Before the
United States of America
Federal Energy Regulatory Commission

Wholesale Competition in Regions)	**Docket No. RM07-19-000**
With Organized Electric Markets)	**Docket No. AD07-7-000**

Comment of the
<u>Federal Trade Commission</u>

April 17, 2008

I. Summary

The Federal Trade Commission ("FTC") appreciates the opportunity to comment on revised proposals of the Federal Energy Regulatory Commission ("FERC"). These proposals aim to strengthen competition in organized electric power markets and thereby enhance consumer welfare and increase economic efficiency. Organized electric power markets operate in areas with Independent System Operators ("ISOs") or other forms of Regional Transmission Organization ("RTO"). FERC's proposals are contained in a Notice of Proposed Rulemaking ("NOPR") that sets forth revisions in the proposals contained in the earlier Advance Notice of Proposed Rulemaking ("ANOPR") on the same subject matter.[1] The proposals in the NOPR cover the responsiveness of demand to changes in wholesale electric power prices; difficulties in arranging long-term power supply contracts; concerns about the objectivity with which market monitors carry out their duties; and alleged deficiencies in grid operators' responsiveness to transmission customers in organized power markets.

As in the ANOPR, a major long-term objective of these proposals is to replace reliance on traditional, cost-based rate regulation with reliance on vigorous competition to determine prices in wholesale electric power markets. We encourage this development as part of the

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[1] The NOPR was published at 73 Fed. Reg. 12575 (Mar. 7, 2008), *available at* http://edocket.access.gpo.gov/2008/E8-3984.htm.

ongoing effort to improve consumer welfare and economic efficiency through vigorous competition in the electric power sector more generally. Technical developments in the generation and transmission of electric power have led many economists to conclude that such competition is now feasible at the generation stage if regulation of transmission, local distribution, and retail marketing can be designed and operated to support generation competition.

The FTC summarized its view on the proposals in the ANOPR as follows: "Although we commend FERC for its proposals to remove regulatory obstacles to vigorous competition and efficient resource allocation in electricity markets and for the specific changes proposed in the ANOPR, we also encourage FERC to improve the proposals. . . . We are concerned that the proposals do not fully recognize the crucial role of timely, accurate price signals and of incentives to minimize costs and improve the quality of service in electric power markets. We believe that a focus on removal of regulatory obstacles to efficient real-time price signals and on the creation of performance incentives for market participants can lead to improvements in the proposals and in subsequent market performance."

Although the revisions developed in FERC's NOPR constitute improvements over several of the proposals contained in the ANOPR, the proposals in the NOPR would benefit from further modifications. This comment identifies and recommends improvements to certain aspects of the NOPR proposals. In addition to the proposals in the NOPR, we encourage FERC to explore the significance of potential market power and entry barriers in wholesale electric power markets – issues that have been raised at FERC technical conferences and in some comments on the ANOPR. We summarize our suggestions in the remainder of this section.

1. The FTC's comment on the ANOPR highlighted limitations on effective demand

response ("DR")[2] that stem both from an absence of efficient and timely price signals for retail customers and from the ANOPR's failure to acknowledge that DR can help protect customers from generator market power. The NOPR recognizes the importance of these elements, explicitly acknowledges that DR can limit supplier market power, and declares FERC's intention to study whether further reforms are necessary to eliminate barriers to DR in organized markets.[3] Our comment identifies specific regulatory practices that can inhibit DR. It explains why subsequent policy reforms should address these practices both in collaboration with state regulatory bodies and on FERC's own initiative.[4]

2. With regard to "DR bids" – *i.e.*, a system whereby customers can bid to reduce their electricity consumption – the FTC's comment on FERC's ANOPR discussed various ways of "customizing" such bids, including allowing customers to set limits on the length of time during which they agree to reduce electricity use. The NOPR proposes that RTOs and ISOs allow DR

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[2] DR is a reduction in electricity consumption during periods of scarcity or high prices. DR includes the demand elasticity of consumers who get timely price signals, as well as the impact of programs that allow grid operators temporarily to shut off customers' equipment (such as air conditioning or industrial equipment). In electricity markets, retail prices often do not closely follow changes in wholesale prices. This results in little or no reduction in consumption when wholesale prices are high. The separation of retail from wholesale prices results in subsidization of consumption when wholesale prices are high and penalization of consumption when wholesale prices are low. DR programs seek to increase the degree to which consumption responds to changes in wholesale prices. One technique is to increase the correspondence between retail and wholesale prices. Another technique is to arrange automatic reductions in the use of machinery, appliances, or heating and cooling equipment when wholesale prices are high. The lack of DR was a focus of attention in the 2000 and 2001 FTC staff reports on electricity restructuring and in the report submitted to Congress, pursuant to the Energy Policy Act of 2005, by the Electric Energy Market Competition Task Force (which included FTC personnel).

[3] NOPR ¶¶ 27, 57, 121.

[4] The Energy Policy Act of 2005 and the Energy Independence and Security Act of 2007 both encourage FERC and the states to increase DR.

bids to include important forms of customization in order to encourage additional participation in wholesale DR programs.[5] In this comment, we commend FERC's DR proposals and elaborate on additional ways in which DR bids can be customized to meet the circumstances of electricity consumers who wish to offer DR.

3. The FTC's comment on the ANOPR urged FERC to consider the costs and benefits of four proposed ways to increase DR, to reduce the distortions that wholesale rate caps introduce into investment signals, and to limit the circumstances in which rate caps may be suspended to periods when generation reserve margins are low.[6] Although FERC proposes in its new NOPR to require an RTO or an ISO to choose (and justify its selection of) one of the four approaches, the NOPR nevertheless would allow RTOs and ISOs to keep other restrictions on wholesale pricing in force.[7] There is a risk that these other pricing restrictions could bind so tightly that they would mute the more timely and efficient price signals to consumers and generators provided by lifting the wholesale rate caps. This comment encourages FERC to address this potential unraveling of new DR incentives. It also encourages FERC to consider expanding the periods in which rate caps would be relaxed, and to base such expansions in part on the extent of DR participation.

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[5] NOPR ¶¶ 41-43, 62-64.

[6] *Id.* ¶ 107. Because electricity cannot be stored economically in large quantities, maintaining the reliability of the electricity supply system requires that additional generation be available – or consumption be curtailed – on short notice to counterbalance unexpected equipment breakdowns or demand surges. The term "reserves" applies to generation capacity that is idle but can be ramped up quickly, as well as to promises by some customers to curtail consumption on short notice. FERC and the North American Electric Reliability Council set standards for the level of reserves required to maintain a specified level of system reliability.

[7] *See id.* ¶¶ 117-26 for descriptions of these pricing restrictions; *see esp.* ¶ 121 regarding ongoing market power mitigation during periods of reserve shortfalls.

4. FERC's ANOPR contained proposals to facilitate long-term contracts between electric power generators and "load-serving entities" (such as the local public utility). The new NOPR proposes that RTOs and ISOs facilitate such contracting by creating a section on their websites where participants can offer (or express interest in) long-term supply contracts.[8] This aspect of the NOPR responds to previously expressed concerns that small load-serving entities face high costs in identifying suppliers interested in signing long-term supply contracts. Our current comment confirms that lowering search costs can facilitate long-term power contracting.

