

FERC's Flawed Assessment of the Benefits and Costs of Regional Transmission Organizations

FERC's Economic Assessment does not meet the minimal requirements of a cost-benefit analysis of RTOs. It fails to address critical incentive questions associated with the RTO structure, and begs the question of whether RTOs will in fact make electricity markets more competitive and efficient.

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I. Introduction

The overall success of electricity deregulation depends, to a large extent, on the treatment of transmission. An efficiently functioning transmission network, with appropriate incentives to maintain and invest in capacity, is essential to increase reliability, avoid market power problems, and achieve the full benefits of electricity competition. Transmission is far more important under a competitive regime than under traditional regulation,

because it needs to support a much larger range of transactions. **T**he major policy initiative of the Federal Energy Regulatory Commission (FERC) with respect to transmission is the regional transmission organization (RTO). FERC is currently engaged in a major effort to restructure the nation's transmission grid by requiring transmission owners to place their capacity under the control of RTOs.

FERC's effort represents the culmination of a decade of activity on transmission policy issues

that started with enactment of the Energy Policy Act of 1992.¹ During the 1990s, at the same time that FERC was adopting open-access policies under Orders No. 888 and 889, it was also promoting the concept of the independent system operator (ISO), the precursor to the RTO.

Under this arrangement, which was adopted in the Northeast and in California, transmission owners transferred operational control of their networks to non-owner ISOs. FERC formalized its commitment to the RTO concept, broadly defined, in Order No. 2000, which envisions that transmission owners will join RTOs, but that they will do so "voluntarily." As written, the Order permits significant flexibility in how RTOs are structured. It is flexible enough to allow both ISOs (in which operational control of the grid is separated from its ownership), transcos (where owners retain operational control), or some hybrid. Order No. 2000 also permits substantial discretion in drawing the RTOs geographic boundaries.

More recently, however, FERC has signaled a more prescriptive approach toward RTOs. The agency is now moving more aggressively to divide the nation into a small number of large RTOs and to prescribe in detail how those RTOs should operate. FERC has announced its intention to undertake a new proceeding that would appear to supersede Order No. 2000, adopted only two years ago.

Although FERC has committed itself to requiring RTOs, it has not until now undertaken a cost-

benefit analysis or other type of economic analysis of the RTO concept. It is especially important to perform such an analysis, because the separation of ownership from operational control of economic assets—which is at the core of many RTO proposals—raises fundamental economic questions. In particular, no one really knows what incentive structure will guide these institutions and their behavior will be

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difficult to predict.² It was, therefore, good news that FERC decided late in 2001 to commission such an analysis of RTOs.

Cost-benefit analysis of major government regulatory initiatives has become routine over the last 25 years.³ Simply stated, the purpose of cost-benefit analysis is to determine whether the action under consideration will on balance improve the functioning of markets and benefit consumers or whether there are other available courses of action that might be preferable. A series of executive orders from the Reagan Administration's Executive Order No. 12291 to E.O. 12866, signed by

President Clinton and still in effect, have institutionalized the process of preparing cost-benefit analyses across the federal government.

FERC's cost-benefit analysis has now been completed and released under the title "Economic Assessment of RTO Policy" (hereafter "Economic Assessment").⁴ Unfortunately, the FERC study is not a cost-benefit analysis of RTOs. It is essentially a study of the benefits of electricity competition.

The FERC Economic Assessment simply *assumes* that the efficiency benefits of electricity competition will flow from the establishment of RTOs and then goes on to estimate those benefits. Thus, the estimated benefits of RTOs are really the benefits from competition itself. The study does not address the benefits and costs of the RTO form of organization relative to other ways of organizing the transmission grid. It does not show how RTOs will contribute to the development of competitive electricity markets, or evaluate whether they are the best way of achieving this important goal. It does not address the incentive questions associated with separating ownership from operational control of economic assets. The study does not even define what an RTO is.

II. Summary of FERC's Economic Assessment

FERC's Economic Assessment is based largely on a linear-

programming model developed by ICF Consulting that "is used to determine the least-cost means of meeting electric generation energy and capacity requirements, subject to transmission, fuel and air pollution limitations."⁵

The benefits of RTOs are defined by the benefits projected for RTOs in Order No. 2000.⁶

- RTOs will improve efficiencies in the management of the transmission grid;
- RTOs will improve grid reliability;
- RTOs will remove opportunities for discriminatory transmission practices;
- RTOs will result in improved market performance; and
- RTOs will facilitate lighter-handed government regulation.

