

**Before the  
United States of America  
Federal Energy Regulatory Commission**

**Regional Transmission Organizations )**

**Docket No. RM99-2-000**

**Comment of the Staff of the  
Bureau of Economics  
of the Federal Trade Commission<sup>1</sup>**

August 16, 1999

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<sup>1</sup> This comment represents the views of the staff of the Bureau of Economics of the Federal Trade Commission. They are not necessarily the views of the Federal Trade Commission or any individual Commissioner.

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**I. Introduction and Summary**

The staff of the Bureau of Economics of the Federal Trade Commission (FTC) appreciates this opportunity to present its views concerning Regional Transmission Organizations (RTOs) to the Federal Energy Regulatory Commission (FERC). FERC requests comment on a wide variety of policy questions regarding RTOs as a possible next step in restructuring wholesale electric power markets to facilitate competition and improve consumer welfare. This set of proposals follows FERC's initial efforts to advance competition in FERC Order No. 888<sup>2</sup> and its approval of Independent System Operators (ISOs) in California, New England, the Mid-Atlantic states (Pennsylvania, New Jersey and Maryland (PJM), which also includes Delaware and the District of Columbia), New York, and several Midwest states.

The FTC is an independent administrative agency responsible for maintaining competition and safeguarding the interests of consumers. The staff of the FTC often analyzes regulatory or

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<sup>2</sup> Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities, FERC Order No. 888, 61 Fed. Reg. 21,540 (1996); Order on Rehearing, Order No. 888-A, 62 Fed. Reg. 12,274 (1997).

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<sup>3</sup> The staff of the FTC has commented to FERC on electric power regulation in Docket EL99-57-000 (May 27, 1999) (Entergy Services Comment); Docket RM98-4-000 (Sept. 11, 1998);

electricity markets.”<sup>4</sup> This conclusion is consistent with the risks to competition that the staff cautioned about in its Open Access comment in 1995. In that comment, FTC staff expressed concern that the behavioral rules approach proposed and adopted in FERC Order Nos. 888 and 889 would leave incentives in place for vertical discrimination in transmission access and that this would occur in a context in which detection and documentation of discrimination would be difficult.

Several years of industry experience now appear to confirm this concern that discrimination remains in the provision of transmission services by utilities that continue to own both generation and transmission.<sup>5</sup> Complaints about -- and actions by FERC to remedy -- discriminatory treatment favoring the generation assets of transmission owners are widespread.<sup>6</sup> These complaints allege subtle forms of discrimination, including, for example, biases in posted assessments of transmission capacity available to serve independent merchant transactions. Accordingly, we support FERC’s assessment that behavioral rules have not provided the degree of competitive benefits that FERC sought to engender when it introduced competition in wholesale electric power markets. The present comment reflects our continued concern about this issue and our interest in assisting FERC as it moves further toward structural remedies to address competitive concerns in electric power markets.

FERC proposes to encourage voluntary formation of RTOs in all areas of the Nation to further competition in wholesale electric power markets. RTOs will facilitate increased wholesale

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<sup>4</sup> Notice at 6.

<sup>5</sup> *Id.* at 66-77.

<sup>6</sup> *Id.* at 58-85.

competition, without which state efforts to introduce competition at the retail level may be stymied. Bringing the full benefits of competition to consumers in the electric power industry appears to require moving beyond present regulatory and institutional arrangements. Incomplete utility compliance with FERC Order Nos. 888 and 889, along with the limited number of ISOs that FERC has approved, does not yet provide sufficient competition so that consumers benefit to the fullest extent possible.

FERC proposes four minimum characteristics of RTOs that are necessary to ensure robust wholesale competition. These minimum characteristics include: (1) independence of the RTO from generation owners, (2) a geographically broad scope<sup>23</sup>   Â

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<sup>7</sup> *Id.* at 115.

<sup>8</sup> *Id.* at 115-16.

practice that FERC can use in assessing the benefits and costs of individual RTO proposals.

Although we concur that the issues FERC raises in this Notice are critical in facilitating the growth of competition in electric power markets, we believe that the reform process will be significantly hampered unless ultimate consumers (businesses, governments, and consumers) are provided with accurate price signals. In particular, the average pricing faced by many customers masks the fact that electric power consumed in peak periods is often much more costly than power consumed in off-peak periods. FERC may wish to consider methods to encourage RTOs to facilitate conversion to real-time metering as an integral part of the process of increasing competition in electric power markets.<sup>9</sup>

First, we agree with FERC that independent and separate control of generation and transmission (minimum characteristic 1) is essential in bringing competition to electric power markets. Without independence, the actual and/or perceived threat of vertical discrimination in access to transmission services may undermine the effectiveness of RTOs. As a potential benchmark for FERC's determination of independence, we provide a review of criteria used in antitrust law enforcement to assess independence of commercial entities. We note that clear-cut structural independence may leave the RTO least prone to discrimination and raising rivals' cost concerns. Even with complete independence, FERC and the antitrust agencies must remain alert for subtle, yet improper, anticompetitive influences that might be exercised indirectly on RTOs.