5. The FTC's comment on the ANOPR encouraged FERC to consider the costs and benefits of alternative arrangements to ensure the independence of market monitors.[9] The NOPR proposes that market monitors report to the RTO or ISO Board of Directors rather than to the RTO's or ISO's line management.[10] This comment urges FERC periodically to review the sufficiency of these modifications. If FERC deems them insufficient, then the agency may wish to consider additional means to make market monitors independent.

6. The NOPR adds provisions for wider and more frequent dissemination of market monitors' reports, and also allows monitors to respond to customized requests for information from state regulators and attorneys general as resources allow.[11] This comment commends the wider dissemination of market monitor reports, and also encourages FERC to consider allowing

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[8] *Id.* ¶¶ 155-58.

[9] Market monitors are intended to advise FERC (as well as RTOs and ISOs) about the performance of organized markets, possible violations of market rules, and rules that should be revised.

[10] *Id.* ¶ 187.

[11] *Id.* ¶ 233.

additional monitor responses to customized information requests from state or federal agencies so long as the requesting agency pays the costs of such reports.

7. The NOPR calls for market monitors to cease participating in tariff administration by RTOs and ISOs, including market power mitigation.[12] This comment commends this aspect of the NOPR, consistent with earlier FTC comments encouraging FERC to separate market monitors' investigative activities from RTO's and ISO's general enforcement functions.[13]

8. The FTC's comment on the ANOPR questioned the assumption that increasing customer access to RTO/ISO Boards of Directors would suffice to make RTOs and ISOs "customer-friendly." The NOPR proposes instead to require RTOs and ISOs to demonstrate that they are taking steps to become more responsive to customer concerns, and specifies that this requirement could be met by allowing some stakeholders to be members of RTO/ISO Boards or having a board advisory committee composed of stakeholders.[14] Our comment points out that excessive costs and a lack of customer responsiveness on the part of RTOs and ISOs likely stem from a much more systemic problem: RTOs' and ISOs' current status as not-for-profit entities. We encourage FERC to consider allowing RTOs or ISOs to meet the customer responsiveness requirement either by reorganizing in the form of a for-profit Transco or – if the RTO or ISO continues to be organized as a non-profit organization – by including strong incentives for managers to be responsive to customer concerns.

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[12] *Id.* ¶¶ 207-10.

[13] Comment of the Staff of the Bureau of Economics of the Federal Trade Commission in the Matter of Regional Transmission Organizations, FERC Docket No. RM99-2-000 (filed Aug. 16, 1999), at 24 (footnote omitted), *available at* http://www.ftc.gov/be/v990011.pdf.

[14] NOPR ¶¶ 275-77.

II. Interest of the Federal Trade Commission

The FTC is an independent agency of the federal government responsible for maintaining competition and safeguarding the interests of consumers through enforcement of the antitrust and consumer protection laws and through competition policy research and advocacy. The FTC often analyzes regulatory or legislative proposals that may affect electric industry competition or allocative efficiency. It reviews proposed mergers that involve electric and gas utility companies. In the course of this work, as well as in antitrust and consumer protection research, investigation, and litigation, the FTC applies established legal and economic principles and recent developments in economic theory and empirical analysis to competition issues throughout its work.

The energy sector, including electric power, has been an important focus of the FTC's antitrust enforcement and competition advocacy.[15] The FTC's competition advocacy program has produced two staff reports on electric power industry restructuring issues at the wholesale and retail levels,[16] and FTC staff also contributed to the work of the Electric Energy Market

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[15] *See*, *e.g.*, Deborah Platt Majoras, Chairman, Federal Trade Commission, Opening Remarks at the FTC Conference on *Energy Markets in the 21st Century: Competition Policy in Perspective* (Apr. 10, 2007), *available at* http://www.ftc.gov/speeches/majoras/070410energyconferenceremarks.pdf. FTC merger cases involving electric power markets have included *DTE Energy/MCN Energy* (2001) (consent order), *available at* http://www.ftc.gov/os/2001/05/dtemcndo.pdf; and *PacifiCorp/Peabody Holding* (1998) (consent agreement), *available at* http://www.ftc.gov/os/1998/02/9710091.agr.htm. (The FTC subsequently withdrew the *PacifiCorp* settlement when the seller accepted an alternative acquisition offer that did not pose a threat to competition.)

[16] FTC Staff Report, *Competition and Consumer Protection Perspectives on Electric Power Regulatory Reform: Focus on Retail Competition* (Sept. 2001), *available at* http://www.ftc.gov/reports/elec/electricityreport.pdf; FTC Staff Report, *Competition and Consumer Protection Perspectives on Electric Power Regulatory Reform* (July 2000), *available at* http://www.ftc.gov/be/v000009.htm (compiling previous comments that the FTC staff provided to various state and federal agencies).

Competition Task Force, which issued a *Report to Congress on Competition in Wholesale and Retail Markets for Electric Energy*.[17] The Commission also has held public conferences on energy topics.[18] The FTC and its staff have filed numerous competition advocacy comments with FERC and the states concerning electricity restructuring initiatives.[19] The FTC staff also participates in preparing United States Government filings before international competition organizations regarding energy policy matters.[20]

III. Reform of Specific Regulatory Practices that Can Inhibit Demand Response

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[17] That report is available at http://www.ferc.gov/legal/fed-sta/ene-pol-act/epact-final-rpt.pdf.

[18] The most recent FTC conference on energy issues was *Energy Markets in the 21st Century: Competition Policy in Perspective*, held on April 10-12, 2007 (conference materials *available at* http://www.ftc.gov/bcp/workshops/energymarkets/index.shtml). *See also* the FTC's public workshop on *Market Power and Consumer Protection Policies Issues Involved with Encouraging Competition in the U.S. Electric Industry,* held on September 13-14, 1999 (workshop materials *available at* http://www.ftc.gov/bcp/elecworks/index.shtm); and the Department of Justice and FTC Electricity Workshop, held on April 23, 1996.

[19] FTC competition advocacy filings after mid-1994 are available in reverse chronological order at http://www.ftc.gov/opp/advocacy_date.shtm. FTC competition advocacy efforts regarding the electric power sector began in 1994 with a Comment of the Staff of the FTC Bureau of Economics to the South Carolina Legislative Audit Council on the Statutes and Regulations Covering the South Carolina Public Service Commission (Feb. 28, 1994).

[20] The FTC and the Department of Justice participate as United States delegates in a number of international organizations, such as the Organization for Economic Cooperation and Development. As part of this process, the FTC staff contributes to the United States' "country reports" on competition topics. *See, e.g.*, United States Department of Justice and Federal Trade Commission, "Note by the US Department of Justice and US Federal Trade Commission," OECD Roundtable on Energy Security and Competition Policy (Feb. 21-22, 2007), *available at* http://www.ftc.gov/os/2007/02/WD200725OilGasUnited%20States.pdf. When requested by the Department of State, the FTC staff also contributes to comments by the United States on proposed regulatory reforms in other nations.

Because FERC is engaged in a collaborative effort with state regulators to enhance DR, we encourage FERC to explore how it can more effectively coordinate its wholesale DR policies with retail DR policies of states, cooperatives, and public power entities. In particular, it may be helpful for FERC to identify how changes in retail DR policies might make it less urgent to implement DR or other market power policies at the wholesale level. Similarly, FERC may be able to help states to identify retail DR policies that will enhance FERC's wholesale DR policies.

