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A Consumer Self-Defense Perspective on Electricity Markets

*John C. Hilke, Ph.D.**

I. INTRODUCTION

Much has been said and written about market power problems in United States electricity markets and about how policy makers should protect consumers from the exercise of market power and marketing abuses.¹ I do not disagree.

What I would like to emphasize, however, is a slightly different perspective on helping consumers. In particular, I urge policy makers to emphasize giving consumers the tools to help protect themselves. This does *not* mean abandoning other economically appropriate efforts to mitigate suppliers' market power—it does mean giving weight to consumer self-defense arguments for or against various potential market power remedies.

Many of the potential consumer self-defense tools work because they increase the price sensitivity of demand for electric power, making it less profitable for incumbent suppliers to raise prices anticompetitively. An added kicker in electric power markets is that increasing the price sensitivity of demand for electric power provides benefits beyond curtailing market power. In the short run, increased price sensitivity of demand is likely to increase reliability because prices, rather than blackouts, keep supply and demand balanced. In the longer run, a system with greater price sensitivity will have lower average production costs because the load profile will be less variable. This allows a larger

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1. Market power of a seller is defined as the ability of one or more suppliers to raise prices for a product above the competitive level for an extended period of time. U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, 1992 HORIZONTAL MERGER GUIDELINES § 0.1 (revised Apr. 8, 1997) [hereinafter DOJ/FTC HORIZONTAL MERGER GUIDELINES]. Unilateral market power occurs when a single supplier has market power. *Id.* Coordinated interaction involves exercise of market power by a group of suppliers. *Id.*

portion of total load to be served by base-load plants with low average costs and a smaller portion of load to be served by peaking plants with high average costs.

One problem with the approach of trying to do everything for the consumers is that there are relatively few shepherds and a lot of clever wolves out there. The shepherd's job becomes a lot easier if the sheep bite back frequently.

I also think that the consumer self-defense perspective can help cut through arguments that state and federal efforts to stem market power in electricity markets simply reflect government imposing its arbitrary judgments about market operations.

In casting about for ways to allow consumers to help protect themselves in electricity markets, I suggest that we do not need to "reinvent the wheel." Rather, we should start by examining: (1) how consumers protect themselves in other markets, and (2) what parallel approaches for consumer self-protection can work in electricity markets.

II. CONDITIONS GENERALLY HELPING CONSUMERS TO DEFEND THEMSELVES AGAINST MARKET POWER THAT ARE SUGGESTED BY THE HORIZONTAL MERGER GUIDELINES

When antitrust investigators look at the ability of consumers to constrain the market power of suppliers, they conclude that market power is less likely to be a problem:

1. if there are several suppliers;
2. if consumers have accurate and timely price information;
3. if consumers can quickly and easily switch suppliers;
4. if consumers—practicably—can "make" instead of buy the product;
5. if inventories are available to supplement current production when prices are high; and
6. if long-term and short-term supply agreements are available to buyers.

This undoubtedly is not an exhaustive list, but I believe it captures many of the high points relating to consumer self-protection that are implicit in the DOJ/FTC Horizontal Merger Guidelines.²

2. See DOJ/FTC HORIZONTAL MERGER GUIDELINES, *supra* note 1 (stating that the analysis is "focused on whether consumers . . . 'likely would' take certain actions, that is, whether the action is in the actor's economic interest").

Regarding the number of suppliers, the basic concept is that when consumers have a choice amongst several suppliers, it is more difficult for one or a few suppliers to raise prices above competitive levels and easier for an individual consumer to find a close match between the product variations offered and his or her preferences.

Regarding timely and accurate prices, the core idea is that consumers need timely and accurate price information in order to make informed economic decisions about consumption and about investments associated with consumption.

Regarding rapid and low-cost switching, the observation is that consumer responses to price increases will be larger and swifter if transaction costs associated with switching between suppliers are low.

Regarding practicable availability of a make-it-yourself option, the insight is that when consumers can readily become suppliers themselves, markets may come close to being contestable in the Baumol, Panzar, and Willig³ sense of the term.

Regarding inventories, the logic is that just as inventories buffer demand and supply shocks due to natural disasters, so too do inventories buffer supply shocks due to suppliers' efforts to raise prices by restricting output.

Regarding long-term and short-term contracts, the theory is that variations in the duration of supply contracts make it possible for consumers to hedge against future price volatility, including future efforts of suppliers to exercise market power. Differing supply contracts also can create divergence in the interests of suppliers that may disrupt efforts to coordinate price increases among suppliers.

