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. ER05-795-001

ORDER GRANTING CLARIFICATION

(Issued September 2, 2005)

1. On April 7, 2005, ISO New England Inc. (ISO-NE) and the New England Power Pool (NEPOOL) jointly submitted proposed modifications to Phase I of ISO-NE's Ancillary Services Market (ASM) project. Among other things, the ASM proposal would re-institute a regulation market design that pays generators based on the amount of service provided. On June 6, 2005, the Commission issued an order accepting the proposal but requiring a compliance filing to conform certain tariff language to the description in the transmittal letter.[1] ISO-NE and NEPOOL have sought rehearing or, in the alternative, clarification, of that requirement, stating that the Commission's determination may reflect a misunderstanding of the proposal's description. In this order, we grant clarification and revise our directive.

Background

2. In the June 6 Order, the Commission approved several modifications to the regulation market. First, a real-time pricing methodology for calculating the regulation clearing price replaced the existing day-ahead methodology. Second, ISO-NE began paying units providing regulation service a performance-based component. Third, ISO-NE began providing recovery of unit-specific opportunity costs incurred by generating units while providing regulation service calculated *ex post*, rather than including opportunity costs, *ex ante*, as part of the Regulation Clearing Price.[2] We

[1] *ISO New England, Inc. and New England Power Pool*, 111 FERC ¶ 61,364 (2005) (June 6 Order).

[2] Opportunity costs represent a generator's loss of revenue when it provides regulation service instead of energy service.

stated that we would accept the proposal for selecting generators to provide regulation as described in the transmittal letter accompanying the April 7 filing – that those generators offering to provide regulation with the lowest bids would be selected. However, we stated that the proposed tariff language appeared to be inconsistent with the transmittal letter. In particular, proposed section III.1.11.5(b) appeared to rank generators in a way that relied on an estimated Regulation Clearing Price rather than each generator's Regulation Supply Offer price. Therefore, we directed ISO-NE and NEPOOL to revise section III.1.11.5(b) to ensure that generators with the lowest bids would be selected to provide regulation, consistent with the transmittal letter and to submit revised tariff sheets within 30 days.

3. In the June 6 Order, we stated our belief that including opportunity costs in the Regulation Clearing Price would further improve the regulation market, but recognized that requiring such a change at this time would distract ISO-NE and its stakeholders from implementing other critical market design features. Hence, we directed ISO-NE to submit within 180 days a plan addressing how it intends to introduce opportunity costs into the Regulation Clearing Price, or explaining how such a requirement would impose undue constraints on time and resources.

4. On June 23, 2005, ISO-NE and NEPOOL filed a Joint Request for Clarification or, in the alternative, Rehearing (Joint Request). In the Joint Request, ISO-NE and NEPOOL state that neither the transmittal letter nor the proposed tariff revisions would select generators based on their Regulation Supply Offer prices, and they request that they not be required to revise the proposed tariff language. They also requested an extension of time to submit their compliance filing until 10 days following issuance of a Commission order on rehearing or clarification, as appropriate.[3]

5. On July 28, 2005, as announced in a Notice issued July 22, 2005, members of the Commission staff held a technical conference with ISO-NE and other interested parties to discuss further the proposed mechanism for selecting generating units to provide regulation. At the technical conference, ISO-NE answered questions posed by staff about the proposal and explained in more detail the proposed method for selecting generators to provide regulation, using spreadsheets based on a hypothetical example to illustrate the proposal. ISO-NE filed the spreadsheets and other supporting written materials on the following day, July 29, 2005.

[3] The Commission granted this request for extension on July 1, 2005.

Technical Conference Materials

6. In ISO-NE's July 29 materials, it describes its proposed process of selecting resources to provide regulation for a given time period as follows. The process would begin by developing a "Regulation Rank Price" for each resource offering to provide regulation. The Regulation Rank Price is a number whose denominator is the resource's regulation capability and whose numerator is the sum of six elements:

(1) the estimated Time-On-Regulation Credit, also referred to as the capacity reservation estimate or time on payment;

(2) the estimated Regulation Service Credit, a service payment estimate, equal to the capacity reservation estimate times the service to capacity reservation ratio;

(3) the estimated Regulation Opportunity Cost, based on where the generator would be loaded for the current locational marginal price versus where it is likely to be loaded while regulating based on its regulation high limit, regulation low limit and regulation capacity parameters;

(4) the production cost estimate, estimating the impact of a generator changing output economically versus where it is likely to be loaded while regulating;

(5) the estimated lookahead penalty, seeking out energy price changes above and below an estimate to reflect unexpectedly large opportunity costs; and

(6) a tiebreaker adder, values added to the bids depending on the relative size of a generator's regulation capability.