A. Background

Traditional retail electric prices do not change when scarcity increases wholesale prices.[21] Generation or transmission equipment problems and extraordinary air conditioning demand from heat waves both can make electricity scarce and far more expensive than it is even during ordinary high demand conditions. These exceptional conditions are impossible to predict and to incorporate into traditional rates that are fixed months or years ahead. Fixing retail prices in this way means that consumers pay the same price to run their air conditioners and dryers during ordinary periods and in scarcity periods – two situations during which wholesale prices may differ by a factor of 50. These retail consumers – exposed only to incentives from traditional rates – have no reason to exhibit any demand elasticity in response to wholesale price fluctuations. The fact that massive increases in wholesale price do not damp retail consumption makes it more profitable for generators to raise wholesale prices above the competitive level.

Traditional retail price regulation also increases the volatility of wholesale prices, increases the risk of blackouts and brownouts, and raises average costs. For example, while an

[21] Traditional retail rates generally are time-invariant, *i.e.*, the rates do not depend on when the consumer uses power, regardless of scarcity conditions and wholesale prices. Some traditional utility systems, however, include seasonal differences in rates that otherwise are time-invariant.

unusual heat wave drove temperatures above 100 degrees in Southern California in early September 2007, Southern California Edison reported that approximately 20,000 customers were subject to blackouts for extended periods. It was estimated that 90 percent of those blackouts were due to peak demand that exceeded the capacity of local distribution equipment under such extreme temperatures. If retail prices had adjusted to reflect wholesale prices in real time, people would not have used power that they valued at less than its social cost.[22] As a result, there would have been a more efficient allocation of the limited amount of electricity in the short term, and firms would have had more appropriate incentives to build the efficient amount of generation, transmission, and distribution capacity.

Dynamic pricing is a class of approaches, including real-time pricing and critical peak pricing, that allow retail prices to change to reflect fluctuations in wholesale prices on short notice. Real-time pricing sets one retail price for each hour (or a smaller unit of time) as a function of the spot market wholesale price. Critical peak pricing is a simpler dynamic (time-of-use) pricing system. Typical critical peak pricing programs define peak and off-peak periods and specify a price for peak periods that is higher than the price specified for off-peak periods. These programs also designate about 1 percent of all hours as critical, scarcity periods during which the price is significantly higher than during peak periods.[23]

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[22] The power's social (opportunity) cost is the lesser of (1) the cost of building and running an electricity system large enough to prevent the blackout or (2) the cost at which other customers will reduce their consumption of electric power enough to prevent the blackout.

[23] Critical peak pricing announces a schedule of price periods and then explicitly allows for critical events that deviate from that schedule and can be invoked on a few hours' advance notice. Utilities choose to call critical events when forecasted conditions are likely to cause electricity scarcity, system unreliability, or high wholesale prices. Programs notify customers about critical events by means of some combination of automated phone calls, e-mails, or notification to a programmable communicating thermostat installed pursuant to the critical peak pricing program. Although critical peak pricing notification policies vary, typically customers

Three types of regulation currently are particularly likely to prevent or undermine wholesale DR.[24] The first type is regulations that forbid real-time retail pricing – even though such pricing is efficient. Time-invariant pricing subsidizes consumption when power is most costly and when increases in consumption are most likely to cause blackouts or other reliability problems. A second type comprises regulations and ratemaking systems that penalize utilities financially if DR increases between rate cases. The third type consists of regulations that allow utilities to discourage efficient, elasticity-increasing consumer investment in onsite generation by charging inefficiently high prices for standby service. The coordination of DR policies at both levels of government likely would bring the extent and robustness of DR closer to the economically efficient level.

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are notified the day before the event if they need to adjust their thermostats by hand. They can receive shorter notice if they have a programmable communicating thermostat or a "gateway" system that automatically reduces their electricity consumption during critical periods.

Utilities commit in advance to the number of critical hours or events. This limit typically is on the order of 1 percent of all hours, or about 15 events per year. Sometimes utilities commit to limits on the timing of critical events. For example, California's Statewide Pricing Pilot program called critical events only between 2:00 pm and 7:00 pm on weekdays. Sometimes critical peak pricing programs set forth conditions that will suffice to call a critical event. For instance, temperatures below freezing or exceeding 95 degrees Fahrenheit suffice for Gulf Power to trigger a critical event, while the California Statewide Pricing Pilot announced that any stage 1 power emergency would trigger a critical event. *See* Gulf Power Co., "GoodCents Select: Advanced Energy Management Program," *available at* http://www.ewh.ieee.org/r3/nwflorida/presentations/01_19_06.ppt; Charles River Associates, "Impact Evaluation of the California Statewide Pricing Pilot" (Mar. 16, 2005), *available at* http://www.energy.ca.gov/demandresponse/documents/group3_final_reports/2005-03-24_SPP_FINAL_REP.PDF. In general, utilities also retain the flexibility to declare a critical event on any day on which they forecast high power costs or low system reliability, so long as such a declaration would not exceed the annual limit on the number of critical events they can call.

[24] The FERC Staff Report, *Assessment of Demand Response and Advanced Metering*, FERC Docket AD-06-2-000 (Aug. 2006), *available at* http://www.ferc.gov/legal/staff-reports/demand-response.pdf, also discussed a variety of regulatory barriers to DR. Experience and research have continued to develop in this area since the release of this FERC Staff Report.

B. Removing Regulations that Prevent Retail Real-Time, Marginal-Cost Pricing of Electric Power

The most direct way to increase the elasticity of wholesale demand with respect to wholesale prices is to redesign retail rates to reflect the dynamic marginal costs of supplying electric power. These costs vary with changes in demand and supply conditions, including the weather-driven demand for air conditioning and failures in generation and transmission equipment. The first step in moving prices toward marginal cost is to remove regulations that require traditional, fixed retail prices. One way to achieve marginal-cost pricing of electric power is to base real-time retail prices on wholesale market-clearing prices.[25] Retail pricing that at least partially tracks wholesale prices is likely to lead to more efficient resource allocation (including less non-price rationing) than traditional price regulation. In deciding which approach to take to retail pricing, state regulators and FERC (in collaborative discussions of DR with the states) should weigh the implementation and transaction costs. Dynamic pricing's transaction

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[25] State regulators, utilities, and researchers have gathered evidence about DR programs that is encouraging with regard to both the potential quantity of DR and the likely effects of DR on wholesale prices. Some DR approaches, however, can entail significant costs that must be compared to DR's benefits in any evaluation of the net effects of DR proposals. For example, real-time prices encourage consumers to reduce consumption during peak demand periods and to invest in ways to increase DR, but real-time prices require advanced meters that can be expensive. "Experiences in New York, Georgia, California, and other states and pricing experiments have demonstrated that customers do take actions to adjust their consumption, and are responsive to price (*i.e.*, they have a nonzero price elasticity of demand). Georgia Power Company's successful real-time pricing tariff option has demonstrated that industrial customers who receive real-time prices based on an hour-ahead market are relatively price-responsive (price elasticities ranging from approximately -0.2 at moderate price levels, to -0.28 at prices of $1/kWh or more) given the short-time period in which to act. Among day-ahead real-time pricing customers, price elasticities range from approximately -0.04 when prices are at moderate levels to -0.13 when customers are exposed to higher prices. A critical peak-pricing experiment in California in 2004 determined that small residential and commercial customers are price responsive and will produce significant reductions. Participants reduced load 13 percent on average, and as much as 27 percent, when price signals were coupled with automated controls such as controllable thermostats." *Id.* at 13-14 (footnotes omitted).

costs include the cost of having people track and respond to price changes, or the cost of computerized thermostats to do so. Implementation costs appear to be declining in the wake of technical advances in metering and billing that can accommodate dynamic prices.[26]

Because retail customers may have different preferences with regard to the volatility of their electric bills, regulation also should allow customers the ability to buy blocks of power in advance at the average price and pay dynamic prices only on the margin.[27] So long as the social benefits of dynamic pricing exceed the costs of its implementation, however, dynamic pricing should be the basic (or default) service option.