Second, RTOs should be characterized by a broad geographic scope (minimum characteristic 2). A broad scope will allow RTOs to take advantage of the potential to increase

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<sup>9</sup> Bringing demand-side price responses into the market may be closely related to FERC's conclusion that RTOs should be as large as possible, as discussed in Section III.C, *infra*.

competition by broadening the relevant geographic market and to enhance reliability by benefitting from economies of reserves in generation and transmission capacity. FERC may wish to focus on the underlying physical reality of the existing grid structure as a starting point for consideration of the scope of RTOs. This is essential because all generation pricing and reliability decisions within any of the Nation's three existing interconnects<sup>10</sup> are likely to affect directly all of the other generation and transmission assets within that interconnect during at least some periods of time. As the transmission grid becomes more comprehensive<sup>11</sup> or demand peaks are curtailed by real-time metering, the frequency of load pockets will diminish and the importance of interconnect-wide conditions will expand. FERC may wish to establish some significant minimum level of coordination throughout each interconnect, even if FERC permits multiple RTOs to form within an interconnect. FERC also may wish to facilitate such coordination to diminish the likelihood of discrimination in RTO-to-RTO dealings.

Third, RTO management of congestion and management of parallel paths (loop flow) within the transmission grid operated by the RTO are closely related (minimum functions 2 and 3). We agree that both are essential to efficient operation of the transmission grid. FERC may wish to sponsor a comparative evaluation of the various congestion and loop flow management approaches that it has approved in existing ISOs with a locational marginal pricing approach, mindful of the potential interaction between existing generation market power and congestion management. We note that efficiency in transmission pricing likely involves removing pancaked

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<sup>10</sup> The Nation's transmission grid is currently divided into three interconnects: the eastern states (as far West as Colorado), the western states, and Texas. Portions of Canada and Mexico also are part of the interconnects serving the U.S.

<sup>11</sup> "Comprehensive" in this situation means a fuller degree of interconnection or a denser grid.

rates,<sup>12</sup> but that efficient pricing may entail charges that are distance-sensitive to the extent that costs (short-term or long-term) are related to distance.

Fourth, we concur that RTOs must be concerned about the availability and pricing of ancillary services (*e.g.*, replacement generation reserves) as part of their reliability responsibilities (minimum function 4). We note that the California ISO market monitoring report, which analyzed the ancillary services market in California, provides strong evidence that the rules regarding ancillary services may produce perverse pricing incentives. FERC may wish to favor RTO proposals that avoid such incentives and may wish to consider facilitating markets for ancillary services rather than acting as the sole purchasing entity.

Fifth, although we continue to encourage FERC not to delegate enforcement powers to market monitoring bodies of RTOs (minimum function 6), it is appropriate to monitor how the operating rules of the RTO are working in bringing competition to electric power markets. FERC may wish to assure itself that the market monitoring function is conducted in an objective and unbiased manner by providing independence from the RTO for the market monitoring function.

Sixth, the RTO's transmission planning and expansion function (minimum function 7) is vital to increased competition. This function is intimately tied to the independence characteristic and to the RTO functions of managing congestion and parallel paths. FERC may wish to be particularly alert to the implications of the development of distributed generation (DG) in this regard. DG has the potential to increase the substitutability between generation and transmission

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<sup>12</sup> Transmission rates typically increase substantially each time a contract transmission path crosses the boundary of a separate utility. To the extent that these rate increases are not reflective of costs, pancaking of rates reduces incentives to transmit power and, therefore, may reduce the number and range of alternative electric power suppliers that a customer economically may turn to in order to avoid a price increase from one or more local suppliers.



in relieving transmission congestion. As a result, RTO planning and expansion decision makers increasingly may have incentives to discriminate against generation remedies for such congestion if the RTO profits from the higher transmission volume and/or higher transmission rates that would result from such discrimination. From a policy perspective, bias in the transmission planning and expansion function may present the strongest challenge to bringing the full benefits of competition to consumers through an RTO organized as a for-profit transmission company (Transco).

We suggest adding an "efficient operations" characteristic to the minimum characteristics and functions of a qualified RTO. With any new institution, there is a risk that "independence" could devolve into indifference with respect to quality of service, innovation, and responsiveness to changes in consumer preferences. Providing incentives to perform efficiently is a key concept that FERC may wish to foster in order to avoid such indifference in the operations of RTOs. From a policy perspective, the efficient operations function may present the greatest challenge to bringing the full benefits of competition to consumers through an RTO organized as an ISO. Because the ISO is a non-profit entity, it lacks profit incentives to perform efficiently and responsively unless methods of providing such incentives are specifically incorporated into the ISO structure.

Outside the minimum characteristics and functions of RTOs, we also comment on the close relationship between increases in competition in wholesale electric markets under FERC's authority and competition in retail electric power markets under state authority. We emphasize the effects of retail competition in the states on competition and efficiency in wholesale electric power markets. We note that each step toward increased competition by FERC or a state

provides benefits to consumers in other states and in the Nation as a whole. Where FERC is able to create incentives that help firms and state decision makers to internalize these benefits provided to other areas of the country, it may be able to enhance competition and improve efficiency for all consumers. FERC may wish to utilize an economic concept -- an appropriation-of-external-benefits framework -- in considering incentives to form RTOs. Finally, we note that in evaluating RTO proposals, FERC may wish to consider whether independent power exchanges and bilateral trade opportunities are viable alternatives to mandated, centralized power exchanges.

