

# NEW METRICS FOR MEASURING THE SUCCESS OF A NON-PROFIT RTO

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**Synopsis:** This article examines metrics used to evaluate whether not-for-profit Regional Transmission Organizations (RTOs) are successful, including the popularly-discussed metric of evaluating whether the economic benefits of RTOs exceed the costs of establishing and operating RTOs. The article analyzes the inherent weaknesses in any economic cost/benefit determination of an RTO's degree of success and proposes that new metrics be developed that are analogous to the metrics that are used to evaluate the success of other entities. The article focuses on measuring the success of non-profit entities, but also discusses the work of experts such as Peter Drucker who have analyzed methods of measuring the success of for-profit organizations. A metric of evaluating the degree to which an RTO complies with its Federal Energy Regulatory Commission (FERC or Commission) approved tariff appears to be one necessary component of evaluating RTO success; however, it does not appear to be a sufficient metric. The article concludes that RTOs should be measured by the degree to which an RTO complies with its tariff and also by whether it achieves the outcomes established by its board of directors, rather than comparing its economic costs to its perceived economic benefits.

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## I. INTRODUCTION

In the United States, there is a widespread belief that one can measure the success of an organization based upon its profitability. Companies that return profits to their shareholders and consistently raise their stock prices are deemed to be successful American corporations. They are considered successful primarily because of a “cost/benefit” analysis: the benefits that they are able to provide to their shareholders exceed their costs of production. Companies that are not profitable are deemed by many to be unsuccessful and they often cease to exist, either through acquisition by a successful company or through bankruptcy proceedings.<sup>2</sup>

Although this simplistic approach to measuring an organization’s success may be appropriate for Wall Street, it may not be appropriate for Main Street because the analysis ignores externalities associated with an organization’s profitability, such as environmental impacts. Is a profitable corporation “successful” if it produces massive amounts of greenhouse gases that may threaten the environment for future generations? In the absence of legislation limiting such emissions, the external impacts of such a corporation’s activities are incapable of being measured by a simplistic profitability or “cost/benefit” analysis.

Another weakness of an economic “cost/benefit” analysis to measure the success of an entity is that the analysis is poorly suited to evaluate a not-for-profit entity which has no stock price to monitor and no equity shareholders who can receive profits through dividends. RTOs, for example, were organized and approved by the FERC<sup>3</sup> to operate and manage interstate transmission independently over a large geographic region on a non-discriminatory basis<sup>4</sup> and

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2. See Milton Friedman, *The Social Responsibility of Business is to Increase its Profits*, NEW YORK TIMES MAGAZINE, Sept. 13, 1970.

3. The U.S. Court of Appeals for the D.C. Circuit provided a succinct summary of the formation of RTOs in the introduction to *East Kentucky Power Cooperative v. FERC*. *East Ky. Power Coop. v. FERC*, 489 F.3d 1299 (D.C. Cir. 2007).

4. In a 2004 decision regarding the Midwest ISO, the Court of Appeals for the D.C. Circuit confirmed the anti-discrimination thrust of Order Nos. 888 and 2000. According to the Court of Appeals, Order No. 888 “required utilities that owned transmission facilities to guarantee all market participants *non-discriminatory access* to those facilities,” under a single tariff offering transmission service “on an open-access, *non-discriminatory* basis.” *Midwest ISO Transmission Owners v. FERC*, 373 F.3d 1361, 1363-64 (D.C. Cir. 2004) (emphasis added).

to facilitate the creation of transparent, competitive wholesale energy markets.<sup>5</sup> RTOs recover their costs from market participants that engage in the transmission and sales for resale of electricity within their region,<sup>6</sup> but RTOs were not designed by the FERC to earn a profit from such activities and in fact, they have no equity shareholders who could receive any generated profits.

Independent System Operators (ISOs) were first proposed by the FERC in Order No. 888.<sup>7</sup> The FERC encouraged the formation of RTOs in Order No. 2000.<sup>8</sup> The United States Supreme Court noted in its decision affirming the opinion of the Court of Appeals for the District of Columbia Circuit (D.C. Circuit Court of Appeals) upholding Order No. 888, the precursor to Order No. 2000, that the Commission properly grounded the issuance of Order No. 888 on the “FERC’s power to remedy *unduly discriminatory* practices” under § 205 and § 206 of the Federal Power Act (FPA).<sup>9</sup> The Supreme Court cited the FERC’s explanation that § 206 of the FPA “explicitly required [FERC] to remedy the *undue discrimination* that it had found.”<sup>10</sup> Order No. 888 was based “not on individualized findings of *discrimination*,” but rather on the FERC’s “identification of a fundamental systemic problem” with discrimination.<sup>11</sup> After having “ordered a utility to ‘wheel’ power for a complaining wholesale competitor 12 times, in 12 separate proceedings,” the FERC concluded that “individual proceedings were too costly and time consuming to provide an adequate remedy for *undue discrimination* throughout the market.”<sup>12</sup>

In 1999, the Commission found that despite the issuance of Order No. 888, inefficiencies and discriminatory practices continued.<sup>13</sup> The FERC determined to remedy these issues through the establishment of RTOs, believing that “better regional coordination in areas such as maintenance of transmission and generation systems and transmission planning and operation,” would improve

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5. In this paper, “energy markets” is used to refer to the real-time and day-ahead markets for energy that have already been developed and implemented by PJM Interconnection, L.L.C., the Midwest ISO, ISO New England, and the New York ISO whereby market participants can readily sell or acquire electricity on the wholesale energy market based upon transparent locational marginal pricing protocols. Harvard Professor William Hogan describes such wholesale energy markets as those that have “bid-based,-security-constrained-economic-dispatch-with-locational-prices-and-financial-transmission-rights.” Massachusetts Municipal Wholesale Electric Company, Comments at the Conference on Competition and Wholesale Power Markets: Acting in Time: Regulating Wholesale Electricity Markets (May 8, 2007).

6. Order No. 2000, *Regional Transmission Organizations*, [Regs. Preambles 2000] F.E.R.C. STATS. & REGS. ¶ 31,089, at pp. 31,164, 31,089, 65 Fed. Reg. 809 (2000) *order on reh’g*, Order No. 2000-A, [Regs. Preambles 2000] F.E.R.C. STATS. & REGS. ¶ 31,092 (2000), 65 Fed. Reg. 12,088 (2000), *petitions for review dismissed*, Public Util. Dist. No. 1 of Snohomish County, Wash. v. FERC, 272 F.3d 607 (D.C. Cir. 2001). [hereinafter Order No. 2000] (providing that an RTO shall generally exercise its redispatch authority “through a market where the generators offer their services and the RTO chooses the least cost options.”). An RTO “should have ultimate responsibility for both transmission planning and expansion within its region” because “a single entity must coordinate these actions to ensure a least cost outcome that maintains or improves existing reliability levels.” *Id.* at p. 31,164.

7. Transmission Access Policy Study Group. v. FERC, 225 F.3d 667 (D.C. Cir. 2000) (providing a comprehensive discussion of the history of Order No. 888).

8. Order No. 2000, *supra* note 6, at p. 30,999.

9. New York v. FERC, 535 U.S. 1, 11 (2002) (emphasis added).

10. *Id.* at 13 (emphasis added).

11. New York, 535 U.S. at 13 (emphasis added).

12. *Id.* at 9 (emphasis added).

13. Order No. 2000, *supra* note 6, at p. 30,999.

reliability and foster competition.<sup>14</sup> The FERC explained that RTOs would improve the efficiency and reliability of the grid, remove discrimination, and improve market performance.<sup>15</sup> Order No. 2000 required transmission-owning utilities to either participate in an RTO, or explain why they would not join.<sup>16</sup>

On January 9, 2007, the FERC opened an administrative proceeding which, in part, sought to evaluate the benefits of wholesale competitive markets created by RTOs.<sup>17</sup> At the first day of the Conference on Competition in Wholesale Power Markets, FERC Commissioner Suedeen Kelly questioned the FERC's efforts to promote energy markets developed by RTOs expressing the concern that, "I think that we really are starting this journey of determining how we set up metrics to quantitatively determine whether or not we are going down the most efficient path . . . ."<sup>18</sup> During several technical conferences in Docket No. AD07-7, the Commission considered evidence as to whether RTOs should continue to exist or whether they should be replaced by a different organizational structure.<sup>19</sup>

On June 22, 2007, the FERC issued an Advance Notice of Proposed Rulemaking in Docket No. RM07-19 seeking public comment on potential reforms to improve operations in organized wholesale power markets.<sup>20</sup> One of the four major topics for public comments was the "responsiveness of RTOs and ISOs to customers and other stakeholders."<sup>21</sup>

An analysis of the degree of success of RTOs<sup>22</sup> is not limited to Commission activities. On May 21, 2007, Senators Lieberman (I-Conn.) and Collins (R-Me.) from the Senate Committee on Homeland Security and Governmental Affairs sent a letter to the Comptroller General of the U.S. Government Accountability Office (GAO) requesting that the GAO begin a comprehensive investigation of "ISO and RTO costs, structure, processes, and operations."<sup>23</sup> The letter requested a wide-ranging investigation of the "success" of RTOs/ISOs, including: (1) the start-up, operating, and capital costs of each of the RTO/ISOs over the past five years; (2) an analysis of whether these organizations have reduced the "all-in, delivered costs to load for energy, capacity, and ancillary services in each affected region (eliminating the effects of fuel costs);" (3) an analysis of the "benefits [that] these ISOs and RTOs have provided;" (4) an estimate of "annual savings that may have accrued because of

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14. *Id.*

15. Order No. 2000, *supra* note 6, at p. 30,993.

16. *Id.*

17. *Conference On Competition in Wholesale Power Markets*, Docket No. AD07-7-000 (F.E.R.C. Feb. 27, 2007) [hereinafter *CCWPM*].

18. *Id.* at 16.

19. For example, John Andersen, President of ELCON, requested that the FERC "initiate an inquiry into whether today's RTO platform, with LMP, can be made a viable market model. . . . The outcome of this inquiry should be a new road map for either reforming the RTO LMP framework or considering a return to regulation." *CCWPM*, *supra* note 17, at 55.

