ELECTRICITY IN TRANSITION: IMPLICATIONS FOR REGULATION AND ANTITRUST

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I. INTRODUCTION

There is now a good body of experience with transition from regulation to competition in the U.S. and abroad. Critics and advocates alike would admit that regulatory reform in industries such as airlines, telecommunications, and trucking has been costly and difficult.[1] These groups generally diverge when deciding whether regulatory reform is worth it. Although there is a debate about how swiftly the transition from regulation to competition should occur, all agree that between governmental regulation and the promised land of competition, there is a "transition" phase. The electricity industry in the U.S. is—and may remain for quite a while—in such a transition phase.

Transition is inevitable and important. Transition in the regulatory reform of the U.S. electricity industry is not a single event. Rather, it is a series of many individual and sometimes disparate events. These events involve different participants, decision-makers, and levels of coordination. To complicate things even more, these events make up a process that has proceeded in fits and starts and where the problems that apply at any given time vary significantly. Transitional delays and problems can arise from several sources. In the U.S. electricity industry good candidates are, for example: (1) the selection of inadequate policy tools such as the failure to mandate structural unbundling of generation and transmission; (2) political requirements to pay off the opposition through the time consuming recovery of stranded costs; (3) decentralized decision-making that has left the all important transmission siting decision to the vagaries of individual state policies; and (4) unanticipated gaming of the system that has created bad publicity and fewer benefits from reform.

But what happens in transition determines not only whether there will be a promised land, but also the nature of its terrain. Regulatory or antitrust policy that may be suitable during one phase may be unsuitable in another. This can lead to errors unless policy objectives and implementation are carefully related to the phase.[2] There are reasons to doubt that this is happening consistently in

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1. *See generally* Clifford Winston, *Economic Deregulation: Days of Reckoning for Microeconomists*, 31 J. ECON. LIT. 1263 (1993); SAM PELTZMAN & CLIFFORD WINSTON, DEREGULATION OF NETWORK INDUSTRIES: WHAT'S NEXT? (2000).

2. For a good discussion of the errors of deregulation, *see generally* William G. Shepherd, *Harry M.*

the process of regulatory reform in the U.S. electricity industry. One reason is that the appropriate roles of regulation and antitrust in the transition phase are unclear. This paper explores the problem. First, we look carefully at the discrete phases of regulation and competition. Then, we elaborate on the basic tasks of the transition phase. These tasks include: legal and economic policy initiatives that have been part of the transition to competition; defining the appropriate roles of antitrust and regulation; and identifying key transitional policy issues such as merger review, market design and monitoring, and information collection and dissemination.

II. BACKGROUND

At the outset of any regulatory reform initiative, advocates and opponents naturally cast their arguments in terms of the beginning and the end with relatively little attention to the middle. After all, until a critical mass of relevant stakeholders is sold on the end (or, conversely, no regulatory reform in the first place), there is no point in even talking about the transition. Nothing emphasizes this more than the retrenchment in state-level restructuring following the California electricity price spikes in 2000-2001.

In California, the "end" was far from what was envisioned at the outset. It is probably safe to say that the problems in California were uniquely related to the transitional phase of restructuring, a phase that was unexpected and unplanned. This "disconnect," effectively delayed implementation of retail access in at least a few states. As of early 2002, eight of the twenty-four states with enabling legislation or regulatory orders to implement retail access had suspended or delayed such implementation.[3]

Ex ante information and expectations regarding the regulation, transition, and competition phases of restructuring vary significantly from case to case. The status quo of the regulated industry is a known quantity and has been thoroughly mapped and critiqued. Its limitations are well known. In electricity, for example, technological change has allowed smaller generators to achieve costs as low as or lower than large generators, making increased competition practical at the generation stage of the electric power industry.[4] The first federal policies for jump-starting regulatory reform (market-based rates for generation), therefore, responded to changes in underlying economic factors by seeking to remove the constraints on economic efficiency imposed by cost-based regulation.