## **II. Background for the Notice**

The Notice provides a broad overview of FERC's efforts to increase competition in wholesale electric power markets. Important milestones along this path include early efforts to require open access to transmission services as a condition for mergers of vertically integrated electric utilities; FERC's Open Access Order Nos. 888 and 889, which sought to provide open access to transmission services of all utilities regulated by FERC; the ISO orders with operational unbundling of transmission from generation; consideration of individual Transco proposals; and the present Notice contemplating operational unbundling or divestiture of generation assets from transmission assets nationwide. The extended review in the Notice concludes that the existing open access behavioral rules and the scattered ISOs do not constitute a sufficient foundation for the continued growth of competition in electric power markets.<sup>13</sup> This is consistent with our own perceptions of generation and transmission suppliers' incentives and of events transpiring in emerging electric power markets that we expressed in 1995 during consideration of Order Nos.

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<sup>13</sup> Notice at Sections II.B. and III.A.

888 and 889. At that time, we indicated that "[o]perational unbundling would likely be more effective than functional unbundling; ... [c]ompetition problems in concentrated generation markets must still be addressed under open access; [and] ...[e]fficient transmission pricing must accompany open access."<sup>14</sup>

Development of voluntary, qualified RTOs (those with at least the minimum characteristics and functions) in all regions of the country is an appropriate step toward increasing competition in the electric power industry.<sup>15</sup> In addition to the potential benefits identified in the Notice, qualified RTOs can play an important role in improving the viability of retail competition introduced at the state level. We believe that by broadening geographic markets and increasing the volume of trades, qualified RTOs can help mitigate potential market power problems that states face as they open retail electric markets to increased competition.

The four years since FERC was considering Order Nos. 888 and 889 have seen the development of the Transco concept, a for-profit operator of transmission facilities unbundled from generation assets. In 1995, divestiture of generation assets by regulated transmission operators appeared to be problematic because of the projected cost in time and resources of requiring this form of restructuring. Transcos may facilitate full divestiture at a substantially lower cost than anticipated earlier. The emergence of a potentially lower-cost path to full divestiture may warrant focusing more attention on the full divestiture option than appeared to be practicable earlier.

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<sup>14</sup> Open Access Comment, *supra* n. 3, at 2-3.

<sup>15</sup> This discussion of RTOs takes place within the context of continued rate and service regulation of transmission because effective transmission competition remains impracticable in most situations.

### **III. Minimum Characteristics and Functions**

#### **A. A Competition Perspective on RTO Minimum Characteristics and Functions**

In advising states that have been considering how to initiate retail competition, we have provided four competition “warning signs” regarding ISO formation and operation: the ISO is too small; there is no plan for generation restructuring; the ISO is not sufficiently independent; and the ISO plan does not effectively deal with transmission congestion.<sup>16</sup> Although the RTO concept presented in the Notice encompasses more than merely ISOs (an RTO may be a Transco, an ISO, or a combination thereof), the competitive concerns we have expressed about ISOs apply to RTOs as well. Three of the four warning signs that we have raised for the states (size, independence, and transmission congestion) coincide with minimum characteristics and functions identified in the Notice. Accordingly, we endorse these minimum characteristics and functions of an RTO because they will facilitate increased competition in wholesale electric power markets. Although the remaining warning sign concerning not having a plan for generation restructuring in order to deal with existing market power is largely a responsibility of the states,<sup>17</sup> there are proposals before Congress to provide FERC with this authority in consultation with the FTC and

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<sup>16</sup> Alabama Competition Comment, *supra* n.3, at 30-33.

<sup>17</sup> As a general proposition, a market power monitoring office within the ISO may not be a good substitute for up-front divestiture of generation capacity if market power is present. Several states, including California, have confronted the generation market dominance issue directly and required divestitures of key generation capacity in conjunction with forming an ISO. Divestiture that simply replaces one dominant generating firm with another is unlikely to address market power problems in generation. Divestiture to multiple buyers is likely to be necessary. In evaluating divestiture proposals, it is important to address potential biases in the divestiture process as well as partial cross-ownerships of generating plants that may thwart competition. As noted earlier, antitrust may not be an effective policy tool for addressing existing market power created under past regulation. *Id.* at 31.

the U.S. Department of Justice.<sup>18</sup>

### **B. Independence Minimum Characteristic**

The basic issue underlying why transmission should be independent of generation in a qualified RTO is the threat of vertical discrimination in access to transmission services. Vertical discrimination in transmission is a serious concern because transmission technology continues to exhibit major economies of scale that often preclude effective competition in providing alternative transmission services between generation sources and loads.<sup>ef 0-4.8 TD</sup>

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<sup>18</sup> United States Department of Energy, Comprehensive Electricity Competition Act (1999) <<http://home.doe.gov/policy/ceca.htm>>.