20. *Wholesale Competition in Regions with Organized Electric Markets*, 119 F.E.R.C. ¶ 61,306 (2007).

21. *Id.* at P 2.

22. See, e.g., Joseph H. Eto, Douglas R. Hale, & Bernard C. Lesieutre, *Toward More Comprehensive Assessments of FERC Electricity Restructuring Policies: A Review of Recent Benefit-Cost Studies of RTOs*, 19 ELEC. J. 50, 50-62 (2006).

23. Press Release, Senate Committee on Homeland Security & Governmental Affairs, Senator Collins Calls for GAO Investigation of Elec. Charges in Maine, Nation (May 22, 2007).

the creation of these entities;” and (5) a review of whether the RTOs/ISOs should conduct “an evaluation of the costs and benefits of the market design proposals . . . prior to their submission to the FERC for approval.”<sup>24</sup>

In addition, a recent article in the *Energy Law Journal* attempted to measure the benefits and costs of RTOs and concluded, in part, that one RTO may be “too large” and another is “probably . . . too small to yield significant benefits to consumers or the system.”<sup>25</sup> The author of this article acknowledged that the metrics currently used to evaluate the success of RTOs “are incomplete and not objective”<sup>26</sup> and encouraged the development of more well-defined metrics for evaluating RTOs.<sup>27</sup> The author, who was trained in Economics, Engineering, and Public Policy, suggested many potential RTO “metrics” but focused on economic cost/benefit indices, such as: generation efficiency, retail prices, costs of operating RTOs, and encouraging economic demand response.<sup>28</sup>

This article examines potential new metrics that should be considered in measuring the performance of an RTO. Section two discusses a variety of metrics that might be used to demonstrate whether the benefits of an RTO exceed the societal costs of supporting such organizations. Section three focuses on understanding how a purely economic cost/benefit metric might be applied to the operations of an RTO. Section four discusses some of the challenges in applying economic metrics to RTOs. Section five examines metrics that economists have attempted to use to evaluate the success of other non-profit entities. Section six suggests one alternative metric for evaluating RTOs: whether the RTO is strictly complying with its tariff. Section seven proposes new metrics that may be better suited to evaluating an RTO than economic cost/benefit criteria. Section eight provides recommendations and final conclusions.

## II. FLAWED MEASURES OF AN RTO’S SUCCESS

RTOs are unique entities that do not fit easily either into the categories of private for-profit companies or eleemosynary organizations. Metrics that are used to measure a for-profit business are ill-fitted to measure RTOs, in part, because non-profit RTOs were statutorily created to serve a specific purpose and achieve specific policy goals, unrelated to profit. This section attempts to apply some of these traditional metrics to RTOs and examines the results of such a “square peg in a round hole” experiment.

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24. *Id.*

25. Seth Blumsack, *Measuring the Benefits and Costs of Regional Electric Grid Integration*, 28 *ENERGY L.J.* 147, 183 (2007) [hereinafter Blumsack].

26. *Id.* at 181.

27. Blumsack, *supra* note 25, at 184. The paper “seeks to lay out a reasonably complete set of factors or performance metrics that ought to be considered in any serious analysis of the costs and benefits of RTO markets or operations.” *Id.* at 148.

28. Blumsack, *supra* note 25, at 182.

### A. Total cost of the RTO's annual operations

Some parties have suggested that RTOs have not been demonstrated to be successful, in part, due to their costs of operations.<sup>29</sup> They have urged the FERC, for example, to examine whether RTOs have excessive administrative costs, including conducting “biennial cost/benefit analysis [of RTOs] by states, [and] require a cost/benefit assessment of major new [RTO] initiatives.”<sup>30</sup> Other parties have encouraged the FERC to “[r]equire RTOs to incorporate as express corporate objectives the minimization of costs and maximization of value to RTO customers, and require them to demonstrate in subsequent rate, tariff-design, and market-rule filings how they are achieving those objectives.”<sup>31</sup>

Examination of the annual costs incurred by an RTO has the advantage of being transparent and easily evaluated because all RTOs are required to complete the FERC's Form 1 and report their total costs of capital and operations by April 18th of each year.<sup>32</sup> This requirement not only allows visibility into a particular RTO's expenses, but it would appear to facilitate comparison of the relative success of various RTOs. If this metric were the only one by which to judge the success of an RTO, it might provide strong encouragement for RTOs to monitor their costs more closely such that they might be evaluated as successful because their costs were low.

A significant problem with only examining the FERC Form 1 capital and operating costs of RTOs is that this metric might inaccurately show a large RTO as being less successful than a smaller RTO simply because the larger RTO has higher annual costs. Focusing purely on annual RTO costs would not recognize the potentially large member benefits that result from new projects that are capital intensive (e.g., development of regional spot energy markets). Moreover, this metric would not be able to measure readily and recognize appropriately the different stages of growth of RTOs.<sup>33</sup>

### B. Cost of an RTO per Megawatt of Region Peak Load

Parties recognizing that RTOs perform services for different sized sets of customers might favor evaluating RTOs based upon a more relativistic criterion, for example, dividing the RTO's annual FERC Form 1 costs by the annual net load that is served in the RTO's region. This arguably more refined metric may have the advantage of normalizing somewhat the analysis for larger RTOs that serve more customers. If one evaluated RTOs based upon some sort of “costs per value obtained” metric, it would tend to reflect that an RTO serving, for

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29. See Financial Reporting and Cost Accounting, Oversight and Recovery Practices for Regional Transmission Organizations and Independent System Operators, *Massachusetts Municipal Wholesale Electric Company, et al.*, Docket No. RM04-12-000 (F.E.R.C. Nov. 9, 2004).

30. Transcript, *Conference on Competition in Wholesale Power Markets*, Docket No. AD07-7-000, at 208 (F.E.R.C. May 8, 2007).

31. See Comments of Massachusetts Municipal Wholesale Electric Company on RTO Accountability Issues, *Conference on Competition in Wholesale Power Markets*, Docket No. AD07-7-000 (F.E.R.C. June 14, 2007).

32. *FERC Form No. 1: Annual Report of Major Electric Utilities, Licensees and Others and Supplemental*, 18 C.F.R. § 141.1(b).

33. PJM Interconnection, L.L.C., for example, began energy market operations in 1998; the Midwest ISO did not commence spot energy markets until April 1, 2005, and the SPP RTO, to date, has only developed an imbalance energy market.

example, four times the megawatt (MW) load at twice the annual costs of another RTO might, in theory at least, be viewed as being “more successful” than the other RTO.

Unfortunately, if this metric were widely adopted, it might inappropriately encourage RTOs to simply “do less for more customers” in order to be viewed as a success. This sort of a hybrid economic metric would also reduce an RTO’s incentive to be responsive to customer needs, because as long as the RTO could keep its annual costs down, it would be deemed to be successful even if it did not accomplish the goals desired by its members. Such a metric also would serve as a strong disincentive for an RTO to tackle new challenges, such as improving energy markets or establishing a more robust regional transmission expansion program. As a result, adoption of this hybrid metric to measure an RTO’s success might discourage RTOs from improving services to its customers.

### *C. Absence of Blackouts*

Others might propose to evaluate the success of an RTO based upon one of the primary reasons for operating an RTO, reliable interstate grid operations. A simplistic measure of reliability might be a “one in ten” standard, the standard that many reliability organizations, including the North American Electric Reliability Corporation (NERC) and ReliabilityFirst Corporation,<sup>34</sup> have developed.<sup>35</sup> In other words, an RTO could, in theory, be measured successful, in part, if it experiences major grid outages no more frequently than one occurrence every ten years. The advantage of this metric of an RTO’s success is that it would appropriately recognize that grid reliability is one of many responsibilities of an RTO.

Unfortunately, this performance-based metric would not necessarily distinguish between outages caused by distribution facilities that are not subject to an RTO’s control, and outages caused by the wholesale transmission systems that are operated by the RTO. In fact, studies have demonstrated that over 90% of system outages are due to distribution level facilities not subject to the jurisdiction of the FERC or RTOs.<sup>36</sup> If this metric were widely adopted to measure the success of RTOs, it might also provide improper incentives for the RTO to encourage “over building” of the transmission grid (and encourage construction of excessive generation facilities in a region) at a higher cost than the stakeholders might desire to decrease the likelihood of outages. Reliance on such a metric to measure the relative success of RTOs might also discourage

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34. ReliabilityFirst Corporation is one of eight Regional Entities that has entered into a Delegation Agreement with the NERC, the National Grid Reliability Organization. *North American Electric Reliability Council*, 119 F.E.R.C. ¶ 61,060 (2007).

35. Specifically, Resource Planning Reserve Requirements, Section B (R1) states: “The Loss of Load Expectation (LOLE) for any load in RFC due to resource inadequacy shall not exceed one occurrence in ten years.” PJM INTERCONNECTION, LLC, PJM RESERVE REQUIREMENTS STUDY (2007), <http://www.pjm.com/committees/working-groups/trawg/downloads/20070709-pjm-reserve-study.doc>.

36. R. COWART, ET AL., NATIONAL RENEWABLE ENERGY LABORATORY, STATE ELECTRICITY REGULATORY POLICY AND DISTRIBUTED RESOURCES: DISTRIBUTED RESOURCES AND ELECTRIC SYSTEM RELIABILITY 13 (2002), <http://www.nrel.gov/docs/fy03osti/32498.pdf>.

RTOs from developing and investing in improvements to energy markets, even though RTOs have been credited with increasing reliability.<sup>37</sup>

#### D. *Spot Prices for Energy*

One metric that many commentators have focused on is whether the existence of RTOs leads to lower energy prices.<sup>38</sup> It is reasonable to believe that an efficient RTO energy market would provide a higher degree of price transparency, which experts suggest should place downward pressure on energy prices as competition increases.<sup>39</sup> Although owners of generation resources might wish to avoid the use of such a metric, the RTO stakeholders that pay the vast majority of an RTO's expenses are load serving entities which seek lower wholesale energy prices. State commissions, in particular, have focused on whether an RTO can keep energy prices low as a measure of whether the RTO is successful.