Similarly, although competition is a future "end state," it can be easily visualized. This is because it reflects a model that we are familiar with in both theory and practice in competitive and formerly regulated industries. The importance of a "level playing field" is a central tenet of competitive markets.

Trebing and Three Classic Errors of Deregulation, in THE INSTITUTIONALIST APPROACH TO PUBLIC UTILITIES REGULATION: ESSAYS IN HONOR OF HARRY M. TREBING (Edythe Miller and Warren Samuels, eds. 2002).

3. Energy Information Administration, Status of State Electric Industry Restructuring Activity, *at* http://www.eia.doe.gov/cneaf/electricity/chg_str/regmap.html (last visited Mar. 20, 2003).

4. *See generally* Paul L. Joskow, *Productivity Growth and Technical Change in the Generation of Electricity*, 8 ENERGY J. 17 (1987).

Federal policies that opened transmission networks to access by new entrants and current competitors of incumbent, vertically integrated utilities were intended to level the playing field for market participants.

On the other hand, the transitional phase of regulatory reform is the most difficult for policy-makers to envision *ex ante* for a number of reasons. First, experience with transition is limited because the number of experiments is small. There are also significant differences in the starting point for regulatory reform (from state-ownership or private ownership) and market topology in different countries. Relying on others' successes and failures as a model for one's own regulatory reform program may therefore be of limited value.[5]

Second, how the transitional phase of regulatory reform plays out is uniquely a function of the bargain struck by the stakeholders. It is the phase where the political economy of regulatory reform is most important, but where the "political" is often ignored. For example, promises not to raise retail electricity rates in California caught wholesale electricity purchasers (buying at high prices in the wholesale market) in a "price squeeze." This created insolvency and spurred a unique round of corporate restructuring.

Finally, transition is difficult to envision *ex ante* because, by definition, transition creates incentives for more transition. The recent wave of merger and acquisition (M&A) activity beginning in the early 1990s is a good example. This M&A activity was triggered, in part, by the first round of federal and state-level restructuring policies.[6] But restructuring policy has been sequential, and with each additional policy initiative (open access and regional transmission organizations), expectations regarding the industry landscape changed, thus triggering another round of mergers. Certainty about what to expect during transition and how to manage it is, therefore, made doubly difficult when the industry is in a continual state of churn. Without a clear road map, it is too easy to zigzag across the terrain of regulatory reform so that the destination is forgotten.

All of this is to say that transition phase is not easily modeled, and is chaotic and unique. No other industry has moved from precisely the same starting point and, therefore, the starting assumptions are unique. As complexity theory tells us, prediction is difficult because variations in the starting

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5. *See generally* Paul L. Joskow, *Restructuring, Competition and Regulatory Reform in the U.S. Electricity Sector*, 11 J. ECON. PERSP. 119 (1997); PREETUM DOMAH & MICHAEL G. POLLITT, THE RESTRUCTURING AND PRIVITISATION OF ELECTRICITY DISTRIBUTION AND SUPPLY BUSINESS IN ENGLAND AND WALES: A SOCIAL COST BENEFIT ANALYSIS, (University of Cambridge, Working Paper No. 07, 2000), *available at* http://www.econ.cam.ac.uk/dae/repec/cam/pdf/wp0007.pdf (last visited Mar. 29, 2003); HELENE RYDING, ELECTRICITY RESTRUCTURING IN UKRAINE: ILLUSIONS OF POWER IN THE POWER INDUSTRY?, (Heriot-Watt University, Working Paper No. 9803, 1998), *available at* http://som.hw.ac.uk/cert/wpa/1998/dp9803.pdf (last visited Mar. 29, 2003); ANTONIO ESTACHE & MARTIN RODRIQUEZ-PARDINA, LIGHT AND LIGHTNING AND THE END OF THE PUBLIC TUNNEL: THE REFORM OF THE ELECTRICITY SECTOR IN THE SOUTHERN CONE (World Bank, Working Paper No. 2074, 1998), *available at* http://www.worldbank.org/html/dec/Publications/Workingpapers/ wps2000series/wps2074/wps2074.pdf (last visited Mar. 29, 2003).