<sup>19</sup> Illustrative figures developed by Oak Ridge National Laboratory show that a 765 kV transmission line costs at least 30 percent less than a 500 kV line and at least 85 percent less than a 138 kV line, on a cost per MW-mile basis. FERC Transmission Task Force, Staff Report, at 215-16 (1989).

investments with respect to their commercial viability and timing. Discrimination in the selection of future grid expansion projects may disrupt such project by similarly increasing uncertainty about future revenues of entrants (for example, discriminatory positioning of a new transmission line may disproportionately reduce demand for power from the entrant). By eliminating or delaying generation entry, or deflecting it to a different site, a transmission owner may reduce the competitive pressure on its own generation assets, particularly if the prospective entrant's assets are likely to be more efficient.<sup>20</sup> As a result of such discrimination, consumers are likely to face higher electricity prices because more efficient generators fail to enter to displace less efficient generators.

In addition, we concur with the assessment in the Notice that

affiliated transmission companies . . . may not be trusted by market participants even with elaborate protections. . . . We believe that market participants are likely to suspect that the safeguards will be gamed. This, in turn, could affect investment behavior. In particular, market participants may be reluctant to make needed investments in generation or marketing of electricity if they believe that the RTO is likely to give favored treatment to its affiliates.<sup>21</sup>

We also agree that behavioral codes of conduct are unlikely to solve this problem because of enforcement costs and uncertainties.<sup>22</sup>

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<sup>20</sup> For a further discussion of this type of concern, *see* Scott Harvey and William Hogan, "Comments on the California ISO's NewGen Policy" (Aug. 1999).

<sup>21</sup> Notice at 124-25. *See* FTC Staff Entergy Services Comment, *supra* n. 3; FTC Staff Comment to the Mississippi Public Service Commission, *supra* n. 3. Concerns about the effectiveness of safeguards against discrimination in access to transmission may be particularly acute where transmission owners have great discretion in reducing ATC (available transmission capacity) to independent generation entities by claiming that transmission capacity is necessary to meet native load obligations.

<sup>22</sup> Notice at 125-26.

As described in our Open Access Comment, the alternatives to functional unbundling with behavioral rules are operational unbundling (ISOs) and divestiture. Divestiture presents the cleanest type of structural remedy for transmission discrimination by severing the ties that create the incentive to discriminate.

In order for an RTO to be independent, FERC proposes that generation owners have no more than a *de minimis* interest (defined as no greater than one percent ownership) in the RTO. FERC may wish to distinguish between voting interests and passive investment interests in defining this one percent ownership interest threshold. To the extent a non-voting, passive investment interest insulates this type of investor from the RTO's decisions regarding operations, planning, and expansions, a non-voting interest is less likely to undermine the independence minimum characteristic. Although we are reluctant to advocate an inflexible prohibition on voting rights for owners of generation assets located within the RTO, we note that exceptions to any rule may grow into a serious breach over time.<sup>23</sup> In order to provide FERC with a benchmark for its consideration of independence criteria, we provide here a brief review of such criteria in the antitrust enforcement context. We do not view this as definitive with respect to FERC's consideration of an appropriate *de minimis* standard, but merely as informational.

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<sup>23</sup> In addition, FERC also may want to consider applying whatever ownership rules it develops to third parties that have a substantial interest in a generation owner. This concept is analogous to the "ultimate parent entity" concept embodied in the FTC's rules governing the submission of Hart-Scott-Rodino premerger notification filings. 16 C.F.R. Part 801.

loss of independence may offer FERC useful perspectives.

First, Section 8 of the Clayton Act<sup>24</sup> prohibits interlocking directorates among competing firms. No person may serve as a director or officer of competing corporations if each firm has an aggregate total of capital, surplus and undivided profits exceeding \$10,000,000.<sup>25</sup> Although FERC's Notice incorporates a similar provision based on share of control, FERC may also find it useful to consider whether common directorships in third parties may be used to circumvent the basic prohibition.

Second, the FTC sometimes permits firms to merge provisionally, subject to a "hold separate" agreement that maintains each firm's structural and operational independence while the FTC completes its review of the transaction. Such temporary hold separate agreements frequently prohibit the merger partners from mingling the firms'

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<sup>24</sup> 15 U.S.C. § 19.

<sup>25</sup> The statute provides an exception when there is a *de minimis* overlap of competing products and services between the firms.

<sup>26</sup> As a remedy for an anticompetitive merger, the FTC sometimes requires parties to divest competitively overlapping assets or divisions to an existing or newly-created entity. Many of the considerations mentioned above are examined to determine whether the acquiring entity will operate those assets or divisions competitively and independently of the merged firm.



coalitions of common interest -- for example, a group of generation owners with similar incentives and RTO ownership interests that could undermine the independence of an RTO. With an ownership *de minimis* standard applied only against individual ownership interests, such a coalition could make possible the type of vertical discrimination of concern in electric power markets.<sup>27</sup>

In addition, even with a low *de minimis* standard, we alert FERC to possible conduct that antitrust enforcers confront. Although operational unbundling or divestiture minimizes the likelihood of discriminatory access to transmission, there are less direct ways in which anticompetitive influence can be used to foster discrimination. Important antitrust cases have been decided where indirect pressure or influence has been applied to advance common ownership interests against structurally independent firms.<sup>28</sup> We invite FERC to be alert to this type of

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<sup>27</sup> If FERC elects to allow generators to have a voting interest, it may wish to consider establishing a cap on the aggregate voting interest of generators and a prohibition on voting pools of generators.