RTO energy markets, however, are designed to report accurately the true cost of energy based upon least-cost economic dispatch of resources, rather than to lower electricity prices to benefit consumers or to raise electricity prices to favor generators. The largest single factor that drives the cost of energy is the cost of the products used to produce energy<sup>40</sup> (e.g., coal, uranium, oil, or natural gas). If the prices for these raw products rise, it is inevitable that energy costs will rise no matter how good (or how bad) a job an RTO is doing. Because energy prices are primarily driven by factors that are out of the control of the RTO, examination of energy prices also may not be an effective metric for measuring the success of an RTO, even though the FERC has held that an RTO can assist in lowering energy prices.<sup>41</sup>

#### E. *Number of Complaints Filed Against an RTO at the FERC*

A potential non-economic measurement of the success of an RTO would be whether or not the RTO is complying with its tariff. An RTO is regulated by the

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37. Jose Delgado testified that "joint dispatch of generation [by RTOs] is a fantastic input to the reliability of the system. As a consequence, I would say it has had a tremendous beneficial impact on the operation of the system." Jose Delgado, President and CEO, American Transmission Co., Comments at the Conference of Competition in Wholesale Power Markets (May 8, 2007).

38. Press Release, *supra* note 23. See also Supplemental Comments of Transmission Access Policy Study Group on RTO Accountability, *Conference on Competition in Wholesale Power Markets*, Docket No. AD07-7-000 at 4 (2007) (noting that "[t]he mission of Commission-authorized RTOs must include ensuring that consumers 'pay the lowest price possible for reliable service'").

39. "RTOs seek to create price transparency and the ability to wheel power across swaths of America. More generators can then bid their power into the system and the resulting competition puts downward pressure on prices." Ken Silverstein, *Polishing the RTO Business Model*, ENERGYBIZ INSIDER, Oct. 7, 2005, [http://www.energycentral.com/centers/energybiz/ebi\\_printer\\_friendly.cfm?id=39](http://www.energycentral.com/centers/energybiz/ebi_printer_friendly.cfm?id=39).

40. Peter S. Fox-Penner, *Behind the Rise in Prices*, ELECTRIC PERSPECTIVES, July/August 2006, at 47-49, <http://newenglandenergyalliance.org/downloads/ratesJulyAugust2006.pdf>. *Contra Wholesale Competition in Regions with Organized Electric Markets*, Docket Nos. RM07-19-000 and AD07-7-000, Edward Bodmer Aff. at p. 22 (Sept. 14, 2007) ("consumers are paying far more under the centralized RTO structure than they would be paying under a cost-of-service, vertically-integrated regulatory regime.").

41. *PJM Interconnection, L.L.C.*, 96 F.E.R.C. ¶ 61,060, at p. 61,208 (2001) (stating "[w]hile there will be 'start up' costs in forming a larger RTO, over the longer term, large RTOs will foster market development, will provide increased reliability, and will result in lower wholesale electricity prices.").



FERC and is required to comply strictly with the provisions of its tariff.<sup>42</sup> If any party believes that the RTO is either not complying with its tariff or that the RTO's tariff terms and conditions are not just and reasonable, the party can bring a complaint against the RTO under § 206 of the FPA.<sup>43</sup> Thus, if an RTO has a history of successful complaints being filed at the FERC pursuant to § 206 to challenge the RTO's actions, it might be reasonable, in theory, to assume that the RTO is not successful: either because the RTO is not strictly complying with its tariff or because its tariff is poorly written. Such a metric would likely not only encourage an RTO to comply with its tariff, but would also encourage it to work cooperatively with stakeholders to resolve potential § 206 disputes.<sup>44</sup>

Given the complexity of RTO tariffs, however, it is not necessarily surprising that good-faith disputes arise, despite an RTO's best efforts to comply with its tariff. This non-economic metric would not recognize that an RTO has limited authority under its tariff to resolve disputes outside of a § 206 proceeding. For example, if there is ambiguity in a tariff provision, an RTO has limited options: (1) it can spend \$19,890 and file a Petition for a Declaratory Order with the FERC's General Counsel to resolve the ambiguity;<sup>45</sup> (2) it can make a § 205 filing to clarify prospectively the potential ambiguity;<sup>46</sup> or (3) it can file (or tacitly permit a stakeholder to file) a § 206 complaint to resolve the issue.<sup>47</sup>

In addition, evaluating an RTO based upon the number of successful § 206 complaints that are filed against an RTO may have the disadvantage of discouraging an RTO from taking principled positions if such positions might lead to disputes. Rather than act independently, an RTO might be encouraged by such a metric to favor an obstreperous stakeholder to avoid having a § 206 complaint filed. Moreover, this metric might also have the disadvantage of labeling an RTO as unsuccessful even if its position prevails at the FERC (although in some instances it may be difficult to determine whether an RTO "prevails" in a § 206 proceeding). Finally, this metric might encourage the filing of frivolous complaints at the FERC by some stakeholders to attempt to portray an RTO as being unsuccessful apart from the underlying merits of a dispute.

### III. DIFFICULTIES IN USING AN ECONOMIC COST/BENEFIT METRIC FOR RTOS

#### A. *Evaluating the Cost of RTOs*

As previously discussed, economic metrics have been suggested by some to evaluate whether an RTO produces "net benefits."<sup>48</sup> This requires, of course,

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42. *California Indep. Sys. Operator Corp. v. Reliant Energy Servs.*, 181 F. Supp. 2d 1111, 1128 n.25 (E.D. Cal. 2001) (finding that an "ISO Tariff has the force and effect of a federal statute.").

43. 18 C.F.R. § 385.206 (2007).

44. RTO tariffs provide another remedy to an aggrieved party; they can utilize alternate dispute resolution (ADR) procedures at the FERC or pursuant to the terms of an RTO's tariff to resolve problems. ADR proceedings, however, would not bind third parties, such as other stakeholders, to the remedy. As a result, RTO stakeholders may utilize § 206 to resolve concerns.

45. 18 C.F.R. § 385.207 (2007).

46. 18 C.F.R. § 385.205 (2007).

47. 18 C.F.R. § 385.206 (2007).

48. Blumsack, *supra* note 25, at 157.

that one measure all of the economic costs of an RTO and compare them to all of the economic benefits of an RTO to determine whether the benefits outweigh the costs. If the net economic benefits exceed the costs, the RTO presumably would be deemed to be successful; if not, the RTO would be considered to be unsuccessful and perhaps even be subject to eventual retirement or replacement by a more successful entity.

It is worth noting that Order No. 2000 does not require any quantitative cost-benefit analysis as a condition for the approval or continuation of an RTO.<sup>49</sup> The only instance when a cost-benefit analysis is mentioned in Order No. 2000 is in the discussion of “innovative rate treatments.”<sup>50</sup> In its decision granting RTO status to Southwest Power Pool (SPP), the Commission stated that Order Nos. 2000 and 2000-A:

do not require a cost/benefit analysis demonstrating that a specific RTO proposal will result in just and reasonable rates, prior to RTO approval. Rather, as discussed in Order No. 2000, the Commission believes that RTOs in general offer numerous benefits that will help ensure just and reasonable rates for jurisdictional services.<sup>51</sup>

In its decision addressing the RTO proposal of RTO West, the Commission reaffirmed its determination in Order No. 2000 “that the benefits of RTO formation overall outweigh the costs,” and that the Commission would “not require individual cost benefit analyses in compliance filings.”<sup>52</sup>

In its decision upholding the FERC’s rulings on challenges to Order No. 2000, the D.C. Circuit Court of Appeals rejected a “general argument” that an “RTO applicant must demonstrate cost-effectiveness before the Commission approves the application.”<sup>53</sup> The Court of Appeals stated that such an argument suffered from lack of “aggravement” because RTO formation is voluntary under Order No. 2000.<sup>54</sup> The Court of Appeals also reiterated the Commission’s view that Order No. 2000 “did not require individual cost benefit analyses in compliance filings.”<sup>55</sup> The Court of Appeals further noted the FERC’s position that if any specific cost-benefit evidence is submitted by interested parties in a particular RTO formation proceeding, the Commission would need to address such evidence adequately.<sup>56</sup>

The costs of an RTO can be readily discerned through an examination of the FERC Form 1 and are frequently exposed during the course of stakeholder discussions.<sup>57</sup> Although many stakeholders are aware of the costs that an RTO incurs in acquiring computer resources and hiring/retaining trained staff, all stakeholders may not recognize the wide variety of tasks that an RTO is required

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49. Order No. 2000, *supra* note 6.

50. Order No. 2000, *supra* note 6, at p. 31,196; 18 C.F.R. § 35.34(e)(1)(ii) (2006).

51. *Southwest Power Pool, Inc.*, 109 F.E.R.C. ¶ 61,010, at P 12 (2004).

52. *Avista Corp.*, 95 F.E.R.C. ¶ 61,114, at p. 61,324 (2001), *reh’g granted in part and clarified in part*, 96 F.E.R.C. ¶ 61,058, at p. 61,182 (2001).

53. *Public Util. Dist. No. 1 of Snohomish County, Wash. v. FERC*, 272 F.3d 607, 618 (D.C. Cir. 2001).

54. *Id.*

55. *Public Util. Dist. No. 1*, 272 F.3d at 618-19 (quoting 95 F.E.R.C. ¶ 61,114).

56. *Public Util. Dist. No. 1*, 272 F.3d at 619.

57. Many RTOs, for example, conduct Finance Committee meetings with their stakeholders to review detailed financial information and discuss the funding of potential new projects. *See generally*, PJM INTERCONNECTION, L.L.C., AMENDED AND RESTATED OPERATING AGREEMENT OF PJM INTERCONNECTION, L.L.C. (2007), <http://www.pjm.com/documents/downloads/agreements/oa.pdf>.

to conduct under its tariff.<sup>58</sup> These costs include, for example: the costs of estimating load and available generation resources to ensure that demand is always met on a real-time basis with the least-cost resources; the costs of building computer models to estimate and evaluate new generation interconnections and network upgrades to ensure reliability in the short-term as well as in ten years into the future; the costs of developing, testing, and implementing new market tools and operational tools to make wholesale competitive markets more competitive and transparent; legal and regulatory costs required to modify the tariff continually to reflect new initiatives and resolve potential ambiguities; the overhead and maintenance costs required to operate the RTO effectively; costs associated with verifying compliance with tariff provisions; and the costs associated with implementing equitable settlement procedures on as often as a weekly basis.