Based on these projected benefits, the study compares three Policy Scenarios and two Sensitivity Cases to a Base Case that represents the market conditions currently prevailing "including market inefficiencies that exist within and across regions."⁷

The Base Case is defined by a 32-region structure that includes no RTOs. In contrast, in the RTO Policy Scenario—which the Economic Assessment considers the most likely outcome—the nation is divided into four RTOs plus the Electric Reliability Council of Texas (ERCOT).⁸ The RTO Policy Scenario also assumes:

- there are no transmission charges within RTOs; charges between RTOs converge to \$2/MWh beginning in 2004;
- effective transmission transfer capability increases by 5 per-

cent at no incremental cost from 2004 onward;

- there is 100 percent sharing of electricity capacity between regions (as compared to 75 percent in the Base Case);
- system-wide reserve margins decline to 13 percent by 2020 (as compared to 15 percent in the Base Case);
- generation efficiency and unit performance improve as follows: heat rate improves by 6 percent by

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2010 and unit availability increases by 2.5 percent.

The result of the RTO Policy Scenario is a saving in estimated system-level production costs of \$40.9 billion (net present value from 2002 to 2021), or 3.8 percent relative to the Base Case.⁹ Almost all the benefits—85 percent, to be exact—are due to more efficient generation. These benefits are far larger than the costs of RTOs—which are estimated to be in the range of \$1 billion to \$5.75 billion and which consist of startup costs only.¹⁰

Given the assumptions of the model—particularly, the assumption of zero transmission charges

within RTOs—it is not surprising that the sensitivity analyses show that larger RTOs have greater benefits, although the magnitude of the increase is not large.

III. Deficiencies of FERC's Economic Assessment

As indicated, the major deficiency of FERC's Economic Assessment is that it is not a cost-benefit analysis of RTOs. As a result, it bypasses the basic questions about RTOs that need to be addressed. The Economic Assessment assumes that the objectives of the RTO structure as enumerated in FERC's discussion of Order No. 2000—essentially that markets will be more competitive and more efficient—will be achieved and then goes on to estimate, using additional assumptions, what those benefits will be. There is no discussion of the incentive questions raised by the RTO structure. There is also no discussion or evaluation of the real-world experience of existing RTO-like entities, such as the ISOs in California and the Northeast. In fact, the FERC analysis explicitly assumes that existing ISOs (California, PJM, New York, and New England) have no market inefficiencies.¹¹

FERC's Assessment assumes its conclusions on several levels. It assumes that RTOs will produce competition and then it assumes specific benefits associated with competition—most prominently, the assumed improvements in

generation efficiency that dominate the benefits estimate for the RTO Policy Scenario, identified as the most likely outcome.

While it is true that replacing regulation with competition should improve generation efficiency, it is a stretch to attribute all, or even most, of those benefits to RTO policy—even if that policy is successful. The expensive and inefficient capital stock we now have is the legacy of the cost-based rate-of-return regulatory structure that allows utilities with relative ease to pass along the costs of their investments to their customers, combined with a series of fuel-use policies that have attempted to substitute the government's judgment for that of the market.¹² The substantial deregulation of the wholesale market that has already occurred dramatically improves the incentives for investment in efficient generation capacity.

In addition to assuming that all improvements in generation efficiency are attributable to RTOs, the Economic Assessment also assumes that there will be no transmission charges within RTOs. This obviously encourages merit-order dispatch of generation over a very wide area and reduces the estimated cost of power—and therefore increases the benefits attributable to RTOs. But, clearly, a zero price for transmission is not efficient and sends the wrong signals to the market both in the short run and over time. It encourages the dispatch of existing sources and the location of new sources without regard to the true costs of trans-

portation. Clearly, these costs should be accurately reflected if the goal is to rationalize the electricity capital stock and minimize the cost of delivered electricity.

The lower transmission and generation costs and prices that FERC's model produces translate into lower payments to the owners of these assets. Some of these reflect real cost reductions, but some also may reflect a transfer from producers to consumers that

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should be subtracted from benefits. From the information provided, it is difficult to estimate how big this transfer is, but it could be a substantial part of the benefits that FERC estimates.

IV. What an RTO Cost-benefit Analysis Should Do

There is little dispute that electricity competition is a good thing and that it can bring about a more efficient generation capital stock and lower prices for consumers. The dispute is about the best way to achieve this outcome. In parti-

cular, the issue here is the best way to structure transmission markets in order to promote competition on a going-forward basis.

The FERC Economic Assessment assumes that RTOs will lead to competition and then estimates the benefits of competition. This begs the fundamental questions of whether RTOs will be successful in furthering competition or whether they have inefficiencies of their own. It also does not address the issue of what form RTOs should take.