C. Removing Financial Penalties for Utilities that Allow or Foster Increased Price Sensitivity of Demand

Dynamic electricity pricing has the potential to be a Pareto-improving change that could generate billions of dollars in social savings that consumers and utilities can share.[28] Regulators should encourage utilities to seek out win-win deals that benefit both consumers and utilities.

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[26] Real-time metering already is extensively deployed for large commercial and industrial customers in several states that allow customers to select their own electricity supplier. Several pilot projects for residential customers have been completed or are underway, but mass deployment of advanced meters for residential customers has been rare in the United States. After an extensive analysis of costs and benefits, the three major investor-owned utilities in California have undertaken programs to deploy advanced meters for all classes of customers. Mass deployments lower the average costs of the meters, reduce average installation costs, and yield significant labor savings because the new meters report usage electronically and do not require human meter readers to go door to door.

[27] For a more extensive discussion of this subject, *see* Severin Borenstein, Center for the Study of Energy Markets, Univ. of Cal. Energy Inst., Working Paper #155, "Customer Risk from Real-Time Retail Electricity Pricing: Bill Volatility and Hedgability" (2006) (also published at 28:2 Energy J. 111 (2007)).

[28] A change is "Pareto-improving" if it benefits at least some consumers and does not harm any other consumers. A refinement of the basic Pareto conditions is that the change benefits at least some consumers and that these benefits are more than sufficient to compensate any consumers who are harmed by the change.

Instead, however, many ratemaking systems make it unprofitable or risky for utilities to offer dynamic pricing.[29] Utilities that operate regulated, natural monopoly distribution systems for electric power often have been reluctant to offer retail marginal-cost pricing for electric power because they fear financial losses if consumption declines below the level for which they have planned (and on which the regulated rates are based).[30] If dynamic pricing or energy conservation programs offer social benefits, regulators should structure retail rates to maintain utilities' profits if these programs succeed in recruiting customers and better managing their consumption. Such restructuring can increase the feasibility of quickly implementing real-time or other time-variant retail pricing arrangements.

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[29] In "The Long-Run Efficiency of Real-Time Electricity Pricing," 26:3 Energy J. 93 (2005), Severin Borenstein estimates that universal implementation of real-time pricing could reduce the cost of operating the electric system by 5 to 10 percent. Total U.S. purchases of electricity were $342 billion in 2007 (*see* http://www.eia.doe.gov/cneaf/electricity/epm/table5_2.html), so universal deployment of real-time pricing could save between $17 billion and $34 billion. Those estimates do not take into account the potentially large benefits of making the system robust to unexpected events like the combination of poor hydro electric conditions, natural gas supply problems, and a thriving economy such as that which set the stage for California's crisis in the summer of 2000. Further, Borenstein and Holland show that putting some consumers on real-time pricing benefits those consumers who remain on time-invariant pricing, and that the first consumers who switch to dynamic pricing have the greatest impact. *See* Severin Borenstein & Stephen Holland, Center for the Study of Energy Markets, Univ. of Cal. Energy Inst., Working Paper #106R, "Investment Efficiency in Competitive Electricity Markets With and Without Time-Varying Retail Prices" (revised July 2003).

[30] A switch from traditional, fixed retail prices to real-time retail prices can be engineered to cause or prevent shifts in costs among customer consumer classes because it does not facilitate arbitrage among classes or make it more difficult to determine the class to which a customer belongs. A move to real-time pricing typically will reduce cross-subsidies from consumers with flat demand to those with "peaky" demand. For example, Ramsey pricing principles (minimizing deadweight loss by charging higher prices to customers with less elastic demand) could be used in conjunction with either pricing system to allocate joint and common costs among customer classes.

Traditional utility price regulation typically sets a price based on the total of fixed and variable costs at the time of the previous rate case, divided by the quantity of electricity (or natural gas) consumed at that point in time. If the volume declines after the rate case, the revenue will fall by more than the decline in costs (because only the variable, but not the fixed, costs will decline). The resulting revenue will not be sufficient for a normal rate of return on the utility's investment. Hence, in comparison to utilities that do nothing or even discourage conservation, utilities that foster conservation are penalized by traditional, fixed retail rates. FERC may wish to investigate whether a similar disincentive to promote DR and conservation arises at the transmission stage of the electric power industry and whether transmission rate structures should be adjusted to avoid them if they exist.

Regulators might use one or more of a number of methods to avoid this result (and thus avoid creating a disincentive to pursue energy conservation and efficient price signals). One such method is "decoupling," which adjusts prices to cover fixed costs. Another example is to separate the portion of customer charges for fixed costs from the portion designed to recover variable costs. Several states – including Idaho, New York, and Pennsylvania – are considering or seeking proposals designed to encourage utilities to work with consumers to conserve energy through variations on these two methods.

D. Successful Dynamic Pricing Implementation Requires Attention to Detail

Dynamic pricing participants respond to the incentives and tend to be happy with dynamic pricing programs. Recruiting customers to participate requires careful attention and could benefit from innovative thinking about how to make dynamic pricing sound appealing to retail customers who are not already participating.

Customers who sign up for dynamic pricing generally reduce use during peak periods, save money, say they are happy, and stay on the program. These patterns describe the experiences of residential customers in production programs like Gulf Power's GoodCents Select. Customers had similar reactions in pilot studies, such as California's Statewide Pricing Pilot, that convinced people to participate by offering not only a new rate but also cash and by appealing to their sense of civic responsibility. Consumers report feeling greater control over their electric bills and a better sense of when and how to use power. Georgia Power's real-time pricing program for commercial and industrial customers similarly has succeeded for several years.

Although dynamic pricing can have compelling benefits for both consumers and grid operators, the merits of dynamic pricing may not sound appealing to customers with no experience other than traditional fixed rates. Getting customers to opt into these programs is difficult and requires attention to:

- helping consumers learn about price changes and how best to respond to them;
- how consumers think about risks and price changes;
- program implementation; and
- marketing.

Although commercial programs that utilities have implemented carefully have succeeded, one-third of commercial real-time pricing programs have zero participants.[31] Low participation often reflects inadequate implementation or promotion. Making dynamic pricing

[31] Galen Barbose, Charles Goldman, and Bernie Neenan, "A Survey of Utility Experience with Real Time Pricing," Lawrence Berkeley Nat'l Lab., Paper LBNL-54238 (Dec. 1, 2004), *available at* http://repositories.cdlib.org/lbnl/LBNL-54238.

programs work appears to be complex enough that efforts to create effective dynamic pricing programs tend to fail when they involve a regulatory edict that garners little utility buy-in. Programs that exist only on paper squander opportunities to temper market power, reduce distortionary regulation, and save billions of dollars for customers. Thus, regulators need to look for ways to give utilities and other firms offering these programs incentives and flexibility to devote resources to program implementation and refinement. Moving to dynamic pricing can be a Pareto improvement that benefits utilities, consumers on dynamic pricing, and consumers who remain on time-invariant pricing.[32] Offering utilities a share of their dynamic pricing programs' benefits may be an appropriate way to offer them a stake in the programs' success.