In addition, RTOs arguably are burdened by being responsible for payment of a disproportionate share of the FERC's operating costs since 2000 when the Commission revised its annual charge assessments by promulgating new regulations in Order No. 641. The Southwest Power Pool voiced this concern as follows:<sup>59</sup>

Under the Order No. 641 methodology, bundled retail load within the footprint of RTOs and ISOs is subject to annual charge assessments, while corresponding load outside of RTOs/ISOs is not. As a result, transmission-owning members of RTOs and ISOs have been burdened with increasing and disproportionate fee assessments, relative to utilities in non-RTO/ISO regions.<sup>60</sup>

#### B. Difficulties in Calculating the Economic Benefits of RTOs

The FERC has concluded that the benefits of an RTO, such as the Midwest ISO, include: “(1) independent and regional grid planning (as opposed to utility-by-utility planning), (2) enhanced reliability, (3) increased efficiency, (4) more effective management of grid congestion to accommodate greater power flows, (5) access to spot markets, and (6) price transparency, to facilitate bilateral contract formation.”<sup>61</sup> The economic benefits of an RTO are thus much more difficult to measure than its costs, in part, because the benefits frequently do not involve financial aspects that can be easily quantified. For example, one of the Commission's original and primary reasons for establishing ISOs and RTOs was to prevent discrimination in the wholesale transmission and sales for retail.<sup>62</sup> According to the FERC, Order No. 2000 was issued to address the “continuing opportunities for transmission owners to *unduly discriminate* in the operation of their transmission systems so as to favor their own or their affiliates' power marketing activities.”<sup>63</sup> The Commission envisioned RTOs as a means to

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58. See PJM INTERCONNECTION, LLC, OVERVIEW, <http://www.pjm.com/about/overview.html> (last visited Sept. 3, 2007).

59. Order No. 641-A, *Revision of Annual Charges Assessed to Public Utilities*, [Regs. Preambles 2000] F.E.R.C. STATS. & REGS. ¶ 31,109 (2000), 65 Fed. Reg. 65,757 (2000) (to be codified at 18 C.F.R. pt. 382).

60. SOUTHWEST POWER POOL, BOARD OF DIRECTORS/MEMBERS COMMITTEE MEETING (2007), <http://www.spp.org/publications/BOD072407.pdf>.

61. *East Ky. Power Coop. v. FERC*, 489 F.3d 1299, 1307 (D.C. Cir. 2007).

62. Order No. 2000, *supra* note 6.

63. *Id.* at p. 31,092 (emphasis added).

“remove remaining opportunities for *discriminatory* transmission practices.”<sup>64</sup> But how does one place an economic value on the benefit of an RTO’s operations to prevent discrimination in generation interconnection services, transmission access, and energy market opportunities or financially quantify the economic benefits from an RTO’s other tasks?

### 1. The Value of Equitable Interconnections

If an RTO successfully facilitates the interconnection of a new generation resource to the grid in a non-discriminatory manner, it could be argued that the economic benefit should be measured as the difference in electricity prices at that location after the interconnection compared with the prices before. In other words, the economic “benefit” of the RTO is that its existence facilitated a low-cost generation resource to be able to interconnect with the grid under the Commission’s regulations<sup>65</sup> and thus presumably to reduce energy prices at that location.<sup>66</sup> It is conceivable that one could measure energy prices at that location both before and after the interconnection and thus determine if locational marginal energy prices were reduced based upon increased competition. If the prices were lower after the interconnection, arguably the presence of an RTO facilitated the interconnection. One could measure the economic “net benefit” of the RTO in that instance as the price differential times that amount of energy produced by the new generation resource.

On the other hand, what if energy prices generally declined at that location in the RTO’s region after the interconnection, due for example, to decreased costs of natural gas and/or coal? Should the RTO still be credited with greater “benefits” as a result of the propitious reduction in the raw costs of energy? Alternately, what if energy prices generally rose after the interconnection occurred? Should the RTO be denied any credit for facilitating an equitable interconnection simply because the raw costs of energy rose?

Another important consideration is whether the RTO should receive *any* economic “credit” for simply facilitating generation interconnections. The answer might lie in the FERC’s concern for the propensity of vertically integrated transmission owners to unfairly permit the interconnection of new generation resources.<sup>67</sup> As previously mentioned, this was one of the primary reasons that the FERC encouraged the establishment of ISOs and later RTOs.<sup>68</sup> If the FERC was right, the existence of an RTO is valuable because it enables

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64. Order No. 2000, *supra* note 6, at p. 30,993 (emphasis added).

65. Order No. 2003, *Standardization of Generator Interconnection Agreements and Procedures*, [Regs. Preambles 2003] F.E.R.C. STATS. & REGS. ¶ 31,146 (2003), 68 Fed. Reg. 49,846 (2003) (to be codified at 18 C.F.R. pt. 35), *order on reh’g*, Order No. 2003-A, [Regs. Preambles 2004] F.E.R.C. STATS. & REGS. ¶ 31,160 (2004), 69 Fed. Reg. 15,932 (2004) (to be codified at 18 C.F.R. pt. 35), *order on reh’g*, Order No. 2003-B, [Regs. Preambles 2005] F.E.R.C. STATS. & REGS. ¶ 31,171 (2004), 70 Fed. Reg. 265 (2005) (to be codified at 18 C.F.R. pt. 35), *order on reh’g*, Order No. 2003-C, [Regs. Preambles 2005] F.E.R.C. STATS. & REGS. ¶ 31,190 (2005), 70 Fed. Reg. 37,661 (2005) (to be codified at 18 C.F.R. pt. 35), *aff’d sub nom.*, National Ass’n of Regulatory Util. Comm’rs v. FERC, 475 F.3d 1277 (2007).

66. In an RTO energy market, the resources are dispatched by the RTO on a least-cost basis. If a generation resource desired to interconnect and provide energy to the spot market, it would have an economic incentive to do so if it could provide energy at that location at a lower cost than existing generation resources.

67. *New York v. FERC*, 535 U.S. 1, 11 (2002).

68. *Id.*

new generation resources to compete effectively with existing generation resources.

However, if the FERC's assumption is correct, then the "benefits" of a single non-discriminatory interconnection might be much larger than just the Locational Marginal Pricing (LMP)<sup>69</sup> changes at that site when a lower cost generation resource is able to interconnect to the grid.<sup>70</sup> If RTOs are successful in facilitating new facility generation interconnections, then RTOs are also responsible, in part, for creating a competitive energy market throughout the RTO's region. In other words, if a vertically integrated transmission owner believes that it will have to compete on a non-discriminatory basis with *all* new generation resources, that owner might tend to reduce some or all of its energy prices (from what they might otherwise be) to forestall such competition. This downward pressure on energy prices is admittedly difficult to measure, because it is nearly impossible to predict what energy prices "would have been" for a vertically integrated transmission owner unconcerned about competing with new generation resources where there is no RTO to enforce non-discriminatory interconnections. However, if there is any validity to the theory that RTOs lead to more efficient and competitive energy pricing by "policing" generation interconnections, then a metric of the "economic benefits" achieved by RTOs would seem to have to give some value to this occurrence.

## 2. The Value of Regional Planning

When ISOs were established, they were tasked with the responsibility for providing more efficient regional planning within their geographic region.<sup>71</sup> The Commission in Order No. 2000 stated that an RTO shall generally exercise its redispatch authority "through a market where the generators offer their services and the RTO chooses the least cost options."<sup>72</sup> Moreover, an RTO "should have ultimate responsibility for both transmission planning and expansion within its region" because "a single entity must coordinate these actions to ensure a least cost outcome that maintains or improves existing reliability levels."<sup>73</sup>

How does one measure the economic benefits of efficient regional planning? Economists might be tempted to look at transparent metrics, such as the costs of congestion through LMP pricing. If the RTO facilitates the construction and implementation of Network Upgrades that reduce congestion costs, the RTO should logically receive some "economic benefit" credit from

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69. Locational Marginal Pricing, also referred to as nodal pricing, which is based upon calculating the incremental cost of reliably delivering electricity from a generator bus to a load. See JEREMIAH D. LAMBERT, CREATING COMPETITIVE POWER MARKETS: THE PJM MODEL 105-12 (PennWell 2001).

70. The FERC has recognized the benefits of RTOs in preventing undue discrimination in orders approving the formation of such entities. In its order granting the Midwest ISO RTO status, the FERC reiterated that Order No. 2000 was intended to address persistent "transmission-related impediments to a competitive wholesale electric market," including "continuing opportunities for transmission owners to *unduly discriminate* in the operation of their transmission systems to favor their own or their affiliates' power marketing activities." *Midwest Independent Transmission System Operator, Inc.*, 97 F.E.R.C. ¶ 61,326, at p. 62,502 (2001) (emphasis added), *order on reh'g*, 103 F.E.R.C. ¶ 61,169 (2003).

71. Order No. 2000, *supra* note 6, at pp. 31,157-31,163.

72. Order No. 2000, *supra* note 6, at pp. 31,092-31,106 (Redispatch Authority), pp. 31,108-31,128 (Congestion Management), p. 31,178 (Congestion Pricing).

73. Order No. 2000, *supra* note 6, at p. 31,157 (Planning and Expansion).

those positive developments.<sup>74</sup> However, what portion of the Network Upgrade would have been constructed by the affected transmission owners if the RTO had never existed? Moreover, if the RTO facilitates (through effective regional planning) Network Upgrades that are required for reliability purposes (i.e., they are not designed to reduce the costs of congestion), what type of economic benefit should be credited to the RTO's efforts? When economists are measuring the economic benefits of RTOs, what value should they assign to the RTO's ability to facilitate more efficient and effective regional planning for Network Upgrades required for reliability and/or for economic purposes?