7. Proposed revisions to ISO-NE's Manual for Market Operations Manual M-11, at section 3.2.5 (Regulation Assessment) clearly identify and define each of the six elements of the Regulation Rank Price.[4] However, proposed section III.1.11.5(b) of ISO-NE's tariff describes the numerator as including only the first three elements identified above, and is thus inconsistent with the proposal as described by ISO-NE in materials filed after the technical conference.

8. The Regulation Rank Price for each resource for a given time period would be

[4] This Manual has not been filed with the Commission, but it is posted on ISO-NE's website at http://www.iso-ne.com/rules_proceds/isone_mnls/M-11_Market%20Operations_(Revision%20XX)_10-01-05.doc.

determined through a series of iterations in calculating the first and second elements of the numerator. In the first iteration, the first element of the numerator, *i.e.*, the estimated Time-On-Regulation Credit, would be calculated for each resource as the resource's Regulation Offer Price multiplied by its Regulation Capability. The second element of the numerator, *i.e.*, the estimated Regulation Service Credit, would be set equal to the resource's Time-On-Regulation Credit, and thus the estimated Regulation Service Credit would effectively be calculated through the same series of iterations as the Time-On-Regulation Credit. The other four elements in the numerator of each resource's Regulation Rank Price for the given time period would be calculated once and would not involve an iterative process for arriving at a final number. An initial Regulation Rank Price would be determined based on these elements for each resource.

9. In the second iteration, the estimated Time-On-Regulation Credit (and thus, the estimated Regulation Service Credit) would be recalculated for some, but typically not all, of the resources. Specifically, the estimated Time-On-Regulation Credit would be recalculated for each resource whose Regulation Offer Price is less than the Regulation Clearing Price established at the end of the previous iteration. For these resources, the Regulation Clearing Price of the previous iteration would replace the resource's Regulation Offer Price in the calculation of the estimated Time-On-Regulation Credit. A revised Regulation Rank Price would be calculated based on the revised Time-On-Regulation Credit and the associated Regulation Service Credit.

10. If the set of resources selected in the second iteration is different from the first, a third iteration would be made. Iterations would continue until convergence is reached – that is, until the resources selected (and the resulting Regulation Clearing Price) in consecutive iterations do not change. ISO-NE would then calculate the total estimated payments for each iteration and would select the resources from the iteration that resulted in the lowest total payments.

Post-Conference Comments

11. Staff invited all parties to submit comments following the technical conference. Only ISO-NE chose to file comments. In its remarks, filed on August 12, 2005, ISO-NE confirmed that it supports replacing the language in proposed section III.1.11.5 of its tariff with the language in Manual 11, section 3.2.5.

Discussion

12. In light of the comments of ISO-NE and NEPOOL in their Joint Request and the further information contained in the comments filed after the technical conference, we will modify the direction specified in our June 6 Order. It is now clear that the ISO-NE does not propose to select resources with the lowest bids. Rather, ISO-NE is proposing

to select resources to provide regulation that would result in the lowest consumer payments, given the compensation rules for regulation that we accepted in the June 6 Order.

13. We will accept this method of resource selection and the resulting Regulation Clearing Price at this time. We will also rescind the direction in our June 6 Order that ISO-NE and NEPOOL revise section III.1.11.5(b) to ensure that generators with the lowest bids will be selected to provide regulation. However, it is clear that the proposed revisions to section III.1.11.5(b) of ISO-NE's tariff do not accurately describe the process for selecting resources to provide regulation that ISO-NE described in the technical conference and it's subsequently filed written materials, while the revised section 3.2.5 of its Manual M-11 does accurately describe that process.[5] Therefore, we direct ISO-NE to place the language in its revised section 3.2.5 of its Manual M-11 in the ISO-NE tariff and replace the proposed revised section III.1.11.5(b) that was included in the April 7 filing. ISO-NE has stated in its August 12 comments that it supports this change.