Experience shows that without consumer education and clear and attractive incentives, many consumers will choose a traditional, fixed "default" rate. Regulators and utilities may wish to consider making dynamic pricing the default rate, as several states have done with respect to large commercial and industrial customers.[33]

The FTC staff researches how consumers understand marketing materials and mandatory disclosures. This research – as well as our experience with disclosure regulation – shows that smart, well-intentioned people with legal, engineering, or policy analytic expertise often write

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[32] *See* Borenstein & Holland, "Investment Efficiency Incentives in Competitive Electricity Markets With and Without Time-Varying Retail Prices," *supra* note 29; Borenstein, "The Long-Run Efficiency of Real-Time Electricity Pricing," *id.*

[33] *See, e.g.*, Lisa Wood, "The New Vanilla: Why Making Time-of-Use the Default Rate for Residential Customers Makes Sense," Energy Customer Mgmt. (July/Aug. 2002); John Beshears, James J. Choi, David Laibson, and Brigitte C. Madrian, "The Importance of Default Options for Retirement Savings Outcomes: Evidence from the United States," in *Lessons from Pension Reform in the Americas* (2008).

materials that consumers have difficulty understanding.[34] Communications expertise, testing, and revision can improve dynamic pricing materials' effectiveness at attracting customers and equipping and educating them about how to respond to dynamic prices.

Careful and innovative design of programs and marketing efforts are important. Well-designed existing programs for residential accounts have gotten low voluntary sign-up rates, often on the order of 1 percent. Identifiable flaws in simplified consumer decision-making patterns may bias customers against signing up for dynamic pricing programs described in straightforward but inartful ways. Letzler describes these decision patterns and suggests using incentive-preserving rebates to present critical peak pricing in a more appealing manner without undermining efficiency incentives or changing total annual bills or the opportunity cost of power.[35]

Care also must be taken in designing dynamic rate DR programs to avoid manipulation of reward levels by some customers. For example, there is a longstanding argument about the relative merits of dynamic pricing and baseline-rebate programs. Baseline-rebate cases calculate a personalized "baseline" demand level from each customer's consumption history and then pay consumers rebates when they consume less than their baseline amount during a critical period.

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[34] *See, e.g.*, James M. Lacko and Janis K. Pappalardo, Bureau of Econ., Fed. Trade Comm'n, "Improving Consumer Mortgage Disclosures: An Empirical Assessment of Current and Prototype Disclosure Forms" (June 2007), *available at* http://www.ftc.gov/os/2007/06/P025505MortgageDisclosureReport.pdf; James M. Lacko and Janis K. Pappalardo, Bureau of Econ., Fed. Trade Comm'n, "The Effect of Mortgage Broker Compensation Disclosures on Consumers and Competition: A Controlled Experiment" (Feb. 2004), *available at* http://www.ftc.gov/os/2004/01/030123mortgagefullrpt.pdf.

[35] Robert Letzler, Center for the Study of Energy Markets, Univ. of Cal. Energy Inst., Working Paper #162, "Applying Psychology to Economic Incentive Design: Using Incentive Preserving Rebates to Increase Acceptance of Critical Peak Pricing" (Nov. 2006).

Many consumers in an Anaheim, California, baseline-rebate field experiment exploited these flawed incentives to raise their own baselines and earn larger rebates at the expense of other ratepayers.[36] Consuming more power during the baseline-setting period allows consumers to earn a larger rebate without reducing their critical period consumption. Thus, baseline-rebate programs present dynamic pricing well, but can create flawed incentives. By contrast, conventional dynamic pricing can amount to a poor marketing presentation of good incentives. Letzler summarizes evidence that both incentives and presentation matter, and suggests the use of incentive-preserving rebates that achieve an appealing rebate-based presentation of critical peak pricing incentives.

The challenges of getting larger enterprises to participate in dynamic pricing are different but no less important. Dynamic pricing can significantly lower the cost of some accounts' consumption patterns, letting them save even if they exhibit no demand elasticity. It can raise the cost of other consumption patterns, meaning that those customers would have to respond significantly to prices before they saw any net savings. For example, offering consumers the right to buy power at the time-invariant price and then billing just deviations from this pre-paid load shape at the dynamic price can keep bill levels stable while offering the right marginal incentives.[37] Further, dynamic pricing increases bill volatility, but simple hedges can reduce this risk.[38] Moreover, large customers may be more likely to participate if they have access to

[36] Frank A. Wolak, "Residential Customer Response to Real-Time Pricing: The Anaheim Critical-Peak Pricing Experiment" (May 24, 2006), *available at* ftp://zia.stanford.edu/pub/papers/anaheim_cpp.pdf.

[37] Severin Borenstein, "Wealth Transfers Among Large Customers from Implementing Real-Time Retail Electricity Pricing," 28:2 Energy J. 131 (2007).

[38] *See* Severin Borenstein, "Customer Risk from Real-Time Retail Electricity Pricing: Bill Volatility and Hedgability," *supra* note 27.

infrastructure to reduce the transaction cost of realizing savings, such as consulting and documented practices that have saved money for retail customers with similar consumption profiles.

E. Reforming Standby Electric Power Service Regulations

Technical improvements in small-scale electricity generators have made it increasingly attractive for some commercial (and even some residential) electricity consumers to consider investing in onsite generation – *i.e.,* building their own electric generation facilities on the site of an industrial manufacturing facility or at home.[39] Technologies differ in whether they make it technologically and economically feasible to provide round-the-clock power that could entirely substitute for power from the grid. The questions to ask about whether a regulatory structure artificially excludes onsite generation tend to be specific to the onsite generation technology under consideration. Onsite gas turbines and other technologies that typically run essentially nonstop are vulnerable to regulatory flaws that differ from those applicable to technologies intended as backup generation. It is similarly important to reform rules that may distort choices about investment in other onsite technologies – including intermittent technologies such as wind and solar – but that issue poses different challenges that this comment does not explore in detail. Environmental concerns and technological developments are transforming the characteristics of cost-effective generation technologies, which makes it particularly important to design

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[39] Residential onsite electric power generation (other than backup generators) currently consists primarily of solar cell arrays installed on rooftops. Hot water solar panels also are relevant to the extent that they displace the use of electricity to heat water. Small-scale wind generators are being developed for residential use, and residential-scale fuel cells are expected to attract considerable interest as prices decline and reliability is established. The considerable research and development regarding small-scale fuel cells for use in the transportation sector should be readily transferable to onsite generation products.

technologically neutral regulatory approaches that maintain a level playing field enabling emerging technologies to enter based on their merits.[40]

Because onsite generation represents a competitive challenge to incumbent utilities,[41] utilities can have incentives to prevent customers from making such investments. Customer interest in onsite generation depends on a variety of factors, such as fuel and equipment costs relative to the price of power obtained from the grid. Reliability preferences also are likely to be a factor. In the FTC investigation of the DTE/MichCon merger, the staff obtained projections of onsite generation that the incumbent electric utility considered a competitive threat.[42]

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[40] Dynamic (ideally, real-time) pricing is a particularly important tool to create incentives for efficient investment in intermittent generation technologies (*e.g.*, wind and solar) and in technologies that store power or change load shapes. Real-time prices capture changing patterns of electricity scarcity and abundance and harness market forces to help integrate technologies such as wind turbines, solar generation, plug-in hybrid vehicles, and other energy storage devices into the grid.