### 3. The Value of Price Transparency

Another goal of Order No. 2000 was the creation of transparent wholesale energy markets and the economic management of wholesale transmission congestion.<sup>75</sup> What "economic benefits" should be credited to an RTO for its part in creating and maintaining greater price transparency and competitive improvements in energy markets? If one endorses a simplistic cost/benefit metric to evaluate the success of RTOs, then it is necessary to quantify economically any improvement in competitive wholesale energy markets that is the result of an RTO's activities. However, it is challenging to determine how to quantify an RTO's role in improving price transparency for all market participants.

For example, does a vertically integrated electric utility market participant (VIMP) that chooses to self-supply its native load exclusively from its own generation resources receive *any* economic benefits from an RTO's transparent energy market? One could argue that such a market participant would receive no economic benefit from LMP pricing and thus any costs that an RTO incurs to create and maintain such a market would make the RTO less "successful," at least from the VIMP's cost/benefit standpoint.

However, would such an analysis be accurate if the VIMP, at least on occasion, produced more or less energy than required by its native load? In such instances, the VIMP would presumably engage in a bilateral contract with a neighboring entity to sell excess power or to purchase wholesale power, as it did before the RTO came into existence. Now, however, because of the creation of a more competitive and transparent energy market by an RTO, the VIMP would have a much better understanding of the true market price at which the bilateral transaction should take place. In the absence of a competitive and transparent energy market, a VIMP could only speculate on which units were operating in a neighboring utility and what the competitor's marginal energy prices might be. With a competitive and transparent energy market, however, a VIMP would know with much greater precision how to price sales of excess power (or purchase any required power) under a bilateral arrangement. Equally important,

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74. Network Upgrades refer to any changes or additions to transmission-related facilities that are integrated with and support the RTO's overall Transmission System for the general benefit of all users of such Transmission System.

75. 18 C.F.R. § 35.34(k)(2) (2007) (stating that "[t]he Regional Transmission Organization must ensure the development and operation of market mechanisms to manage transmission congestion . . . the market mechanisms must accommodate broad participation by all [market] participants, and must provide all transmission customers with efficient price signals that show the consequences of their transmission usage decisions.").

if the neighboring utility is unwilling to sell power or to purchase excess power at competitive market prices, the VIMP would have the option of readily selling or buying power on a competitive wholesale spot energy market due to the efforts of the RTO.

It is difficult to determine precisely how often bilateral transactions are influenced by transparent spot LMP pricing provided by an RTO in a competitive environment because the terms and conditions of such transactions, by their very nature, are not made public. However, it is reasonable to assume that parties that engage in bilateral transactions in a competitive market place are aware of transparent LMP pricing and respond to those price signals, if for no other reason than because they can make more money by selling or buying into the spot energy market if the bilateral party offers a less favorable transaction. This is a key factor in understanding the economic value of competitive energy markets created by RTOs. Competitive energy markets not only provide clear benefits to the “very small fraction of the total amount of electricity consumed” that is traded on the spot market, but the transparent price signals associated with those markets also provide reliable economic pricing signals to the other market participants that may not choose to directly engage in spot market transactions.<sup>76</sup>

Would a competitive energy market still provide economic benefits to the VIMP in a hypothetical situation in which the VIMP always seeks to self-generate exactly the amount of electricity that it needs to serve its load and never wishes to engage in any bilateral transactions? Assuming that the VIMP is interested in providing energy to its load at the least possible cost, one would predict that the VIMP would be interested in monitoring day-ahead and real-time energy pricing to determine when spot energy prices are lower or greater than its own costs of production.<sup>77</sup> If VIMP were a prudent utility, it would choose to reduce its self-generation of power when spot prices were lower than its costs of production and purchase electricity from the energy market. Likewise, when spot prices were significantly higher than its self-generation cost of production, it would have an economic incentive to produce more power than required by its load and sell the excess power into the spot market for a profit.

Thus, RTO competitive energy markets appear to benefit virtually *all* market participants by providing valuable energy market pricing signals, even to vertically integrated utilities that own adequate generation to serve their native load.<sup>78</sup> Even parties that choose to self-schedule power or to engage in bilateral contracts for power can benefit from transparent price signals. When measuring the economic benefits of RTOs, what value should be assigned to the enhanced ability of market participants to self-schedule, engage in bilateral transactions, or buy/sell energy into the spot energy market more economically?<sup>79</sup>

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76. “The most successful wholesale electricity markets, as judged by the competitiveness of their spot markets, are those with where only a very small fraction of the total amount of electricity consumed is actually purchased in the spot market.” Frank A. Wolak, *Managing Unilateral Market Power in Electricity* 8 (World Bank, Policy Research Paper No. 3691, 2005), available at [http://econ.worldbank.org/external/default/main?pagePK=64165259&theSitePK=469372&piPK=64165421&menuPK=64166093&entityID=000016406\\_20050824155819](http://econ.worldbank.org/external/default/main?pagePK=64165259&theSitePK=469372&piPK=64165421&menuPK=64166093&entityID=000016406_20050824155819).

77. See, e.g., 220 ILL. COMP. STAT. 5/1-202 (2007).

78. *California Indep. Sys. Operator, Inc.*, 119 F.E.R.C. ¶ 61,076, n.572 (2007).

79. In its order authorizing the New York Power Pool’s establishment of an ISO, the Commission found that the ISO proposal satisfied the requirements of Order No. 888, including the use of a congestion

#### 4. The Value of Common Energy Reserves

Prior to the formation of RTOs, individual utilities were required to maintain adequate excess generation reserves to account for forced outages of their generation resources and unexpected load peaks, in order to maintain reliable service. If a utility entered into a reserve sharing arrangement with a neighboring utility with which good transmission ties existed, both utilities might be able to share a portion of each other's reserve requirements and reduce their otherwise applicable individual need for excess generation reserve facilities while maintaining an acceptable corresponding level of reliability. That is one of the reasons that so-called "tight power pools" were formed in the Northeastern United States in New England, New York, and the Mid-Atlantic Region. Since the 1930s, these tight power pools formed because they enabled the participants to economically share energy, transmission facilities, and ancillary services, and create savings for the participating utilities.

If the existence of an RTO enables improved transmission and energy transactions across a larger area, it is reasonable to expect that some economic benefits would result from this sharing of generation resources on a wider basis. When economists are measuring the economic benefits of RTOs, what value should they assign to the enhanced ability to share generation reserves to reduce the costs of meeting resource adequacy reserve requirements?

#### 5. The Value of Shared Ancillary Services

Prior to the formation of RTOs, utilities were required either to provide their own ancillary services (spinning reserves, regulation, etc.) to maintain reliable service or to enter into arrangements with neighboring utilities to share such services.<sup>80</sup> With the formation of RTOs, some of these ancillary services are beginning to be provided through a transparent, open-access market instead of through bilateral arrangements that may have larger transaction costs.<sup>81</sup> When economists are measuring the economic benefits of RTOs, what value should they assign to the ability of utilities to engage in transparent purchases and sales of ancillary services instead of maintaining these services on an individual utility basis?

#### 6. The Value of Reducing Market Power

Parties engage in wholesale energy sales and purchases for reliability purposes and also to engage in profitable hedging transactions. It is generally understood that parties will attempt to maximize the profitability of these hedging transactions. In the absence of transparent energy markets run by RTOs, market participants would have a greater ability to sell energy at more

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management system that would "mitigate transmission constraints by *nondiscriminatory* redispatch of generation." *Central Hudson Gas & Elec. Corp.*, 83 F.E.R.C. ¶ 61,352, at p. 62,414 (1998) (emphasis added).

80. Order No. 888, *Promoting Wholesale Competition Through Open Access Non-discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities*, [Regs. Preambles 1991-1996] F.E.R.C. STATS. & REGS. ¶ 31,306 (1996), 61 Fed. Reg. 21,540 (1996) (to be codified at C.F.R. pts. 35, 385).

81. REGULATION AND FREQUENCY RESPONSE SERVICE PROVIDED BY PJM AT MARKET RATES, SCHEDULE 3 OF THE PJM TARIFF, FERC Electric Tariff Sixth Revised Volume No. 1 (issued by FERC Dec. 18, 2006).



than “market prices” due to uncertainty surrounding the determination of the “true” price of the energy being sold. With the advent of RTO-operated energy markets, increased hedging and arbitrage arrangements tend to reflect actual market conditions more accurately. When economists are measuring the economic benefits of RTOs, what value should they assign to the reduced ability of parties to capture pricing inefficiencies resulting from the lack of transparent pricing?

RTOs have resulted in the creation of independent market monitors (IMMs)<sup>82</sup> who work to keep prices competitive. IMMs are designed to monitor energy market transactions to preclude any party from exercising market power. IMMs obtain the vast amount of their data directly from RTOs in order to evaluate whether a party may be improperly exercising market power. IMM’s also may address potential violations by designating specific geographic areas as so-called “Narrowly Constrained Areas” and imposing special restrictions on bidding and offers.<sup>83</sup> When economists are measuring the economic benefits of RTOs, what value should they assign to reduction in the exercise of market power through the actions of the IMMs based upon energy market data from RTOs?

#### 7. The Value of Facilitating Renewable Resources

RTOs were designed to facilitate least-cost dispatch of generation resources and not to favor any one type of generation resource. In practice, however, renewable resources, such as wind energy, have found that the transparent and competitive energy markets created by RTOs facilitate the development of renewable resources.<sup>84</sup> For example, the American Wind Energy Association concluded that 73% of wind resources are located in RTO energy markets, where one would normally expect only about 44% to be located there based upon wind availability.<sup>85</sup> This could be a reflection of the benefits of a transparent energy market for wind developers or it might reflect non-discriminatory interconnection rights available to wind generation resources in RTOs. When economists are measuring the economic benefits of RTOs, what value should they assign to the associated increased development of renewable resources?