<sup>28</sup> For example, cases have been brought charging firm A with inducing firm B to discriminate against a firm that competes with firm A. *See, e.g., Monsanto Co. v. Spray-Rite Service Corp.*, 465 U.S. 574 (1984) (a challenge to a manufacturer's termination of a discounting distributor initiated by requests of rival distributors); and the FTC's recent matter *Toys "R" Us, Inc.*, Dkt. No. 9278 (1998) (respondent pressured manufacturers to limit supplies to growing competitors) (appealed to the U.S. Court of Appeals for the Seventh Circuit). Another source of concern occurs if a powerful member of an industry association has the capacity to use the association as an instrument to injure competition or promote collusion. Recognizing these dangers, the Supreme Court held in *Allied Tube & Conduit Corporation v. Indian Head, Inc.*, 486 U.S. 492 (1988), that manipulating an industry association's standard-setting process was subject to antitrust challenge, even though no association rules were violated. According to the Court, "the hope of procompetitive benefits [from the standard-setting process] depends upon the existence of safeguards sufficient to prevent the standard-setting process from being biased by members with economic interests in restraining competition." *Id.* at 509. Since, absent appropriate safeguards, comparable manipulation of an RTO's independent decision making process may be possible, FERC may wish to consider requiring that RTOs and market participants adopt internal procedures to prevent the exercise of inappropriate influence.

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<sup>29</sup> Notice at 130 n.199.

<sup>30</sup> *Id.* at 131-33.

<sup>31</sup> The three separate interconnects in the United States are well recognized, but they are not immutable. As recently as the early 1970s, the ties between the Eastern and Western Interconnects were in operation. Los Alamos Resource Pool Power Supply Study," DOE Contract No. DE-AC04-93AL82990 (July 1, 1994). The possibility of synchronizing ERCOT with the Eastern Interconnect has recently been reexamined at the direction of the Texas Legislature as a possible avenue to help reduce concerns about retail market power and reliability problems. "Feasibility Investigation for AC Interconnection between ERCOT and SPP/SERC," Report to the 76th Texas Legislature (1998). A recent reexamination of bringing the Eastern and Western Interconnects into synchrony was conducted in connection with the merger of Public Service Company of Colorado and Southwestern Public Service Company in 1997. Submission of Lundberg, Marshall & Associates on behalf of the Department of Energy Albuquerque Operations Office (July 30, 1997). The low transmission volumes and high costs of additional ties envisioned at the time of these reviews combined to discourage synchronization. As retail competition unfolds with corresponding increases in potential power trades and as improved transmission technologies emerge, FERC may wish to encourage reconsideration of the option of

create gaps that are inconsistent with the basic physics of electricity in available transmission capacity (ATC) determinations,<sup>32</sup> loop flow issues, managing transmission congestion, minimizing pancaked rates, optimizing allocation of scarce transmission capacity, and planning/coordinating transmission expansion. Without efficient inclusion of all of the regional configuration factors, intra-regional competition may be limited and the full benefits of competition will not be available to consumers. FERC may wish to focus on potential discriminatory relationships among RTOs within an interconnect.

Although transmission congestion limits the periods when interconnect-wide conditions are the primary supply and demand considerations in electric power markets, expansions of the grid under RTOs and increased use of real-time metering<sup>33</sup> may reduce periods of transmission congestion in the future. This also might make more salient the supply and demand conditions in the broader area of the relevant interconnect. Both expansions of the grid and real-time metering are likely to be important elements in fulfilling the broad geographic scope minimum characteristic, and FERC may wish encourage both accordingly.

Second, FERC may wish to review the configuration of an RTO as well as its size. For

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synchronizing the three existing interconnects. Synchronizing two or all three interconnects would allow additional RTO configurations to be considered.

<sup>32</sup> Order No. 889 requires transmission owners to calculate the ATC after obligations to serve native load (state regulated retail demand) are taken into account.

<sup>33</sup> Real-time metering is important because average pricing creates a competitive disconnect that artificially decreases the price elasticity of demand faced by suppliers. Artificial demand inelasticity provides inefficient investment and consumption incentives and facilitates the exercise of market power. Both of these disadvantage customers in the long run by increasing the costs of supplying power and by preventing customers from saving money by responding to real-time price signals, as they seek to do in other markets.

example, we concur with the potential competitive concern expressed in the Notice about an RTO that might appear to create a transmission “wall” that raises the cost of transmitting electricity between low-cost power sources and loads now experiencing relatively high prices within the same interconnect.<sup>34</sup> Similar concerns may arise if major gaps occur within or between RTOs because, for example, large government-owned transmission facilities are not incorporated into the RTO system. To avoid such inefficiencies, FERC may wish to encourage federal power administrations to join RTOs or to consider seeking authority to bring the federal power administrations within the RTO framework.

Third, FERC may be able to avoid an "either/or" choice in evaluating RTO proposals, by contemplating two levels of RTO formation for at least a trial period. For example, "tight coordination RTOs" might be accepted with NERC reliability council or NERC security coordinator configurations, while umbrella RTOs at the interconnect level would also be organized.<sup>35</sup>

#### **D. Congestion and Loop Flow Management Minimum Functions**

Congestion management and loop flow management are so closely related that we treat them together here. Without doubt, loop flow aspects of congestion management are among the most difficult and complex issues in the electric power industry. Here, as in the discussion of scope, FERC may wish to go back to first principles -- the physical reality of the electric system.