[41] In many areas of the nation, the electric power sector no longer is considered to be a natural monopoly at the generation stage of production. On the other hand, the transmission and distribution stages of the industry commonly are viewed as natural monopolies. Onsite generation – which takes place where the demand is located – reduces or eliminates the necessity for transmission and distribution services provided by the incumbent utility and thus competes with such utility services.

Some power industry observers contend that onsite generation provides positive externalities that warrant policies to expand it. For example, consumers with onsite generation may decide to make their own power only when it is less expensive than power from the grid. Such customers can have an unusually high price elasticity of demand for power from the utility. Demand response can make it more difficult for incumbent generators to exercise market power – *i.e.*, profitably to raise prices above the competitive level – and can improve the reliability of the grid by cutting consumption during peak demand periods, when the grid is most likely to experience reliability problems ranging from voltage irregularities to blackouts. Some observers have predicted that onsite generation eventually can provide enough competition to warrant an end to most economic regulation of not only generators but also transmission and distribution providers.

[42] Fed. Trade Comm'n, Analysis of the Proposed Consent Order and Draft Complaint to Aid Public Comment in *DTE Energy Company and MCN Energy Group Inc.*, File No. 001 0067, *available at* http://www.ftc.gov/os/2001/03/dteanalysis.htm. For an example of government modeling the penetration of onsite generation, *see* Erin Boedecker, John Cymbalsky, and Steven

One potential problem for a customer considering an onsite generation project is that the customer occasionally may need to receive "standby" power from the utility if, for example, the onsite generator has a mechanical breakdown or needs maintenance. Intermittent technologies such as wind and solar generation will need power from the grid on a regular basis. Utilities, which generally are allowed to charge special rates to such intermittent customers, can frustrate competitive inroads by onsite generation by charging inefficiently high prices for standby service – that is, prices that exceed opportunity costs (including a market-based risk premium) and that provide utilities with a rate of return above the competitive level, or even above the short-term profit-maximizing price.[43] For example, the utility might set standby service charges so high that they offset any savings the customer enjoys from generating power onsite. If the price of standby service exceeds the efficient price, some customers are likely to be deterred from undertaking efficient onsite generation projects, and competition – and DR – could be less extensive and robust as a result.

There may be a number of ways in which an incumbent utility could persuade the regulatory body to authorize a price for standby service that exceeds the efficient price and thus deters the entry of onsite generation. One key way to do so is to posit a worst-case scenario in estimating the costs of providing such service – *e.g.*, a situation in which all onsite generators simultaneously break down when demand from other utility customers is at its peak.[44] This type

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Wade, "Modeling Distributed Electricity Generation in the NEMS Buildings Models" (2002), *available at* http://www.eia.doe.gov/oiaf/analysispaper/electricity_generation.html.

[43] Such a strategy on the utility's part would not be profit-maximizing but for its effect in preventing entry by onsite generators (and the associated increase in competition that such entry could engender).

[44] This scenario is likely to be particularly inappropriate for solar generators in summer peaking systems. Solar generators generate during afternoon peak periods but not overnight. It

of "doomsday" scenario is highly unlikely to occur; indeed, as a general matter, utilities do not resort to worst-case scenarios in setting prices for their services. A utility should not be allowed to block the entry of onsite generation by positing an unrealistic scenario as the basis for setting the price of standby service.[45]

Even if a utility did not establish a standby service price in excess of the efficient level, it might be able to block competition and increased DR from onsite generators by offering only the "unlimited" form of standby service. This strategy in and of itself can discourage the entry of onsite generation, because some onsite generation investments may be financially viable only if standby service is available in a limited form that costs less.[46] If the utility persuades the regulatory body to allow it to offer only "unlimited" – and thus more expensive – standby

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is also inappropriate for facilities with onsite wind generators that may (or may not) demand power during peak periods, but almost certainly will demand power during off-peak periods as well.

[45] By contrast, if a utility were unable to manipulate government regulatory proceedings in order to block entry by onsite generators, its only recourse in responding to the challenge of onsite generation might be to improve its service and reduce its costs and prices, just as incumbent suppliers respond to increased competition in other markets. Such improvements in economic performance would redound to the benefit of all electricity consumers.

[46] For example, "as-available" standby service could be conditioned on whether power is readily available to serve the standby power customer at or below a pre-set wholesale price. Another alternative to unlimited standby service could be standby service that is capped at a specific quantity. (A cooperative utility in Hawaii allows customers to specify the amount of standby service for which they are willing to pay. Under this tariff, the utility operates a circuit breaker (paid for by the customer) to ensure that the customer draws no more than the specified amount. *See* http://www.kiuc.coop/anne/IRP_public_site/Tariff/Rate_Rider%20S.pdf.) Both of these alternatives would involve lower costs for the utility – and presumably lower prices to the onsite generator – than unlimited standby service.

More generally, customers with onsite generation, like other customers, may have varying preferences for the reliability of their electric service. Many utilities offer lower prices to customers who will accept a lower level of reliability (known as "interruptible service"). The same range of reliability and price tradeoffs could apply to standby service.

service, then competition from onsite generators that require nothing beyond limited (and less expensive) standby service will not develop.[47]

One method to ensure that utilities do not use distortions in standby service to impede onsite generation is to allow the entry of alternative standby service providers.[48] For example, one or more owners of onsite generating capacity could function as sources of standby service for other onsite generators if they are linked. This linking of onsite generators in order to provide alternative standby services into what is known as a "micro-grid"[49] is likely to be most

[47] One form of alternative standby service involves the utility's supply of the additional power only if generation and transmission capacity are readily available. Some states require utilities to offer this type of contingent standby service, and to price it below the price of unlimited standby service. Contingent standby service is conceptually very similar to the "interruptible service" (referenced in note 46, *supra*) that is routinely offered to industrial and commercial customers at a rate lower than standard service. Under interruptible service, customers get a discount on all of their power in return for an agreement to waive their right to demand as much power as they want at the predetermined price.

[48] So long as competition in the supply of standby service is feasible, maintaining such competition is a potentially attractive solution. If customers wanted (and were permitted) to buy standby capacity, presumably they could enter into arrangements under which other parties would build generators for this purpose, attach the new generators to the existing network (or a new network), and sell standby capacity under long-term contracts to willing buyers.

In light of the severity of the regulatory challenges, allowing entry and competition in the provision of standby service may well benefit consumers more than attempts to regulate the price while blocking entry. If competition in the supply of standby service is not allowed, then a market power problem may be present that may be difficult to address with price regulation. Clearly the price has to be high enough for the seller to anticipate earning a normal rate of return. If there are economies of scale in the provision of standby capacity, however, marginal-cost pricing alone will not raise enough revenue. Moreover, a regulator that mandates standby service at a price that is set *ex ante* is forcing the utility to assume risks, which raises the problem of determining what the compensation should be for assuming such risks. An alternative would be to shift the risk to consumers, by charging prices determined *ex post* to raise the right amount of revenue. But this raises the concern among standby service customers that the risk premium will be set above the market level as part of the utility's strategy to protect itself from competition. In short, this is not an easy matter for regulation to remedy efficiently or effectively.