#### 8. The Value of Demand Side Management and Distributed Generation Options

Efficient and transparent energy pricing has also facilitated the development of demand side management and distributed generation technology. Without LMP wholesale pricing signals, an end-use customer would not be able to know the true value of reducing its load during a given hour, when negotiating interruptible pricing arrangements with a load serving entity.<sup>86</sup> Similarly, the

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82. Order No. 2000, *supra* note 6, at pp. 31,146-31,157.

83. MIDWEST ISO, FERC ELECTRIC TARIFF, THIRD REVISED VOLUME NO. 1 § 53.3.e (2005).

84. Transcript, *Conference on Competition in Wholesale Power Markets*, Docket No. AD07-7-000, at 41 (F.E.R.C. Feb. 27, 2007).

85. *Id.*

86. The value of RTOs in promoting demand response was noted in a May 31, 2007 “Open Letter to Policy Makers” that was signed by nine former FERC Commissioners, including three of the former FERC Chairs. The letter stated, in part, that “competitive markets offer a significantly better platform to promote

economics of distributed generation technology are more favorable when a generation source can know the economic value of producing energy during a given hour. When economists are measuring the economic benefits of RTOs, what value should they assign to the ability of LMP pricing to facilitate the development of improved demand side management and distributed generation technologies?

#### 9. The Value of Facilitating Retail Choice

Some states have made a policy decision that energy prices could be lower if competitive retail choice opportunities were created. It may be premature to know whether state retail choice programs have fulfilled their policy objectives. It is clear, however, that LMP pricing facilitates retail choice programs by providing alternative energy providers with a competitive wholesale market from which to acquire energy for end-use customers. Competitive wholesale LMP prices do not, by themselves, create effective retail choice programs, but the actions of RTOs in operating competitive energy markets facilitates retail choice programs in those states that elect to pursue this initiative.<sup>87</sup> When economists are measuring the economic benefits of RTOs, what value should they assign to the ability of LMP pricing to facilitate the development of retail choice programs?

#### 10. Not All Parties Benefit Equally

For completeness, it must also be recognized that all parties in the electricity system are not equally situated and thus do not receive identical “costs” and “benefits” from an RTO. The owner of a generation facility, for example, benefits when the price of electricity rises.<sup>88</sup> Users of energy may also experience different “economic benefits” depending upon the *a priori* status quo. A company that has been benefiting from nearby low-cost power generation sources (such as from a mine-mouth coal powered electricity generation plant) may disparage the benefits of transparent energy prices if the result of an RTO-created competitive wholesale energy market is that such low-cost power is sold instead to load serving entities in a higher-priced environment. Thanks to greater competition and price transparency, the company may now end up paying more for its power once the low-cost generators begin receiving prices that reflect the true locational value of such resources.

Many industrial customers have historically entered into interruptible service agreements with utilities which were not available to residential customers. In exchange for lower rates during the year, an industrial customer would agree to be interrupted one or more times during the year when loads were greatest so that the utility could avoid constructing additional generation

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demand response than traditional cost-of-service regulation. In an RTO, generators and customers see a clear signal on the value of demand response resources and the regional system operator can integrate the product into the least-cost dispatch.” Open Letter from Former FERC Commissioners to Policy Makers (May 31, 2007), <http://www.allianceforretailchoice.com/ProjectCenter/Portals/13/Former%20commissioners%20letter.pdf>.

87. *Id.*

88. Of course, it could be argued that in the long run, higher generation prices encourage the construction of additional generation resources to meet load, and thus the higher prices increase the reliability of the system, which would indirectly also benefit loads.

facilities to meet rare peak load conditions. If new demand side reduction programs, for example, are facilitated by an RTO for all customers, the industrial customer might not view as a benefit a program that it had historically enjoyed. If the utility had been subsidizing the interruptible rate for the industrial customer by incrementally raising residential rates, the industrial customer might believe that the former non-transparent rate making methodology was preferential to a new regime where such subsidies would either be phased out or be provided to all customers on a non-discriminatory basis.

#### IV. KEY CHALLENGES FACED BY AN ECONOMIC COST/BENEFIT METRIC

Part III of this article illustrated some of the difficulties in utilizing an economic cost/benefit metric to evaluate the success of RTOs. In short, comparison of an RTO's true benefits with its costs is challenging, largely because an RTO's benefits are not easily quantified in economic terms. However, even assuming that all the economic benefits of an RTO could be precisely calculated and valued monetarily, an economic cost/benefit metric would nonetheless be ill-suited to the operation of a not-for-profit RTO.

It is important to recognize that although the FERC has regulated for-profit electric utilities for over seventy years, it has never attempted to evaluate the success of a for-profit jurisdictional utility by analyzing, for example, whether a for-profit utility's benefits to its customers exceed the costs incurred by its customers. This is primarily because a for-profit utility measures its "success" in terms of return on investments to its shareholders. In other words, the extent to which a for-profit utility's costs are less than its revenues is generally defined as the utility's profitability.

If the FERC were to adopt an economic cost/benefit metric to analyze whether a for-profit entity was "successful," it also would be problematic, in part, because many of the benefits (e.g., reliable utility service to its customer) are not capable of economic measurement, similar to some of the problems discussed above concerning valuing the benefits of an RTO. In fact, if the FERC employed a cost/benefit test for for-profit utilities they might have a perverse economic incentive to benefit their shareholders by not complying with every aspect of their tariff, if the costs of doing so (including any FERC penalties for non-compliance) were less than the related revenues.

In contrast, a FERC regulated not-for-profit utility (such as an RTO) has less ability to decrease the costs of complying with its tariff or to increase the benefits resulting from tariff compliance than a for-profit utility. Like all FERC regulated entities, an RTO is legally required to follow its tariff strictly (even if the benefits from a particular activity are less than the costs incurred to perform that service). The goals and objectives of an RTO, however, are not influenced by shareholders seeking greater profits, but by its diverse stakeholders. An RTO's costs might be much lower, for example, if it were not encouraged by its stakeholders to engage in a new and expensive initiative. Some new initiatives may result in higher RTO costs than the perceived economic benefits because stakeholders rarely directly measure the benefit/cost ratio before giving approval to them. Similarly, the FERC does not address the cost of compliance in its orders when it imposes new (and sometimes expensive) requirements on an RTO. In contrast, a for-profit utility would not be obligated to engage in an

expensive new initiative (unless required to do so by the FERC) if its management concluded that the economic benefits would not exceed the costs to its shareholders.

The FERC has directed, for example, RTOs to undertake lengthy and time-consuming stakeholder processes regarding the cost-allocation of Network Upgrades to the transmission systems they control. These processes, while necessary to complement well-functioning energy markets, have imposed considerable internal and external costs upon the RTOs. The internal costs include the personnel man-hours expended by the RTOs on these FERC-mandated projects and processes that may be outside the normal responsibilities of the RTO personnel. Additional external expenses include the engagement of outside consultants and legal counsel to guide the RTOs through the economic and legal pitfalls of proposed cost-allocation methodologies. These expenses can be considerable, even before a final cost allocation proposal is filed with the FERC. Hopefully, a consensus will have been reached in the stakeholder process eliminating the need to litigate the matter before the FERC; however, as many RTOs have experienced, stakeholder processes will not necessarily preclude time-consuming and expensive litigation proceedings before the FERC.<sup>89</sup>

While RTOs are required to remain independent of their members, recent governmental changes at RTOs to increase the ability of stakeholders to meet with and to influence board members demonstrate that RTOs are concerned with knowing what their stakeholders want them to do.<sup>90</sup> When a significant percentage of RTO stakeholders convince an RTO of the need to engage in a particular program, it is difficult (if not impossible) for an RTO to decline to provide the requested service to the stakeholders merely on the grounds that the incremental costs of the initiative may exceed the perceived economic benefits of the program. Moreover, the economic benefits resulting from RTO initiatives may be limited by the desires of the stakeholders and/or the orders of the Commission because the RTO does not have the luxury of unilaterally making decisions regarding any new programs. The nature and design of the RTO are such that the RTO often cannot act without the support of its stakeholders.

As demonstrated above, an economic cost/benefits test may not be the most useful method by which to measure an RTO's success. Thus, it is useful to examine metrics other than an economic cost/benefit test.

#### V. METRICS USED BY ECONOMISTS TO MEASURE NON-PROFIT ENTITIES

To evaluate the best metrics to apply to a not-for-profit RTO, one might study the metrics that economists use to measure other non-profit entities. There are many similarities between measuring the success of a charitable organization (such as the American Red Cross) or a governmental organization (such as the Securities and Exchange Commission) and attempting to measure the success of an RTO. In each case, the organizations must comply with all applicable laws (audit requirements, non-profit tax laws, etc.) to avoid legal liability. However,

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89. *PJM Interconnection, L.L.C.*, 119 F.E.R.C. ¶ 61,063, at P 65 (2007).

90. For example, the Midwest ISO has more than 29 active committees and working groups to consider input from its stakeholders. See Midwest ISO Committees, <http://www.midwestmarket.org/page/Committees> (last visited Sept. 21, 2007).

regulated electric utilities, such as RTOs, are required to comply with detailed and specific requirements found in a tariff, unlike many other charitable organizations that do not have similar binding regulatory requirements restricting and mandating their operations.

The relative degrees of success of many non-profits in fulfilling their missions are determined primarily by their governing boards of directors. The boards frequently establish short and long-term goals and measure the non-profit organizations' performance. In turn, management personnel of non-profit entities are frequently rewarded by boards based upon achievement of these board goals.<sup>91</sup>

It is important to develop appropriate standards for measuring the success of an organization because organizations tend to engage in behaviors to "maximize" that which is being measured.<sup>92</sup> Measurement to determine whether a goal has been achieved is highly dependent upon the specificity of the goal; vague goals are almost always easier to achieve.