6. *See generally* Energy Information Administration, *The Changing Structure of the Electric Power Industry 2000: An Update*, *available at* http://www.eia.doe.gov/cneaf/electricity/chg_stru_update/update2000.html (last visited Mar. 20, 2003).

assumptions lead to very different paths as a process moves forward.[7]

Aside from starting assumptions, it is important to note that firms regroup during the transition to deregulation, for example, by spinning off unprofitable businesses and integrating vertically into upstream and downstream product markets. As this occurs, incentives for profit maximization change. Firms also shift positions over time as they see greater or lesser opportunity in the transitional phase of regulatory reform. For example, there is a "critical mass" effect whereby firms abruptly decide that reform is going forward and instead of continuing to resist, position themselves to get out in front of the curve. These aspects of firm decision-making should be considered in the transition process and informed by useful theory.[8]

III. REGULATION AND COMPETITION: THE BEGINNING AND THE END

A. Regulation

Before we turn to regulatory reform in electricity, let us go a bit further in sketching out the beginning and end of the "regulation-transition-competition" paradigm. Transition is discussed in the next section.

Economic regulation is governmental intervention designed to restrict the decisions of economic agents in response to an actual (or perceived) failure of the market to ensure socially desirable outcomes. These restrictions come in the form of limitations on, or rules governing, pricing, output, and entry/exit. As such, regulation involves important decisions relating to industrial organization (market structure, conduct, and performance). Since government cannot regulate "perfectly," market performance (economic efficiency) is determined both by administrative processes and market forces.[9]

In electricity, economic regulation responds to concerns that a natural monopoly exists. Natural monopoly means that a single firm can serve the market at the least cost. For some time, there was significant support for the notion that electricity generation, transmission, and distribution could be provided most efficiently by an integrated natural monopoly called a public utility. Therefore, regulating the natural monopolist balances the efficiency garnered by least-cost production by a single seller against the inefficiency of monopoly pricing.

Economic regulation is prophylactic in nature. It is designed to cure an identified problem before it happens. Cost-of-service regulation, in the limited instances in which it has been applied, is a heavy-handed form of regulation.[10]

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7. "[M]odels of chaotic systems have an exquisitely sensitive dependence on initial conditions and minute but unpredictable variables . . . ." RICHARD P. BRENNAN, DICTIONARY OF SCIENTIFIC LITERACY, 43 (1992).

8. Supply chain management is one candidate. *See generally* D. SIMCHI-LEVI, P. KAMINSKY & E. SIMCHI-LEVI, DESIGNING AND MANAGING THE SUPPLY CHAIN, ch. 1 (2000).

9. W. KIP VISCUSI, ET AL., ECONOMICS OF REGULATION AND ANTITRUST 307 (1995).

10. *See generally* Catherine Liston-Heyes, *Price-Cap Versus Rate-of-Return Regulation*, 5 J. REG. ECON. 25 (1993). Incentive regulations such as "price-caps" are less invasive, but still administration-

Reliance on detailed cost and demand data, formulaic approaches to profit and price determination, and involved administrative procedure represents perhaps the most invasive form of government regulation, short of government ownership. When regulated firms break the rules, they are subject to regulatory hearings and/or law enforcement actions.