[49] Jay Apt, M. Granger Morgan, and Carnegie Mellon Electricity Industry Center staff, *Critical Electric Power Issues in Pennsylvania: Transmission, Distributed Generation and*

practical when onsite generators are clustered in an industrial park or another type of commercial development area. In order for micro-grids to be formed, state or federal regulations may need to be amended to allow the currently prohibited entry of competing transmission facilities ("overbuilds").[50]

IV. Increase Demand Response by Allowing DR Bids To Be Customized More Thoroughly

Existing rules for generation bids allow these bids to be customized to accommodate the characteristics of the generators, including the speed and cost of ramping up output. Absent permission to customize of bids, some generators with equipment that requires a gradual ramp up or with high ramp up costs would be reluctant to bid even during system reliability events because of the substantial risk that they would be dispatched for too short a period to compensate for the costs of ramping up the generator. Allowing customized bids by generators increases the number and variety of generators that are likely to bid to supply reserves or other ancillary services at the wholesale level.

There are parallel considerations for some potential suppliers of demand response, but the constraints facing suppliers of demand response do not necessarily parallel generators' costs and constraints.[51] In the case of generators with equipment that requires gradual ramping, for

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Continuing Services When the Grid Fails (2005), at 33 *et seq.*, *available at* http://wpweb2.tepper.cmu.edu/ceic/pdfs_other/Critical_Electric_Power_Issues_in_Pennsylvania.pdf. A micro-grid can improve reliability for member customers by providing power even if the utility grid is not functioning and the customer's onsite generator is not operable.

[50] If the concern is limited to utilities' decisions to offer only one form of standby service, regulators may wish to evaluate the benefits and costs of requiring utilities to offer a choice among levels of standby service.

[51] For a general discussion and framework for considering customization of DR offers, *see* Electric Power Research Inst., *New Principles for Demand Response Planning* (Mar. 2002), EP-P6035/C3047, *available at* http://www.goodcents.com/info/New%20Principles%20for%20Demand%20Response.pdf.

example, a critical form of bid customization is the ability to specify a minimum run time once the system operator dispatches the unit. Some retail customers contemplating offering DR may have the opposite concern. For example, a grocery store may be willing to reduce electric load temporarily by postponing refrigerator operation for a few minutes, so long as this does not risk exposing the food to unsafe temperatures.[52] Absent an ability to specify a maximum duration of refrigeration curtailment, however, the food store is unlikely to offer DR that postpones cooling.

In the alternative, a manufacturer with an energy-intensive batch process may be willing to offer DR so long as it is given enough notice to complete safely the processing of the current batch or to postpone processing the next batch in an orderly manner.[53] Similarly, a manufacturer or retailer may be willing to consider bidding to supply DR only if it is assured that there will be sufficient spacing between the instances when its DR offer is dispatched by the system operator. Such spacing may be necessary to meet existing obligations of the DR offeror to supply its own customers or to maintain adequate inventories.

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[52] Not all load from refrigeration equipment is necessarily all devoted to cooling of food. For example, display cases may also have heating elements that keep the doors from collecting condensation when the air is moist. Hence, demand response can involve no change in cooling of the food, but instead may involve turning off the anti-condensation heating elements for a period of time. The store might wish to avoid leaving condensation at higher levels for an extended period, but this would be less likely to raise health safety concerns than decreasing refrigeration. Cal. Energy Comm'n, "Enhanced Automation Case Study 7: Lighting and Equipment Controls/Grocery Store" (2005), *available at* http://www.energy.ca.gov/enhancedautomation/case_studies/CS07_Albertsons_w2.pdf.

[53] Charles Goldman, Nicole Hopper, and Ranjit Bharvirkar (Lawrence Berkeley Nat'l Lab.) and Bernie Neenan and Peter Cappers (Utilipoint Int'l), "Estimating Demand Response Market Potential Among Large Commercial and Industrial Customers: A Scoping Study," Paper LBNL-61498, § 3.4.3 (Jan. 2007), *available at* http://www.energetics.com/electricity_forum_2007/pdfs/61498.pdf.

In the case of large commercial buildings, the magnitude of DR offers may be contingent on the time of day when dispatch occurs or how early notice was provided of a pending dispatch of the building's DR offer.[54] During the early evening, residential demand for cooking, climate control, and lighting increases, while commercial flexibility also increases. Dispatch of DR near the end of the business day could be larger and longer because occupancy will be low at the time of the dispatch and natural cooling will help bring interior temperatures within acceptable limits before the next morning. DR could be even larger and longer is the dispatch occurs just before a weekend. Early notice can facilitate larger dispatch at a subsequent time if the building is pre-cooled to the low end of the acceptable interior temperature range prior to the expected dispatch period because pre-cooling reduces the need to air condition the building to stay within the acceptable zone during the dispatch period.

In general, FERC may wish to consider a wide range of customized DR offers as long as the benefits are likely to exceed the costs of administering the customized offers. FERC should consider ways to ensure that wholesale markets can accommodate the range of innovative, consumer-friendly offers that firms may develop and offer to electricity consumers.

V. Address the Issue of Secondary Pricing Restrictions that Could Inhibit DR Even When Reserve Margins Are Low

Economically efficient price signals are a critical component of efficient markets. In the absence of dynamic retail pricing that moderates consumption during high-cost periods, wholesale markets have deployed a variety of administrative instruments to address market

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[54] Sila Kiliccote and Mary Ann Piette (Lawrence Berkeley Nat'l Lab.) and David Hansen (U.S. Dep't of Energy), "Advanced Controls and Communications for Demand Response and Energy Efficiency in Commercial Buildings" (Jan. 2006), paper for the *Second Carnegie Mellon Conference in Electric Power Systems: Monitoring, Sensing, Software and Its Valuation for the Changing Electric Power Industry, available at* http://www.osti.gov/energycitations/servlets/purl/889248-7DjwKn/889248.PDF.

power and to encourage appropriate investments. It is widely acknowledged that a wholesale market's price caps and other market power mitigation rules can prevent markets from sending efficient price signals to investors. Market power mitigation efforts can mean that necessary new generators cannot make a profit from energy market revenue alone. Thus, market power mitigation is often said to create a "missing money" problem. Further, the lack of DR means that electric power systems require a great deal of extremely costly peaking generation that runs just a few hundred hours per year to prevent blackouts during the highest demand periods. Several RTOs and ISOs have implemented controversial "capacity markets" to administer side payments to generators in an approximate attempt to counteract some consequences of the lack of DR.[55] FERC's proposals in the NOPR to allow organized markets to select one or more techniques to lift wholesale price caps during selected periods is a step toward handling scarcity through more conventional, efficient, equitable, and sustainable pricing mechanisms.

Because of the current limited levels of DR as well as ongoing concerns about some generators' exercise of market power in organized markets, FERC has authorized a variety of market mitigation policies in organized markets. These policies restrict pricing or bidding by generators. They can be redundant with wholesale price caps. The provision in the NOPR that authorizes these alternative price restrictions to continue during periods when the wholesale price caps would be lifted[56] raises the possibility that lifting the wholesale price cap will not relax the actual regulatory price restrictions. Rather, the NOPR proposal could simply change which price restrictions are binding. Thus, the proposal may fail to deliver on its intent to move

[55] Electric Energy Market Competition Task Force, *Report to Congress*, *supra* note 17, Ch. 3, § E.4.

[56] NOPR ¶ 121.

toward the use of pricing rather than administrative mechanisms to address market power and capacity investment. We encourage FERC to require that proposals from RTOs and ISOs to lift wholesale price caps during periods of operating reserve shortages be accompanied by an analysis of how the proposed change in the wholesale price caps will change the totality of regulatory restrictions on wholesale prices during these periods.