Academic research also suggests that a non-profit should be evaluated on three kinds of performance metrics: (1) success in mobilizing the non-profit's resources; (2) staff effectiveness on the job; and (3) progress in fulfilling the non-profit's mission.<sup>93</sup> The Nature Conservancy (a non-profit organization dedicated to preserving endangered species), for example, measured its success for many years based upon the amount of funds collected to purchase protected land and the number of acres of land that were purchased. The Conservancy discovered, however, that in some situations larger ecosystem effects were causing endangered species on Conservancy land to die. The Conservancy then revised its performance metrics to include the number of species protected, rather than just acres of land purchased. Changing this performance metric improved the success of the non-profit organization.<sup>94</sup>

Although "output" measures may be easier to calculate (e.g., number of people treated at a clinic), "outcome" measures (e.g., number of people who are cured at a clinic) in general are a better measurement of the true success of an organization. Unlike traditional economic models, outcome models are human and environmentally sensitive.<sup>95</sup> The Outcome Measurement Resource

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91. According to the Testimony of Audrey A. Zibelman, former Chief Operating Officer of PJM, in the FERC Conference of Competition in Wholesale Power Markets, all PJM employees currently have "a portion of their compensation tied to meeting corporate goals," and the PJM Board of Managers develops "goals [that] are outcome not process-based" and reviews the goals with PJM's stakeholders. Testimony of Audrey A. Zibelman on behalf of PJM Interconnection, L.L.C., *Conference of Competition in Wholesale Power Markets*, Docket No. AD07-7-000, at 9 (F.E.R.C. May 8, 2007).

92. John Sawhill & David Williamson, *Measuring What Matters in Nonprofits*, 2001 MCKINSEY QUARTERLY No. 2.

93. *Id.*

94. Sawhill & Williamson, *supra* note 92, at 101.

95. Interpreting comment from article: "The depth of perception of the authors allows the creative reader to gain insights into the subtlest facets of measurement, such as the tender loving care provided to people, animals, and the earth during times of need, an often unspoken value of private charities." MEASURING THE IMPACT OF THE NONPROFIT SECTOR 7 (Patrice Flynn & Virginia A. Hodgkinson, eds., PennWell Publishers 2001).

Network, which assists nonprofits in using an outcome-based metric,<sup>96</sup> defines outcome as “something that the program participant is, has, or does in response to the service provided.”<sup>97</sup> The goal is to develop a kind of model measurement that would, among other things, provide feedback and direction for staff, identify service units or other participants that need more attention, and allocate resources in the most efficient manner.<sup>98</sup>

Measuring outcomes, however, requires a focus on causation because there must be a link between the outcome, or “result,” achieved and the calculated steps an organization has taken to reach that goal. This can be done either by focusing on the outcomes themselves or on organizational behaviors that are “believed to affect the desired outcomes.”<sup>99</sup> For example, Paul DiMaggio, a Professor of Sociology at Princeton University, explains that if the “outcome” goal is to evaluate the efficiency of local hospitals, and the “outcome” measure is the infant mortality rate, whatever causal model is used must “factor out the influence of things other than the treatment of hospitals” in determining hospital effectiveness.<sup>100</sup> Any “outside” or “preexisting” influences that may result but are not dependent on the model must be eliminated from the effectiveness measure in order not to skew the results. Professor DiMaggio points out that if the hospital is in a well-off community where mothers are well-nourished, as compared to a place where women are undernourished, it must be acknowledged that this “outside influence” will independently affect infant mortality rates. Evaluating effectiveness from this causal model ensures that there will be a determination of whether the actions taken by the organization actually lead to desired results.<sup>101</sup>

Another major issue in developing an outcome model is establishing a viable method for collecting information used in creating that model. Common methods include crafting outcome objectives from the organization’s volunteers, current and past participants, teachers, employers, and other colleagues.<sup>102</sup> For an organization new to the process, the Outcome Resource Network suggests using a technical expert as a way to “save time, offer reassurance and improve results.”<sup>103</sup> Once these measures have been established, a trial run of the outcome measurements selected is suggested and should be “long enough to encompass all key data collection points and must involve at least a representative group of program participants.”<sup>104</sup> Taking this step will again ensure that the outcome measure that is eventually chosen will allow for meaningful evaluation of the organization.

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96. The Output model is “here to stay” and not a fad. MARGARET C. PLANTZ & MARTHA TAYLOR GREENWAY, UNITED WAY OF AMERICA, OUTCOME MEASUREMENT: SHOWING RESULTS IN THE NONPROFIT SECTOR, <http://national.unitedway.org/outcomes/librar y/ndpaper.cfm> (last visited Sept. 21, 2007).

97. *Id.*

98. PLANTZ & GREENWAY, *supra* note 96.

99. Paul DiMaggio, *Measuring the Impact of the Non-Profit Sector on Society is Probably Impossible but Possibly Useful*, in MEASURING THE IMPACT OF THE NONPROFIT SECTOR 252 (Patrice Flynn & Virginia A. Hodgkinson eds., PennWell Publishers 2001).

100. *Id.*

101. DiMaggio, *supra* note 99, at 252.

102. *Id.*

103. DiMaggio, *supra* note 99, at 252.

104. *Id.*

Perhaps the most crucial point that critics and supporters alike should recognize is that the creation of a viable outcome model(s) for RTOs will take time.<sup>105</sup> The Outcome Resource Network estimates that it could take an agency at least seven months just to collect the necessary data to articulate an outcome model, and a minimum of three to five years to ensure that “a program’s outcome measure actually reflects the program’s effectiveness.”<sup>106</sup>

#### VI. USE OF A COMPLIANCE METRIC TO EVALUATE RTO SUCCESS

As discussed in Section II, one possible method of measuring whether an RTO is successful would be based on the number of successful FPA § 206 complaints prosecuted against the RTO. In part, this approach would demonstrate whether the RTO is complying with its tariff. Although there are inherent defects with this approach,<sup>107</sup> a credible argument can be made for evaluating the success of an RTO on whether it complies with its tariff (i.e., a “Compliance Metric”).

An RTO’s tariff is in some ways similar to a detailed “instruction manual” because it specifically delineates each of the rights, responsibilities, and tasks accorded to an RTO. The RTO’s tariff is developed by the stakeholders and approved by the Commission. The FERC precedent is clear that an RTO must follow its tariff “to the letter.”<sup>108</sup> In fact, an RTO is precluded from failing to perform any of the actions required in the tariff to reduce the RTO’s costs, even if the economic benefits from some of the tariff requirements are considerably less than the costs of performing the designated task.

One clear benefit of implementing a Compliance Metric would be its straightforwardness. If an RTO deviates from its tariff, stakeholders generally become aware of such departures (and such departures frequently result in successful § 206 complaints being filed at the FERC against the RTO).<sup>109</sup> Another benefit of a Compliance Metric is that to the extent that the RTO completely complies with its tariff, it is doing what the FERC authorized it to do. Thus, it is reasonable to conclude that to some degree such an RTO should be deemed to be successful. To the extent that an RTO deviates from its tariff, it is also reasonable to conclude that the RTO should be considered to be somewhat unsuccessful. If an RTO complies with its tariff and its stakeholders remain dissatisfied with the amount of economic or other benefits produced by the RTO, then the stakeholders can work with the RTO and FERC to revise the tariff to change the RTO’s responsibilities.

Although a Compliance Metric has merit, it would not resolve all concerns about measuring the degree of success that an RTO achieves. For example, mere compliance with a tariff can be performed at varying degrees of economic efficiency. In other words, if an RTO were able to comply fully with its tariff at the lowest possible cost, it would be maximizing its degree of success, compared

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105. Sawhill & Williamson, *supra* note 92, at 102; PLANTZ & GREENWAY, *supra* note 96.

106. PLANTZ & GREENWAY, *supra* note 96, at 9.

107. *See supra* Part II.E.

108. *Dynegy Midwest Generation, Inc. v. Commonwealth Edison Co.*, 101 F.E.R.C. ¶ 61,295 (2002) (finding that a Commonwealth Edison Company business practice was not consistent with or superior to its *pro forma* tariff and directing that it be revised), *reh’g dismissed*, 108 F.E.R.C. ¶ 61,175 (2004).

109. *See supra* Part II.E.

with another RTO that also fully complied with its tariff, but at much higher costs. If the Compliance Metric were the sole means of measuring the successful performance of an RTO, stakeholders would likely be concerned that an RTO would have an incentive to “gold plate” its operations to ensure compliance with its tariff. Stakeholders may argue that even though the RTO may be fully compliant with its tariff, the RTO might be minimizing its degree of success if it has incurred excessive costs to meet the Compliance Metric.

If a Compliance Metric were the sole means of evaluating RTOs, it is likely that there would also be a tendency by some to use this tool to compare the relative success of various RTOs. It would not, however, necessarily be an easy or an appropriate task to compare the relative degrees of success of different RTOs using only the Compliance Metric. Different RTOs may achieve all of their respective tariff requirements but with varying degrees of success because RTOs have different histories, resources, and tariff requirements. Some RTOs, such as those in the Northeastern United States, which experienced a long history of being in tight power pools, have developed energy markets more quickly than other RTOs, such as the Midwest ISO, which did not have a similar history of pooling activities. Some RTOs have extensive energy markets for energy and ancillary services while other RTOs presently have only developed imbalance services.<sup>110</sup> If one only utilized the Compliance Metric, a comparison of different RTOs would be similar to comparing apples to oranges.

Thus, a Compliance Metric may be a useful (and perhaps a necessary) condition for measuring the success of a not-for-profit RTO, but this metric alone appears to be insufficient for measuring the success of an RTO. Instead, additional metrics appear to be required to evaluate the degree of success of an RTO.

## VII. CONSIDERATION OF NEW METRICS FOR RTOS

Consistent with research regarding other non-profit organizations, it appears that an initial metric that might appropriately be applied to RTOs is the Compliance Metric. In other words, an RTO can initially be determined to be successful if it follows its tariff. In addition, it seems reasonable to evaluate the degree to which an RTO is successful by looking at whether the RTO is fulfilling its mission. Is the RTO only concerned about adherence to the strict wording of its tariff, or is the RTO also concerned about efficiently complying with the tariff? Should a successful RTO also be reviewing its tariff periodically to determine if it should be modified to create additional benefits for its members?

