

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

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

ISO New England Inc. and
New England Power Pool

Docket No. ER05-795-003

ORDER ACCEPTING COMPLIANCE REPORT

(Issued March 7, 2006)

1. On December 5, 2005, ISO New England Inc. (ISO-NE) filed a report in compliance with orders issued June 6 and September 2, 2005 in this proceeding.¹ In this order, we accept ISO-NE's filing. We also accept ISO-NE's offer to file another report in six months to provide a more definitive response, and we provide additional comments and guidance in anticipation of that upcoming report.

Background

2. On April 7, 2005, ISO-NE and the New England Power Pool (NEPOOL) jointly submitted proposed modifications to Phase I of ISO-NE's Ancillary Services Market project. The June 6 and September 2 Orders accepted with modifications proposals that, among other things, changed the way that resources are selected and compensated for providing regulation in the area served by ISO-NE.

3. Specifically, ISO-NE proposed to select those resources to provide regulation that would result in the lowest expected consumer payments, given the proposed compensation rules for regulation. ISO-NE proposed to compensate each selected resource through a three-part payment: a Time-on-Regulation payment, a Regulation Service payment, and a resource-specific Regulation Opportunity Cost payment, based on the difference between the Locational Marginal Price (LMP) and the resource's energy supply offer.

¹ *ISO New England, Inc. and New England Power Pool*, 111 FERC ¶ 61,364 (June 6 Order), *clarified*, 112 FERC ¶ 61,247 (2005) (September 2 Order).

4. These first two payments are based on a regulation clearing price, which would be equal to the highest accepted Regulation Offer Price from among the resources selected to provide regulation. All selected resources in an hour would receive the same regulation clearing price. However, the third payment, the Regulation Opportunity Cost payment, would be based on a per-MW opportunity cost that differs among selected resources.

5. While accepting the proposal with modifications, the Commission expressed concerns with the proposal. Specifically, the Commission was concerned that ISO-NE's proposed selection method may not select the resources that could provide regulation at the lowest total bid-cost (considering both the regulation offer price as well as opportunity costs) or at the lowest total payments by customers. The Commission discussed the merits of selecting resources based on the lowest sum of Regulation Offer Prices and Opportunity Costs, and calculating the regulation clearing price based on the accepted resource with the highest sum of its Regulation Offer Price and its Opportunity Cost. Therefore, in the June 2 Order, the Commission directed ISO-NE to file within 180 days of the June 6 Order either a plan addressing how it intends to re-introduce opportunity costs into the regulation clearing price, or, in the alternative, an explanation as to how such a requirement would impose undue or extraordinary constraints on time and resources. In the September 2 Order, the Commission expanded its direction regarding this filing to require ISO-NE to report on the effects of re-introducing opportunity costs into the clearing price on the ability to adopt a selection process that simultaneously minimizes (i) resources' costs of providing regulation, and (ii) total expected consumer payments.

Description of Filing

6. ISO-NE states that its December 5 filing is made in compliance with the June 6 and September 2 Orders. In its compliance report, ISO-NE reaches the preliminary conclusion that including opportunity costs in the regulation clearing price would not result in reduced consumer payments. This conclusion is based on two lines of analysis, one based on a hypothetical example, and a second based on an examination of actual data for three randomly selected consecutive hours. In each of these two lines of analysis, ISO-NE compares the compensation that a given set of generators would receive (i) when the regulation clearing price excludes opportunity costs and each resource is paid its unit-specific opportunity cost (*i.e.*, the currently accepted method), and (ii) when the regulation clearing price includes opportunity costs (*i.e.*, the alternative method).

7. ***The hypothetical example.*** ISO-NE considers three hypothetical generators, A, B, and C, each of which has different regulation offer prices (ranging from \$20 to \$24) and energy offer prices (ranging from \$50 to \$70). ISO-NE calculates the compensation that would be paid to these three generators under the currently accepted method and the alternative method in five different cases, where the LMP varies from \$40 to \$80, thereby causing opportunity costs to vary. In each of these five cases, the total compensation paid to the three generators would be lower under the currently accepted method (where unit-specific opportunity costs are paid) than under the alternative method (where opportunity costs are included in the regulation clearing price).

8. ***Examination of data.*** ISO-NE also examined the total payments made to the resources actually selected for regulation in three randomly chosen consecutive hours under the current method, and compared those figures with the total payments that would have been made to those same resources if opportunity costs were included in the regulation clearing price. ISO-NE found that total payments would have been higher by including opportunity costs in the regulation clearing price than they were under the currently accepted method (where unit-specific opportunity costs were paid to resources).