III. ELECTRICITY APPLICATIONS OF THE CONDITIONS AIDING CONSUMER SELF-DEFENSE

I turn now to the electricity market applications of each of these conditions that can help constrain supplier market power through consumer self-protection.

A. Several Suppliers

Within the context of a state retail choice program, there are many factors affecting the number of viable suppliers. They include legal

3. See, e.g., WILLIAM J. BAUMOL, JOHN C. PANZAR & ROBERT D. WILLIG, *CONTESTABLE MARKETS AND THE THEORY OF INDUSTRY STRUCTURE* 5 (1982) (defining a "perfectly contestable" market as accessible to potential entrants, free of entry barriers, and where entry profitability is evaluated at the pre-entry prices of incumbent firms).

exclusions, high registration costs and fees, and high administrative costs for suppliers. I will assume for the purpose of discussion that these potential impediments are not at issue. If they are not, then the basic problem for potential suppliers principally involves obtaining power to supply to consumers. One of the chief ways to assure that many suppliers can solve this problem is to reduce transmission constraints, transmission discrimination, and rate pancaking.⁴ Doing all three can increase the geographic scope of the market and bring in more effective generation competitors. I think that the consumer self-protection perspective is particularly helpful, for example, in thinking about the Federal Energy Regulatory Commission's (FERC) efforts to establish large regional transmission organizations (RTOs).⁵

B. Timely and Accurate Prices

As the 2001 FTC Staff Report on retail electricity competition pointed out, most consumers do not have the information necessary to make good economic consumption and investment decisions regarding electric power.⁶ This is due primarily to the common regulatory practice of averaging electricity prices over several months (or years) rather than charging real-time retail prices that reflect changes in real-time wholesale electricity prices. We describe a market that is lacking demand-side responsiveness as "the sound of one hand clapping."⁷ Denying consumers the ability and incentive to shave demand when wholesale prices are high creates reliability problems for the whole electricity system and exacerbates wholesale price volatility. It also encourages consumers to disregard the costs they impose on other consumers in their pattern of consumption. While it is true that introducing real-time prices will involve some costs, it seems appropriate at this point in time to look at the detailed costs and benefits of real-time retail electricity pricing and metering. I note that a recent

4. See, e.g., JOHN C. HILKE ET AL., FED. TRADE COMM'N STAFF, COMPETITION AND CONSUMER PROTECTION PERSPECTIVES ON ELECTRIC POWER REGULATORY REFORM: FOCUS ON RETAIL COMPETITION ch. II, at 13-31 (Sept. 2001), available at <http://www.ftc.gov/reports/electricityreport.pdf> [hereinafter 2001 FTC STAFF REPORT] (discussing effective operation and expansion of the transmission grid).

5. FERC Order 2000 established the framework for the ongoing RTO formation process. See Regional Transmission Organizations, 64 Fed. Reg. 31,390 (1999) (to be codified at 18 C.F.R. pt. 35) (proposed June 10, 1999), issued as FERC Order No. 2000, 89 FERC ¶ 61,285 (1999).

6. See 2001 FTC STAFF REPORT, *supra* note 4, ch. IV, at 50 n.30 ("Average pricing generally masks price signals that consumers need in order to make economic consumption and investment decisions.").

7. *Id.* at ch. III, at 33-41.

edition of an electric power industry journal contains some encouraging information on the costs and effectiveness of real-time metering.⁸

C. *Quick, Low-Cost Switching*

Many discussions of switching costs focus on issues such as wet signature requirements, alternative verification systems, and penalties for slamming.⁹ I agree that each of these is important, however, I also think it is important to look beyond the existing system in which a consumer picks one supplier to buy from over an extended period. Going forward, it seems unnecessary to require such a one supplier to each customer system. As computer systems advance, it seems quite reasonable to expect that consumers might pick several potential suppliers and then buy from whichever one offers the lowest price or greatest reliability or greenest product at any point in time. I hope that various state retail regimes will prove flexible enough to accommodate the multiple potential supplier approach. I note that some industrial customers with connections to multiple natural gas pipelines already have this freedom of choice. Computer software capable of handling at least two electric suppliers serving the same customer at different times of the day has been developed already. Perhaps ironically, one firm active in developing this type of software has been Otter Tail Power.¹⁰

D. *"Make" or "Buy" Options for Retail Electricity Consumers*

Some of the most exciting news in electricity markets these days comes from the rapid technical advances in distributed generation that are just now hitting the market. For those of you not already familiar

8. See, e.g., Carl Levesque, *Real-Time Metering: Still as Sweet with Prices Controlled?*, PUB. UTIL. FORT., Sept. 1, 2001, at 12, 16-18, available at 2001 WL 10544767 (noting two studies that reached similar conclusions, suggesting that real-time pricing may save 2000 megawatts off peak loads).