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<sup>34</sup> Notice at 134-35. Prior to the formation of an RTO that creates a potential wall, trades to wheel electric power between high- and low-cost areas may have several alternative paths available, thus creating bargaining opportunities to secure the best terms and conditions for the trade. By creating a wall, this source of competition may be reduced.

<sup>35</sup> The Western Interconnect already has an interconnect-wide organization, the Western States Coordinating Council, because the Western Interconnect is a single NERC region.

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<sup>36</sup> See, e.g., William Hogan, "Nodes and Zones in Electricity Markets: Seeking Simplified Congestion Pricing," presentation at the 18th Annual North American Conference on the USAEE/IAEE, San Francisco (Sept. 9, 1997); Paul Joskow, "Restructuring, Competition and Regulatory Reform in the U.S. Electricity Sector," 11 J. Econ. Persp, 119-38 (Summer 1997); Timothy Brennan, et al., A Shock to the System: Restructuring America's Electricity Industry, Chapter 4, Resources for the Future (1996).

<sup>37</sup> A variety of transmission congestion pricing systems have been approved by FERC for use by ISOs. California, for example, opted for a "zonal transmission pricing" approach, albeit with very large zones. The Pennsylvania, [New] Jersey, Maryland (PJM) ISO has chosen to address transmission congestion problems with much more narrowly defined pricing zones. PJM's approach is termed "locational marginal pricing" or "nodal pricing." Locational marginal pricing is a transmission pricing system that attempts to take full account of transmission loop flows. Loop flows are a complication of the physics of electricity (electricity follows the path of least resistance) that results in transmission congestion arising in places and times that are counter to the intuitive, traditional view of transmission as a point-to-point delivery of electric energy. Locational marginal pricing assesses congestion charges based on the transmission congestion caused throughout the transmission system by a particular transaction.

<sup>38</sup> Financial transmission rights (FTRs) are financial contracts (or forms of insurance) that can allow the holder of the right to hedge some of the risk of fluctuating transmission charges. Some risks, such as de-rating of lines, are not incorporated into this framework. In practice, FTRs could be awarded by an RTO via an auction process. Proceeds from the auction are used to offset transmission access charges paid by all users of the grid. Because transmission users have to pay two charges (the access charge and the congestion charge) to use the grid in an RTO that uses an LMP system, the RTO would collect the congestion charges for the use of a certain node

LMP is designed to be consistent with the physical reality of the transmission network.<sup>40</sup>

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other potential users of the transmission right. Firm transmission rights provide greater certainty in transmission transactions than interruptible transmission rights.

<sup>39</sup> Notice at 163.

<sup>40</sup> The efficiencies of LMP (and zonal pricing) are often contrasted to the inefficiencies of pancaked rates. Discussion of increased efficiency in transmission pricing often starts with a commitment to eliminate pancaked rates. There is some danger in this discussion of straying from the efficiency argument against pancaked rates -- *i.e.*, pancaked rates are inefficient because they do not accurately reflect transmission costs -- to a more generalized, but inaccurate, assertion that distance should be irrelevant to transmission rates. The underlying physical reality, however, is that line losses and long-run marginal costs of construction do have a distance component and that such transmission cost differences should be efficiently included in transmission rates.

than under LMP.<sup>41</sup>

Although experimentation with transmission congestion pricing alternatives to LMP may be appropriate at present, we do not believe that great uncertainty about the most effective approach to transmission congestion management need exist indefinitely. FERC may wish to establish a date in the not-too-distant future when it will undertake a comparative analysis of the consumer costs and benefits of alternative transmission pricing regimes. If one or more approaches provide substantially superior results for consumers, FERC may wish to initiate an eventual rulemaking concerning policies to encourage RTOs to move toward whichever transmission congestion pricing system(s) provides substantially greater gains in consumer welfare.<sup>42</sup>

#### **E. Ancillary Service Minimum Function**

FERC's proposal would require an entity seeing to qualify as an RTO to serve as a supplier of last resort for ancillary services as described in Order No. 888.<sup>43</sup> Serving as a supplier

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<sup>41</sup> As the transmission system comes closer to operating at full capacity for a great proportion of the time, congestion issues and the relative efficiency of different congestion management approaches likely will become more economically significant.

<sup>42</sup> If one or more systems prove to be superior from a consumer welfare perspective, one might expect other RTOs to adopt the better system(s). However, FERC review and incentives are likely to speed the transition and alleviate situations in which a less efficient approach is entrenched because it benefits one or more special interests.

<sup>43</sup> Using California as an example, ancillary services include regulation reserve, spinning reserve, non-spinning reserve, and replacement reserve. All are elements in the reliability of electric service. "Report on Redesign of Markets for Ancillary Services and Real-Time Energy" of the Market Surveillance Committee of the California Independent System Operator (Mar. 25, 1999), Section II (California Market Surveillance Report). The California Market Surveillance Report was prepared by the Market Surveillance Committee of the California Independent System Operator to determine how the power markets in California were operating.

of last resort, however, does not require the RTO to be the sole buyer of ancillary services. FERC may wish to consider arrangements in which the RTO's primary role is to provide a market mechanism for generators to acquire such services for themselves. This may reduce costs by allowing generators to customize their purchases of ancillary services to better fit their specific needs. We encourage FERC to consider the potential for perverse pricing incentives that may arise in establishing ancillary service bidding rules. The California Market Surveillance Report makes a good case that this potential problem deserves FERC's attention.<sup>44</sup> Without assessing the specific findings of that report, we note that the incentive problems identified may have serious market power effects. Accordingly, we encourage FERC to focus on improving the structure and performance of ancillary services markets as part of its RTO rulemaking.