9. ISO-NE states that, because the regulation market under the new selection and compensation rules has been in service for only two months, additional experience is required to fully assess the Commission's specific concerns. Thus, ISO-NE states, it considers the results in its report as preliminary and proposes to make an additional filing in six months to provide a more definitive response.

Commission Response

10. We will accept ISO-NE's December 5 compliance report. We will also accept ISO-NE's offer to file another report in six months to provide a more definitive response. In anticipation of the next report, we will provide the following comments and guidance.

11. In our September 2 Order, we directed ISO-NE "to consider ... whether other compensation and resource selection methods may reduce the costs and consumer payments for regulation."² Our direction arose from our concern that the resource selection method proposed by ISO-NE and accepted in the June 6 Order may not select the resources whose total costs of providing regulation are lowest. We stated in the September 2 Order that "[i]nformation obtained from the Technical Conference suggests that by reintroducing opportunity costs into the Regulation Clearing Price, selecting the

² September 2 Order, 112 FERC ¶ 61,247 at P 14.

least-costly set of resources to provide regulation would likely reduce consumer payments compared to ISO-NE's proposal, and indeed, would likely minimize total consumer payments."³

12. The December filing analyzes the effects of including opportunity costs in the regulation clearing price on the total payments made to a given set of generators selected to provide regulation. However, the filing does not analyze the selection method, and thus, does not analyze whether total payments by customers would be lower if a different set of generators had been selected to provide regulation. The report to be filed by ISO-NE in six months should include an analysis of the selection method, as discussed more fully below.

13. As we noted in the September 2 Order, under the selection method discussed in that order, ISO-NE might not always select the resources that can provide regulation at the lowest total expected bid-cost (including expected opportunity costs). That method involves a series of iterations in calculating for each resource a Regulation Rank Price, which reflects six elements of cost and other factors.⁴ At the end of each iteration, ISO-NE tentatively selects the required amount of regulation capacity from the resources with the lowest Regulation Rank Prices. A regulation clearing price is also established, equal to the highest regulation offer price from among the selected resources in that iteration. Iterations continue until convergence is reached.

14. In the first iteration, the first two elements of each resource's Regulation Rank Price (*i.e.*, the Time-on-Regulation Credit estimate and the Regulation Service Credit estimate) are calculated based on the resource's regulation offer price. Thus, Rank Prices reflect bid-costs, and resources selected at the end of the first iteration are those that minimize bid-costs. However, in subsequent iterations, these two elements are recalculated for at least some resources – namely, for resources whose regulation offer prices are lower than the previous iteration's regulation clearing price. The two elements for these resources are recalculated by replacing the offer price with the clearing price, thereby increasing their Rank Prices. As a result of the recalculations, some resources

³ *Id.* at P 16.

⁴ The six elements in the Regulation Rank Price are: (1) the Time-on-Regulation Credit estimate; (2) the Regulation Service Credit estimate; (3) the Regulation Opportunity Cost estimate; (4) the change in system production cost estimate; (5) the lookahead penalty estimate; and (6) a tiebreaker adder. *See* section III.1.11.5(b) of Market Rule 1.

with lower bid-costs are replaced by resources with higher bid-costs, and resources with the lowest Rank Prices beyond the first iteration are not necessarily those with the lowest bid-costs.

15. We direct ISO-NE to include in its report to be filed in six months an analysis of the combined effects of alternative selection methods and compensation methods. Two alternatives should be analyzed. The first alternative to be analyzed is the currently accepted method of selection and compensation. In the second alternative, resources would be selected that minimize total bid-costs; no Rank Prices would be recalculated by replacing offer prices with clearing prices. Also under the second alternative, the regulation clearing price would equal the highest sum of regulation offer price and expected opportunity cost from among the selected resources. Selected resources would receive the regulation clearing price, but no resource would receive a separate opportunity cost payment except to the extent that its compensation from the regulation clearing price is less than its total bid-costs. The analysis should compare the total bid-costs and the total payments by customers under the two alternatives.

16. In order for the analysis to provide a meaningful comparison of these alternatives, ISO-NE should include one or more examples where the two alternatives result in the selection of different sets of resources to provide regulation during the same given time period. Some of the examples submitted by ISO-NE in its July 28, 2005 submission in response to the Notice of Technical Conference provide such different selection results and could be considered for the analysis. ISO-NE may also include other empirical analysis that it considers relevant in its report.

The Commission orders:

(A) ISO-NE's December 5 compliance report is hereby accepted, as discussed in the body of this order.

(B) ISO-NE is directed to submit an additional report six months from the date of issuance of this order, as discussed in the body of this order.

By the Commission.

(S E A L)

Magalie R. Salas,
Secretary.