9. A wet signature requirement invalidates a switch between suppliers that is not accompanied by the customer's signed switching request. Alternative means to verify a switching request include, for example, a recorded phone conversation with the consumer or an e-mail from the consumer. A variety of penalties for slamming have been proposed. These range, for example, from financial planning to terminating the license of the supplier if intentional slamming is verified.

10. Otter Tail Power Co. was the subject of a well known 1973 Supreme Court decision, *Otter Tail Power Co. v. United States*, 410 U.S. 366 (1973), in which the court ruled that Otter Tail's refusal to transmit power from other generators to independent municipal distribution systems within its transmission territory constituted an illegal attempt to monopolize under section 2 of the Sherman Act. The irony is that the software that Otter Tail Power has recently helped to develop would facilitate switching between multiple alternative generators. This is a step beyond the switching to a single alternative generator that the company opposed so vigorously in earlier years.

with these developments, I encourage you to read the recent CECA report on distributed generation and other distributed resources.¹¹ Fuel cells and microturbines lead the list of innovations in this area.

From an economic perspective, diffusion of distributed generation increases elasticity of demand making anticompetitive price increases less profitable for incumbent suppliers. When distributed generation capacity is allowed to supply the grid (as well as to reduce an individual consumer's demand from the grid), diffusion of distributed generation also will increase the number and variety of suppliers in ways that may help frustrate pricing coordination among incumbent suppliers.

There are important issues here regarding pricing of back up supply services, grid connections, and pricing for power supplied to the grid by on-site generators. Certain policy decisions on any of these issues could severely delay or cripple diffusion of distributed generation. As policy makers consider these issues, the idea that distributed generation is a form of consumer self-protection against market power may help smooth the path for advance of these emerging technologies.

E. Electricity Inventories

One of the biggest distinctions between electricity markets and other markets has been the inability to economically store electric energy in large quantities. This is gradually changing as energy storage technologies, many of them designed for home use, develop. Development and use of energy storage technologies would have an effect similar to distributed generation—that is, making demand more price sensitive. Both development and deployment of energy storage devices by consumers may be highly dependent on accurate and timely retail pricing of electric power. Energy storage devices are essentially a method for consumers to shift demand from high-price periods to low-price periods. This allows consumers to consume electric power during peak demand periods without requiring as much power from the grid during these periods of high wholesale prices. Again, policy makers may find it easier to consider real-time pricing of electric power realizing that such pricing will give consumers incentives to welcome electric storage devices that inventory energy and allow consumers to reduce their total electricity bills.

11. THE CONSUMER ENERGY COUNCIL OF AMERICA DISTRIBUTED ENERGY DOMESTIC FORUM, *DISTRIBUTED ENERGY: TOWARDS A 21ST CENTURY INFRASTRUCTURE I-XIII* (2001).

F. Long-term and Short-term Supply Agreements

The rationale for why variable durations of supply contracts help to undermine coordination of pricing among suppliers applies equally well to electric power markets as it does to other markets. There is also a strong consumer choice argument for variable length contracts. This argument starts with the premise that consumers have different preferences for risk, but that the existing system, in which all consumers in a given class pay the same price based on the yearly costs of a single supplier, imposes a specific level of risk on all consumers regardless of their preferences. The alternative in which each consumer elects how much risk they want to face by picking a supply contract that meets their risk preferences allows consumers to make a better match with their preferences. Some consumers will undoubtedly want to stick with a “fixed-rate-for-a-year plan,” while others may want real-time prices and others may pick a contract with a longer price guarantee.

IV. CONCLUSION

While there is a growing consensus about many remedies for market power problems in electricity markets, taking a consumer self-defense perspective on some of these remedies is likely to help policy makers understand and accept important policy options including large RTOs, demand-side participation in electricity markets, real-time pricing, and new distributed resource technologies. Frankly, it seems to me to be high time to “arm” consumers for self-defense in these ways regardless of the regulatory regime in place in a state. Within an existing consumer choice program, such changes are likely to help curtail suppliers’ market power and increase system efficiency. In a fully regulated retail system, developing multiple consumer service options is likely to improve system efficiency, better match consumer preferences, and raise consumer awareness that electric power services can come in “flavors” other than vanilla.