#### **F. Market Monitoring Minimum Function**

FERC proposes to require that each qualified RTO conduct market monitoring through a separate market monitoring organization. A market monitoring office of a qualified RTO would be required to report to FERC about the operation of market rules and the exercise of market power within the RTO.<sup>45</sup> We agree that each of the identified issues is important to ensuring that markets evolve as competitively as possible. Where a qualified RTO is smaller than an interconnect, FERC also may wish to encourage market monitoring offices in other RTOs in the same interconnect to coordinate their efforts to examine the effects of market rules or variations

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<sup>44</sup> The California Market Surveillance Report (at 2) observes that because the same generation units supply both energy and ancillary services, "poorly designed markets that allow generators to earn inefficiently high prices create[] high opportunity costs to participating in other markets that may be otherwise workably competitive. Generators then rationally bid higher prices into other markets because of these greater opportunity costs."

<sup>45</sup> Notice at 181.



between RTOs in market rules on the volume and price of inter-RTO transactions.

We have four closely related observations about RTO market monitoring. First, the market monitoring organization should not be given enforcement powers.<sup>46</sup> Granting such powers could devolve into reregulation. Further, the conflict of interest issues inherent in self-monitoring by RTOs would be aggravated further if the market monitoring office had enforcement powers as well.

Second, evaluations of competition questions carried out by the RTO's market monitoring office and conclusions of the RTO's market monitoring office should not shield the RTO or its members from antitrust enforcement actions. Self-monitoring controlled by RTOs would not create an antitrust exemption for RTOs. We suggest that FERC make this explicit in any rules

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<sup>46</sup> See FTC Staff, New England ISO Comment and ISO Policy Comment, *supra* n. 3.

alternative would be to establish such reviews within FERC itself or to have the market monitoring office report to an independent market monitoring committee separate from the RTO board. We note that making generators' otherwise confidential bid data publicly available (so that the academic community can perform a quality check on the efforts of RTO market monitoring offices) may raise antitrust concerns about abetting potential collusion or strategic bidding.<sup>47</sup>

### **G. Planning and Expansion Minimum Functions**

FERC proposes that RTOs be responsible for planning expansions to the transmission grid that will allow the RTO to provide efficient and non-discriminatory transmission services.<sup>48</sup> The present transmission grid experiences varying degrees of congestion at different points in time and in different geographic areas. Because transmission expansion may be costly, some degree of congestion is consistent with efficient operation of the grid. To some extent, present congestion arises because much of the grid was sited when the industry was organized with a strong reliance on self-sufficiency in generation and transmission for each traditional vertically integrated local monopoly. In other respects, present congestion reflects higher growth of demand in some areas coupled with difficulty in obtaining siting approvals for new transmission. With an appropriate transmission congestion pricing system in place, price signals will be available to investors to indicate potentially profitable places for additional transmission (or generation) investments.

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<sup>47</sup> It may be possible to keep such data confidential, yet allow researchers to have access to it. *See Opportunities for Research with the Federal Trade Commission's Line of Business Data*, Federal Trade Commission, Bureau of Economics (Sept. 1985). As long as the resulting academic work is limited to reporting aggregates or statistical relationships, confidentiality can be maintained while providing some degree of cross-check on market monitoring office research. One may question, however, whether academic research completed long after the fact represents a sufficient check on the independence of the market monitoring function.

<sup>48</sup> Notice at 189.

We agree with FERC that the key policy goal is to ensure that transmission expansion decisions are based on efficiency considerations and are not biased. If expansion and siting decisions are influenced by generation owners, for example, the generation owners will have incentives to curtail transmission expansions or distort siting decisions in ways that will favor their own existing generation investments.<sup>49</sup> A similar bias in transmission expansion decisions may arise if the RTO that owns the transmission assets or the transmission owners themselves make the transmission expansion decisions and if they benefit from transmission congestion or from blocking new local entry that would compete with transmission.<sup>50</sup> This was the central competitive concern expressed in the Entergy Services Comment.

As we noted in our California Distributed Generation Comment, the development of DG accentuates potential bias in grid investments.<sup>51</sup> FERC may wish to be particularly alert for RTO

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<sup>49</sup> The intensity of this concern may be reduced if other constraints on transmission expansion, such as difficulties in obtaining siting permits, make transmission expansion decisions largely moot.

<sup>50</sup> Local generation entry may reduce demand for transmission services because it substitutes for distant generation brought in to meet local load via transmission lines. By delaying or blocking access by localized generation entrants to the transmission and distribution system, the transmission provider may increase its revenues and profits as well as reduce the risk of stranded transmission costs.