14. As stated above, we accept at this time ISO-NE's proposal for selecting resources to provide regulation. In light of the proposed compensation rules that we accepted in our June 6 Order – whereby each resource providing regulation is paid the Regulation Clearing Price plus its resource-specific opportunity costs – ISO-NE's proposal for selecting resources to provide regulation would minimize consumer payments for regulation. However, ISO-NE acknowledged in its written comments following the technical conference, that its proposal may not select the resources whose total costs of providing regulation are the lowest. Indeed, as illustrated in the examples in ISO-NE's spreadsheets, the proposed method would fail to select resources with the lowest total costs in every instance where the resources selected were not those selected in the first iteration.[6] Accordingly, we will direct ISO-NE to consider, as part of the process for

[5] The selection process articulated by ISO-NE at the Technical Conference is clearly described in proposed section 3.2.5 of ISO-NE's Manual M-11. By contrast, this process differs in several respects from the selection process described in proposed section III.1.11.5(b) of ISO-NE's tariff. For example, the proposed tariff makes no mention of an iterative process for calculating the estimated Time-On-Regulation Credit, the estimated Regulation Service Credit, or the resulting Regulation Rank Price. Nor does the tariff mention a role that a resource's Regulation Offer Price would play in calculating any elements of the Regulation Rank Price.

[6] ISO-NE's spreadsheets examined 5 cases. In 2 of the 5 cases, *i.e.*, Case 1 (Adjusted D Offer) and Case 3 (Adjusted OC MW), the proposal would select resources from the second iteration.

considering alternative compensation methods that we required in our June 6 Order, whether other compensation and resource selection methods may reduce the costs and consumer payments for regulation.

15. In comments on the April 7 filing, some parties urged us to require ISO-NE to adopt a different compensation method, whereby the Regulation Clearing Price received by all regulation providers would include opportunity costs. In our June 6 Order, we did not require ISO-NE to do so, in part because the software and other implementation measures needed to adopt such a change in compensation would require at least 18 months, and in part because it was not clear whether the benefits of the change would outweigh the implementation costs. However, we directed ISO-NE to submit, within 180 days of the date of that 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.

16. Information obtained from the Technical Conference suggests that by re-introducing opportunity costs into the Regulation Clearing Price, selecting the 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.

17. If opportunity costs were re-introduced into the Regulation Clearing Price -- by setting it equal to the highest total cost per MWh incurred among the set of selected resources [7] -- then the Clearing Price in the first iteration would recover the total expected costs of every selected resource. This alternative Clearing Price would be lower than the per-MWh payments under ISO-NE's proposal in every case where the resources selected in ISO-NE's proposal were different from those selected in the first iteration, as shown in ISO-NE's spreadsheets. Moreover, this alternative Clearing Price may also be lower – and would never be higher – than the per-MWh payments under ISO-NE's proposal where the resources selected in the proposal were those from the first iteration, because ISO-NE's proposal requires resource-specific uplift payments.

[7] These costs would include the expected Time-On-Regulation Credit, Regulation Service Credit, and Opportunity Costs per MWh. The other 3 elements of the Regulation Rank Price would not be included, because they are system costs and not costs incurred by the individual resource.

18. In light of the foregoing, we will direct ISO-NE to expand the scope of the report required by the June 6 Order. In addition to addressing its plan for re-introducing opportunity costs into the Clearing Price, ISO-NE shall consider and report to the Commission 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.

The Commission orders:

(A) ISO-NE's and NEPOOL's Joint Request for clarification is hereby granted.

(B) ISO-NE and NEPOOL are directed, within 10 days of the date of this order, to revise section III.1.11.5(b), as discussed in the body of this order.

(C) ISO-NE is directed to include in the report required by the June 6 Order a discussion of other compensation and resource selection methods, as discussed in the body of this order.

By the Commission.

(S E A L)

Magalie R. Salas,
Secretary.