International author and economist, Peter F. Drucker has pointed out the critically important difference between an organization being “efficient”—i.e., doing things right—vs. being “effective” or doing the right things.<sup>111</sup> According to Drucker, “management” consists of doing things right; “leadership” consists of doing the right things.<sup>112</sup> Measuring the degree of success of an RTO may

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110. See Press Release, Southwest Power Pool, Southwest Power Pool Launches Energy Imbalance Services Market, (Feb. 1, 2007), [http://www.spp.org/publications/SPP\\_Market\\_Launch\\_Feb\\_01\\_2007.pdf](http://www.spp.org/publications/SPP_Market_Launch_Feb_01_2007.pdf).

111. PETER F. DRUCKER, *MANAGEMENT: TASKS, RESPONSIBILITIES, PRACTICES* 45 (Harper & Row 1974).

112. *Id.*



depend on whether the efficiency of an RTO is evaluated and also whether the effectiveness of the non-profit organization is considered. In order to evaluate properly whether an RTO is successful, it may not be enough simply to evaluate whether it is “doing things right.” Although the emphasis of this article has been on identifying metrics for evaluating the success of RTOs, Peter Drucker presents a model that more clearly states some of those “right things” necessary to achieve success.<sup>113</sup> Drucker believes that success in the twenty-first century will require organizations to maintain policies allowing them to be at the cutting edge in the long run.<sup>114</sup> He recognizes, for example, that although innovation will never be risk-free (and thus an organization cannot create a foolproof model for achieving it) there are certain risk “minimizers” that can take the guesswork out of developing successful innovation for an organization. Drucker’s concepts appear to be transferable to RTOs.

According to Drucker, a major piece of the strategy is creating a “Systematic Policy of Innovation,”<sup>115</sup> or a kind of “organizational sustainable development” plan. Drucker asserts, “[i]nnovation is not ‘flash of genius.’ It is hard work. And this work should be organized as a regular part of every unit within the enterprise, and of every level of management.”<sup>116</sup> Frequent policy evaluation during the year, Drucker argues, will identify potential holes within the organization’s protocol and shows whether such holes call for strengthening policy changes.<sup>117</sup> For example, gaps may be unexpected successes or failures of both the organization and its competitors, changes in demographics, and new industry knowledge.<sup>118</sup> If these regular evaluations do not themselves lead to policy changes—as they are designed to do—at the very least, they create a mindset among workers that will breed a constant striving for ways either to maintain or create true, long-term success.<sup>119</sup> If RTOs can be encouraged to become industry innovators, they will also be much more likely to flourish and be successful.

Another Drucker idea that is designed to limit some of the inherent risk involved in innovation is “piloting,” or testing a proposed innovation on a smaller scale,<sup>120</sup> often through the use of shareholders or, in the case of RTOs, stakeholders.<sup>121</sup> Drucker recognizes that, by nature, things that are innovative will likely have unexpected results, the most optimal of which will likely only be determined through marketplace testing. Those with a vested interest in the success of a product or service will most likely be more willing to put effort into accurately evaluating a new idea’s viability. If RTOs are able to test proposed innovations, they will be able to assess directly whether these plans are meeting their needs before implementation. In turn, RTOs will be more likely to make large scale changes that “do the right things” for stakeholders.

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113. PETER F. DRUCKER, *MANAGEMENT CHALLENGES FOR THE 21ST CENTURY* 43 (HarperCollins 1999). [hereinafter *21ST CENTURY*].

114. *Id.* at 20.

115. *21ST CENTURY*, *supra* note 113, at 84.

116. *Id.* at 85.

117. Drucker refers to these as “windows of opportunity.” *21ST CENTURY*, *supra* note 113, at 84.

118. *Id.* at 84.

119. *21ST CENTURY*, *supra* note 113, at 43.

120. See similar Outcome Resource Network model. DRUCKER, *supra* note 111, at 20.

121. *21ST CENTURY*, *supra* note 113, at 86-88.

Despite Drucker's focus on innovation and change, he acknowledges that some stability is still necessary for long-term viability. Drucker states, "[a]bove all, there is need for continuity in respect to the fundamentals of the enterprise: its mission, its values, its definition of performance and results. Precisely because change is a constant in the change leader's enterprise, the foundations have to be extra strong."<sup>122</sup> The right balance of long-term and short-term corporate goals appears to be the best means of ensuring success of organizations such as the RTO, and both should be part of an optimal formula for measuring—and creating—success.

#### VIII. RECOMMENDATIONS AND FINAL THOUGHTS

The foregoing analysis of the weakness inherent in a purely economic cost/benefit metric for measuring RTOs suggests that it is an overly simplistic tool to measure the success of an RTO. On the other hand, compliance with FERC requirements appears to be a necessary, although not a sufficient, condition for evaluating the degree to which an RTO is successful in achieving the goals set by the FERC.

In order to determine what the "right things" for an RTO to do are, one might begin by examining the goals that are set by each of the RTO board of directors. The board of directors of an RTO typically establishes short-term and long-term performance goals for an entity, including budgetary goals, and then provides financial incentives to encourage achievement of these goals.<sup>123</sup> The FERC emphasized the importance of truly independent RTO board members when it held that the board of directors of an ISO must avoid even the appearance of discrimination in decision making. The FERC concluded, for example, that a California residency requirement for the governing board of the California Independent System Operator, Inc., (as well as that of the Power Exchange) could "result in *unduly discriminatory or preferential* treatment of Market Participants" depending on whether or not they are California consumers.<sup>124</sup>

There already have been some proposals for RTO metrics. For example, on May 31, 2007, the Transmission Access Policy Study Group filed Supplemental Comments in Docket No. AD07-7 and, among other things, proposed seven specific performance measures that RTO senior management should address, including: (1) achievement of the RTO's consumer-cost lowering mission; (2) independently-determined measures of customer satisfaction; (3) reductions in congestion costs; (4) RTO cost containment; (5) reduction in interconnection and transmission queues; (6) meeting aggressive planning and construction targets; and (7) other objective measures of high service quality.<sup>125</sup> As described herein, however, some of these proposed RTO metrics may be of questionable value in determining the real success of an RTO.

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122. *Id.* at 92.

123. FERC Competition Conference, *supra* note 31, at 201-202; *see also supra* note 94.

124. *Pacific Gas and Elec. Co.*, 81 F.E.R.C. ¶ 61,122, at p. 61,451 (1997) (emphasis added).

125. Supplemental Comments of Transmission Access Policy Study Group on RTO Accountability, *Conference on Competition in Wholesale Power Markets*, Docket No. AD07-7-000, at 16 (F.E.R.C. May 31, 2007).

Criteria that are not within the reasonable control of the RTO would probably not be accurate metrics to judge the degree of success of an RTO. For example, it would be ineffective to measure the success of an RTO based upon whether or not electricity prices change, because volatile natural gas prices can cause spot electricity prices to rise or to fall (despite the best efforts of an RTO). On the other hand, this criterion might be more reasonable if it could be shown that the RTO took actions that demonstrably resulted in higher or lower energy prices.

Instead, RTO boards of directors could be evaluated on whether they have established meaningful individual criteria, both short-term and long-term, for their RTOs consistent with the concepts developed by Peter Drucker. It will be challenging for an RTO board to establish appropriate short and long-term goals given the unique operations of each RTO and the fact that some of the determining criteria may be out of the control of the RTO. Goals that would be appropriate for one RTO may not necessarily be applicable for an RTO at a different stage of development or with different stakeholder demands.

Internal incentives for improved performance historically have been an important motivational tool for all organizations, including not-for-profit entities, to encourage achievement of expressed goals. The FERC, therefore, may wish to consider the adoption of financial incentives to establish a potential pool of bonuses for RTO management that would be “at risk” based upon measured performance. To the extent that an RTO can comply with its tariff below its budget for established goals, the RTO then could retain a greater portion of the savings to reward better performance and encourage successful behavior. To the extent that an RTO complies with its tariff at a higher cost than the budgeted goal, the RTO could have its bonus payments reduced and the funds allotted toward reducing costs, to act as a disincentive for unsuccessful RTO performance.

Ultimately, RTOs’ boards of directors (like boards for most non-profit entities) have an important role in developing and measuring RTO success by establishing metrics related to the mission and goals of an RTO. These goals should be broadly focused on measuring “outcomes,” and not just “outputs.” It is reasonable for RTO short-term goals to include, for example, the following: (1) achievement of the RTO’s mission goals; (2) reliability criteria based upon wholesale transmission facilities controlled by the RTO; (3) adherence to financial budgets, both capital and operating; and (4) specific operational performance goals (e.g., compliance with the CPS1 operational standard established by NERC).<sup>126</sup>

Some potential longer-term board goals for an RTO might include: (1) ensuring the open access, non-discriminatory use of the wholesale transmission grid; (2) creating and maintaining effective and efficient energy markets; and (3) facilitating regional planning to strengthen the reliability of the grid. These are similar to the goals that the FERC has already established for some RTOs.<sup>127</sup>

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126. See NERC, STANDARD BAL-001-0—REAL POWER BALANCING CONTROL PERFORMANCE (2005), [ftp://www.nerc.com/pub/sys/all\\_updl/standards/rs/BAL-001-0.pdf](ftp://www.nerc.com/pub/sys/all_updl/standards/rs/BAL-001-0.pdf).

127. See, for example, the goals that the FERC established in approving the Midwest ISO. In its order granting ISO status to the Midwest ISO, the FERC assessed the Midwest ISO’s proposal in light of “three basic goals: the provision of *not unduly discriminatory* transmission service; the promotion of *fair* and efficient

The RTO's success would be measured by its ability to achieve its short and long-term goals effectively and in an efficient manner.

An economic cost/benefit analysis appears to be inadequate for accurately measuring the degree of success of an RTO, in part, because it does not account for the uniqueness inherent in the structure and organization of an RTO. RTOs are required by the FERC to perform specified functions and do not fit squarely into either the category of a for-profit corporation, or a traditional non-profit entity. Therefore, measuring the success of an RTO will require innovation to create new metrics that consider the distinctive structure and operation of RTOs rather than merely attempt to compare an RTO's economic costs to its perceived economic benefits.

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*competition; and the promotion of a reliable transmission system.” Midwest Indep. Transmission Sys. Operator, Inc.*, 84 F.E.R.C. ¶ 61,231, at p. 62,142 (1998) (emphasis added).