<sup>51</sup> For example, a traditional vertically integrated utility with generation assets located primarily outside a load pocket might have an incentive to overinvest in transmission capacity into the load pocket in order to preempt DG capacity investments that would otherwise take place within the load pocket. The regulated vertically integrated utility might be able to add the extra transmission capacity to its regulated transmission rate base and, thereby, add to the value of its distant, unregulated generation capacity. Effectively, it would be subsidizing its generation sales with its additional transmission investment. The result could be higher prices for customers of the regulated transmission company and higher production costs for the economy as a whole, as the distant generation capacity displaces DG that would have been the most economical solution absent the cross-subsidization.

incentives to raise the costs of, or to delay, DG connections to the grid. The development of DG, primarily fueled by natural gas, highlights the difference in the siting authority FERC has for natural gas transmission pipelines relative to electric power transmission lines. With continued difficulties in obtaining siting approvals for electric transmission lines at the state and local levels, DG may become a very important substitute because FERC has broader authority in gas pipeline siting than in electric power transmission siting.<sup>52</sup>

Finally, there is a scope aspect to the planning and expansion function. Within an interconnect, planning and expansion decisions with respect to different sections of the interconnect are inherently interdependent. If multiple RTOs exist within an interconnect, there must be coordination between the RTOs in making planning and expansion decisions if the grid is to develop optimally to serve consumers with lower prices and improved reliability.

#### **IV. The "Efficient Operations" Minimum Characteristic<sup>53</sup>**

FERC may wish to establish an additional minimum characteristic concerning efficient operations of RTOs. With any new independent institution, there is a risk that independence will devolve into indifference to the quality of service, the pace of innovation, and changes in customer preferences. RTOs are unlikely to be an exception. To avoid traveling down such a path, FERC may wish to identify minimum efficiency incentives that will characterize RTOs.

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<sup>52</sup> 18 C.F.R. Part 156.

<sup>53</sup> In proposing the "Efficient Operations" minimum characteristic, we recognize that transmission represents a relatively small proportion of the total costs of production and distribution in electric power markets. To the extent that efficiency increases in transmission result in inefficiencies at other levels of the industry, we suggest that FERC focus on overall consumer welfare and not just on efficiencies at one level of the market.

For example, an RTO is more likely to operate efficiently and be responsive to customer preferences if the RTO (or its employees) gain by reducing costs and increasing the volume of wholesale transmission. Similarly, efficiency may be enhanced by providing a mechanism for displacing management and the board of directors if either or both fail to operate and manage the

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<sup>54</sup> Some efficiency incentives have been an element in regulating for-profit monopolies. For example, regulated firms may have incentives to reduce costs if rates are adjusted infrequently. By reducing operating costs, the firm increases profits until such time as the rates of return are recalibrated to incorporate new cost conditions. Similarly, rate caps may provide incentives for regulated firms to reduce costs, so as to increase profits.

<sup>55</sup> *See, e.g.*, F.M. Scherer and David Ross, Industrial Market Structure and Economic Performance, Ch. 18 (3d ed. 1990); John Vickers and George Yarrow, Privatization: An Economic Perspective, Ch. 2 (1988).

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<sup>56</sup> *See*

the positive externality occurs because organizing an RTO may provide incidental benefits to consumers (*i.e.*, lower prices and improved reliability), both inside and outside the RTO, that the RTO organizers might not capture. These benefits may include all the various efficiencies that are described in the Notice. To the extent that these social benefits are not captured by the RTO

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to undertake the research and development investments necessary to develop new goods and services with large benefits to consumers. This is because the imitators appropriate much of the consumer demand, reducing the amount of demand available to the innovator. The demand lost to imitators becomes external to the investment cost/benefit decision of the prospective innovator. See Scherer and Ross, Industrial Market Structure and Economic Performance, *supra* n. 55, at 622-23.

providers are available to avoid awarding a monopoly franchise for this function.

### **C. Anticompetitive Agreements Reached During RTO Formation Discussions**

The process of forming RTOs necessarily involves meetings among competing generation and transmission owners in each region. Because the RTO formation results in a request that government (FERC) approve various organizational and structural changes, RTO formation discussions are protected generally from antitrust enforcement under the *Noerr-Pennington* doctrine.<sup>59</sup> Agreements among competitors concerning prices, services, policies toward entrants, and other commercial matters (other than formation of an RTO) are unlikely to be protected from antitrust enforcement even if those agreements are reached during meetings called to assist in

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<sup>59</sup> In its simplest terms, the *Noerr-Pennington* doctrine shields private parties from antitrust liability when they engage in concerted and genuine efforts to influence governmental action, even though the conduct is undertaken with an anticompetitive intent and purpose. *Eastern Railroad Presidents Conference v. Noerr Motor Freight, Inc.*, 315 U.S. 127 (1961); *United Mine Workers of America v. Pennington*, 381 U.S. 657 (1965). The doctrine is significant because it seeks to accommodate two rights that are important in guaranteeing personal liberty: the right to petition government, and the right to an economic system driven by free and unfettered competition.



have noted specific areas where we believe FERC's prescriptions for qualified RTOs may be improved from a competition policy perspective, such as by encouraging real-time pricing and efficient RTO operations. FERC also may wish to consider an externalities framework to evaluate the appropriate form and size of such incentives.

Respectfully submitted,

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