The RTO is a new economic institution that can take a variety of forms.¹³ Like its predecessor, the ISO, the RTO now appears to be developing as an institution that separates operational control from ownership of transmission assets in order to achieve "independence." This is a novel type of economic arrangement that has not been applied elsewhere in the economy and, as indicated above, involves all sorts of complicated incentive issues. Neither empirical evidence nor theoretical analysis suggests that institutions designed like ISOs—i.e., those that separate ownership from operational control—are likely to produce efficient pricing, usage, or investment decisions. It can't simply be assumed, as the FERC analysis does, that a new and dramatically different institutional structure will be successful. This is the basic issue that the FERC Economic Assessment fails to address.

E.O. 12866—the executive order on regulatory planning and review currently in effect—provides useful criteria against which

to measure FERC's cost-benefit analysis. Under E.O. 12866, a cost-benefit analysis is required to include the following types of information:¹⁴

- *Identification of the problem that the proposal is intended to address.* According to the FERC Economic Assessment, RTOs are intended to promote competition, which is too general a statement of purpose to be useful. I would suggest that RTOs are intended to address two major transmission-related issues: (1) assuring open access to the grid by competing generators and marketers; and (2) achieving coordination among disparate elements of an interconnected grid. RTOs should be evaluated on how well they perform these tasks relative to available alternatives.

- *Analysis and estimates of the benefits anticipated from the proposed regulatory action.* These benefits include more efficient functioning of the economy and private markets. The critical question for RTOs is whether, in fact, they do improve the functioning of markets. FERC's Economic Assessment does not answer this question. It simply assumes that RTOs will remove inefficiencies. Indeed, FERC does not define in any detail what an RTO is and there are several different forms an RTO can take. FERC's Economic Assessment should explain why RTOs will do what they are intended to do, not assume the result.

- *Analysis and estimates of the costs anticipated from the regulatory action.* These costs include the

costs to businesses and others in complying with the regulation, and any adverse effects on the efficient functioning of the economy and private markets. An analysis of costs should include the inefficiencies that might result from the adverse incentives created by separating ownership from control.

- *Analysis of the costs and benefits of reasonable alternatives to the planned action, and an explanation of why the action chosen is preferable to the alternatives.* This is a critical part of the analysis. There are many policy tools available to address transmission-related issues.¹⁵ FERC should address alternatives, such as improved open-access requirements, stand-alone transmission companies, and market solutions. It should also address alternative forms of RTOs—principally, transcos, which do not have the incentive problems associated with the separation of ownership from control.

V. Conclusion

FERC's Economic Assessment does not meet the minimal requirements of a cost-benefit analysis of RTOs. It does not address critical incentive questions associated with the RTO structure, which entails separating ownership from control of economic assets. It begs the question of whether RTOs will in fact make electricity markets more competitive and efficient and simply assumes that they will. The FERC analysis is therefore not sufficient

to support the policy path the agency seems to have chosen. ■

Endnotes:

1. For a review, see Thomas M. Lenard, *RTOs, Market Power and the New Regulatory Agenda at the FERC*, Progress & Freedom Foundation, Feb. 2002.
2. See Thomas M. Lenard, *Getting the Transcos Right*, *ELEC. J.*, Nov. 1998.
3. For a recent assessment of cost-benefit analysis, see Cass R. Sunstein, *The Cost-benefit State: The Future of Regulatory Protection*, Section of Administrative Law and Regulatory Practice, American Bar Association, 2002.
4. Economic Assessment of RTO Policy, prepared for FERC by ICF Consulting, Feb. 26, 2002.
5. Economic Assessment, *id.*, at 28.
6. Economic Assessment, *id.*, at 29.
7. Economic Assessment, *id.*, at 29.
8. Economic Assessment, *id.*, at 31. The other RTO Scenarios are the "Transmission Only" Scenario, in which the benefits are substantially less than for the RTO Policy Scenario because efficiency improvements in generation are not assumed, and the "Demand Response" Scenario, which has greater benefits because it assumes reduction in peak demand. In addition, two sensitivity analyses—assuming two and nine rather than four RTOs—are presented.
9. Economic Assessment, *id.*, at 77.
10. Economic Assessment, *id.*, at 79.
11. Economic Assessment, *id.*, at 36.
12. See Michael K. Block and Thomas M. Lenard, *Deregulating Electricity: The Federal Role*, Progress & Freedom Foundation, Apr. 1998, at 4-5.
13. For a discussion of alternative RTO forms, see Thomas M. Lenard, *supra* note 2.
14. E.O. 12866, issued Sept. 30, 1993, especially Section 1(b)(1) and Section 6(C)(i)-(iii).
15. In fact, FERC is already implementing many of them simultaneously. See Thomas M. Lenard, *supra* note 1.