Further, we encourage FERC to require that proposals from RTOs and ISOs under these provisions explicitly relate the level of wholesale price caps, the totality of regulatory restrictions on wholesale prices, and the operation of capacity markets to the development of DR in the relevant product and geographic markets. We hope that FERC's rulemaking can create a framework within which FERC, regional market operators, and other stakeholders can plan an orderly transition to a market where dynamic retail prices and other widespread DR mechanisms allow for price signals to be the primary vehicles that guide investment, and for demand elasticity to render unnecessary many of the administrative interventions used to control market power.

VI. Lowering Search Costs Can Facilitate the Contracting Process

Some load serving entities – often small firms – report difficulty identifying generators that are willing to agree to long-term power procurement contracts. FERC has responded by proposing to require that RTOs and ISOs reserve a portion of their websites for posting of messages about interest in long-term power procurement contracts. This component of the NOPR may reduce the search costs involved in the long-term procurement contracting process. If search costs have a substantial fixed component, independent of transaction size, then smaller customers and smaller contracts are likely to benefit the most. In general, a reduction in search costs increases the likelihood that buyers and sellers will find each other and find mutually agreeable terms.[57]

VII. Periodically Assess the Independence of Market Monitoring Units

Although the independence of Market Monitoring Units ("MMUs") has long been identified as a critical condition for the success of market monitoring, questions have been raised recently about interference by managers in the functions of MMUs, particularly in the PJM RTO. There continues to be strong support for a variety of ways to organize market monitoring functions, each of which claims advantages regarding the independence of MMUs under a specific arrangement. Given the importance of MMU independence and the recent concerns about existing arrangements, FERC may wish to earmark this topic for periodic review, including an analysis of best practices both in the United States and abroad.

VIII. Allow State and Federal Agencies to Commission Customized Reports by MMUs

Their access to detailed data from their respective RTOs and ISOs, their independence, and their detailed understanding of RTO and ISO market rules may uniquely equip MMUs to provide reports to state or federal law enforcement and regulatory agencies that would reduce the aggregate costs required to investigate allegations of illegal conduct by market participants. The NOPR acknowledges the potential benefits of MMUs' aiding law enforcement agencies in this manner. The approach proposed in the NOPR, however, could be of very limited value to state and federal agencies, because the provision of such reports is defined as a residual activity to be

[57] Frank A.G. den Butter, "Procurement: The Transaction Costs Perspective in a Globalising World," Tinbergen Institute Discussion Paper No. TI 2007-091/3 (Nov. 2007), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1032152.

undertaken only when the MMU has unused resources.[58] We encourage FERC to consider ways to allow MMUs to provide this service in a more reliable and consistent manner. One potential approach would be to authorize fees to be paid by state or federal agencies for clerical services that primarily assemble and organize existing MMU data. This would be similar to the process now used in federal agencies to respond to Freedom of Information Act requests from the general public.[59] MMUs could charge professional service fees to agencies that make appropriate requests for the MMU to conduct further analysis of existing data. The MMU could adjust staffing levels accordingly.

IX. Focus MMU Activities on Investigations, Not Mitigation or Tariff Administration

The public, FERC, and other state and federal agencies rely on MMUs to examine and to report frequently on whether market rules are leading to efficient market operations and on whether market participants are behaving competitively and abstaining from market manipulation. As observed previously,[60] MMUs' fulfillment of this role is likely to be incompatible with their simultaneously administering market power mitigation or the terms of an ISOs or RTOs tariff. We support the proposals in the NOPR to discourage MMUs from involvement in market power mitigation or tariff administration.[61]

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[58] NOPR ¶ 233.

[59] *See, e.g.*, the U.S. Department of Transportation's web page on processing fees for Freedom of Information Act requests, *available at* http://www.dot.gov/foia/subpart_f.html.

[60] In an earlier comment filed with FERC, the FTC staff said: "[T]he market monitoring organization should not be given enforcement powers. . . . [T]he conflict of interest issues inherent in self-monitoring by RTOs would be aggravated further if the market monitoring office had enforcement powers as well." Comment of the Staff of the Bureau of Economics of the Federal Trade Commission, *supra* note 13, at 24 (footnote omitted).

[61] NOPR ¶ 210.

X. The Use of Incentives to Increase RTOs' and ISOs' Responsiveness to Customers

FERC's NOPR proposes that the sole option for RTOs and ISOs to address issues related to their perceived lack of responsiveness to customers' concerns is to allow customers to communicate with – or take seats on – the RTO or ISO board. That approach omits the potential for appropriately designed economic incentives to increase RTO and ISO responsiveness to customer concerns. We encourage FERC to consider permitting an RTO or ISO to use alternative ways to demonstrate to FERC that it is becoming more responsive to customer concerns. For example, an RTO or ISO could show that it has developed strong incentives for its managers to respond to customers, or could organize itself as a for-profit Transco with appropriate incentives to be responsive to customers.[62]

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[62] We are not endorsing the indiscriminate conversion of RTOs to for-profit Transcos without a detailed cost/benefit analysis, which is likely to be complex. Creating profit motives for RTOs, however, requires a great deal of attention to designing incentives that reflect the social roles that we expect such entities to play. RTO's ability to set and enforce market rules puts them in a quasi-regulatory position. RTOs have complex objective functions, because they are expected in the United States to provide level playing fields for commerce among generators, utilities, and transmission owners. They need to be fair arbiters in mediating often adversarial relationships among those groups, as well as among customers and regulators. The customary regulations that prohibit Transcos from owning generation and that limit generators' ownership interests in Transcos are an important step in the right direction.

An interesting example of the use of performance incentives may be the British Office of Gas and Electricity Markets ("OFGEM"), which sets incentives for National Grid, the for-profit operator of the electric grid in the United Kingdom. OFGEM sets a target for the cost of balancing the British system, lets National Grid keep a portion of any savings it achieves, and forces National Grid to pay for any overruns. The British currently are considering changes to this scheme and have created a significant public record concerning this review. *See, e.g.*, http://www.ofgem.gov.uk/Markets/WhlMkts/EffSystemOps/SystOpIncent/Documents1/SO%20open%20letter%201%20Nov%202007.pdf; http://www.ofgem.gov.uk/MARKETS/WHLMKTS/EFFSYSTEMOPS/SYSTOPINCENT/Documents1/12499-Initial%20proposals%20letter_FINAL_corrected_.pdf. We recommend that FERC review the British experience to get a better understanding of the implications of moving to a for-profit Transco model.

In competitive markets, customers can expect suppliers to be responsive to customer concerns; indeed, customers will switch to other suppliers or entrants if an incumbent supplier is not responsive to their concerns. Even in markets with limited competition, customer concerns can motivate a for-profit principal supplier to be responsive. On the other hand, if the supplier is a non-profit entity – as is the case with current RTOs and ISOs – then the incentives to improve customer service can be greatly attenuated.

XI. Conclusion

We commend FERC for its proposals in this NOPR to remove regulatory obstacles to vigorous competition and efficient resource allocation in electricity markets. Although elements of the NOPR constitute improvements over several of the proposals contained in the ANOPR, however, the proposals in the NOPR would benefit from the improvements that we have outlined. We believe that a focus on removal of regulatory obstacles to efficient real-time price signals and demand response at the federal and state levels can be an important step toward appropriate, efficient reliance on conventional price mechanisms to handle scarcity and guide investment. The absence of dynamic retail pricing or other mechanisms to moderate demand during periods of scarcity is one of the most serious flaws in organized electricity markets. We commend FERC for taking action to address this issue and hope that FERC, state regulators, and market participants will continue to take action to correct it.