mechanism which works by making selection most attractive to those with the lowest expected energy opportunity costs. Full payment of any energy opportunity costs, as the Commission suggested, would eliminate the appropriate advantage that typical peaking units have in the current Forward Reserve Market design.

19. The ISO-NE requests that the Commission accept its filing as fully satisfying the directive in the November 14 Order.

Commission Response

20. The Commission accepts the January 13, 2004 compliance filing for informational purposes. However, the Commission would like to be kept informed of the operation of Forward Reserve Market as part of the periodic reports to the Commission by the ISO New England Market Monitor. In particular, we direct the Market Monitor to continue to evaluate the concerns expressed in the November 14 Order regarding the effect that the operation of the strike price may have on optimal dispatch of energy resources, and for the ISO to report the results of this evaluation in its Annual Review for 2004 required by section 11.3 of Appendix A of Market Rule 1. The September 9, 2003 Forward Reserve Market proposal stated that in order to not delay implementation of the market, a bilateral market was not proposed at that time. The Commission believes that a bilateral market will further enhance the operation of the Forward Reserve Market, and as noted in the compliance report, may also allow for a more optimized use of resources. Therefore, we would like NEPOOL participants to continue to work to develop a proposal for a bilateral component to the Forward Reserve Market that will be filed with the Commission.

21. Finally, we believe that the ISO's evaluation of the Commission's proposed alternative in the November 14 Order to allow a seller to bid below the strike price may be based on a misunderstanding of the alternative. The ISO concludes that under the alternative, sellers with marginal costs below the strike price would have no incentive to offer their energy at marginal cost. As a result, the dispatch under the alternative would likely be the same as under the ISO's Forward Reserve Market design. This conclusion seems to be based on the assumption that any profit between the seller's marginal cost and the strike price would be appropriated when the resource is dispatched. However, we

did not intend for such profit to be appropriated under the alternative. Rather, a Forward Reserves seller would be permitted to submit energy bids below the strike price without penalty, and if the seller is selected to produce energy, the seller would receive and retain the full applicable LMP. The seller would not be required to rebate any portion of the LMP or pay any other penalty to the ISO. (However, if the ISO directs the seller to provide operating reserves, the seller would be required to provide operating reserves, regardless of the LMP. In this latter instance, the seller would receive no compensation in the spot market for any opportunity costs, such as any forgone profits resulting from when the LMP exceeds the seller's energy bid.) If a Forward Reserves seller is permitted to retain all LMP revenues from selling energy when instructed by the ISO, we do not understand why such a seller would lack the incentive to submit an energy bid reflecting its marginal costs, even if that bid is below the strike price. And if sellers would have an incentive to reduce their bids closer to their marginal costs, the energy dispatch under the alternative could differ from the dispatch under the ISO's Forward Reserve Market design. We direct the ISO to provide, in its Annual Review for 2004, a further comparison of the alternative with the ISO's Forward Reserve Market design. The ISO's evaluation should explain whether its conclusions regarding the alternative depend on the assumption that energy profits between a seller's marginal cost and the strike price would be appropriated when the resource is dispatched. If the conclusions do not depend on this assumption, the ISO should explain more fully the basis for its conclusions.

<u>The Commission orders</u>:

(A) The Dominion Companies' request for rehearing is denied.

(B) The compliance report by ISO New England of January 13, 2004, is accepted for informational purposes.

(C) ISO New England is directed to include, in its Annual Review for 2004, an evaluation of the effects of the Forward Reserves Market design and an alternative design, as described in the body of the order.

By the Commission.

(S E A L)

Linda Mitry,
Acting Secretary.