In electricity, all of the traditional regulatory instruments were (and to a large extent still are) regulated by a mixture of federal, state, and even regional bodies. At the retail level, electric public utilities are local natural monopolies. The historical regulatory compact grants the public utility an exclusive retail franchise over a geographic service territory in exchange for an obligation to serve all customers and the regulation of profits and entry. At the wholesale level, rates for "requirements" service (sales by large transmission-owning utilities to load-serving entities within their operations control territory) are regulated on a cost-of-service basis. Wholesale prices for "coordination" service (sales between neighboring utilities) were more loosely regulated given the presence of more competitors in regional markets.[11]

This is not to say that there are no elements of competition in a regulated world. At the retail level, competition for large industrial loads or other "fringe" customers often results in discounted rates. In places where electricity supply areas intersect or areas where electricity competes with natural gas in end-use applications (heating, cooking) or industrial processes, there is also more aggressive discounting. When regulated bundled wholesale rates were the norm, local investor-owned utilities, cooperatives, and municipal utilities were the major competitors in the wholesale market. The degree of competition in wholesale markets depended on the quantity of electricity that utilities had available to sell in excess of their retail demand requirements at any given time. On the whole, however, traditionally defined competition in retail and wholesale markets was minimal.

The culture of a regulated industry also tends to reflect its monopolistic nature. That is, on the business side, the driving incentives in electricity relate to reliability and predictability, rather than entrepreneurship, cost-cutting, or low prices. Similarly, regulators tended to be paternalistic (re-enforced by legislation and politics) with the double goal of assuring reliability and fair prices to consumers and promising predictability and normal returns to shareholders.

B. Competition

With successful competition, the emphasis is on the interaction of supply and demand, rather than regulation or the decisions of individual competitors to determine output and prices.[12] Terms of trade are determined by the competitive struggle of rivals to gain competitive advantage. Conditions of entry and exit are

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intensive. More importantly, price caps can discourage innovation and reinforce oligopoly behavior.

11. Wilbur Earley, *Coordination Transactions Among Electric Utilities*, 114 PUB. UTIL. FORT. 31 (September 13, 1984).

12. Charles E. Lindblom defines the market system as "a system of society wide coordination of human activities not by central command but by mutual interactions in the form of transactions." CHARLES E. LINDBLOM, THE MARKET SYSTEM: WHAT IT IS, HOW IT WORKS, AND WHAT TO MAKE OF IT, 4 (2001).

set by economic forces rather than by government decision or by the competitors themselves. The assumption necessarily underlying this is that there will be a sufficient number and distribution of competitors with access to the necessary market information to have a workable form of competition. When bottleneck facilities such as transmission grids are an integral component of industry, access to the network by competitors poses a key competition policy issue.

In competitive industries, economic regulation is largely replaced by antitrust enforcement. Antitrust generally implies a lighter, less frequent, and *post-hoc* form of public intervention. In industries where residual incentives for anticompetitive behavior linger, regulators may take on oversight and monitoring functions while antitrust enforcement plays a stronger role.

The culture of competition is entrepreneurial. Increasingly, the diversity of product offerings, often tailored to meet customers' specific needs, is the key to winning business. But consumers will also focus on price, and so competing providers will necessarily pay more attention to how they price their offerings (including price discrimination, as in the case of the airlines)[13] rather than was it necessary under regulation. Indeed, it is the promise of lower prices that inevitably inspires the initial policy decision to enter upon a course of regulatory reform. Unfortunately, this promise may be a misguided one. Deregulated prices may actually be higher than historical regulated ones because the true economic value of resources, formerly obscured by cost-based regulation, is better revealed.[14]

The entrepreneurial spirit has two other features of note. First, it is inventive, creative, and mold breaking as it seeks to build that famous "better mousetrap" that will lure new customers. At the same time, however, it is bottom-line oriented. Competitive pressure creates powerful incentives to continually lower costs, reducing the X-inefficiency (lack of incentive to minimize costs) that pervades a monopolist's freedom from competition. Shareholder demands also focus management on the profitability of the next quarter rather than longer-range targets. The regulated monopoly, on the other hand, can focus with more ease on the longer-range planning horizon (planning for the next rate-base addition) and, under cost-of-service regulation, potentially build costs into the rate base as part of a strategy to increase returns to investors.[15]

Thus, as we look at the desired end of competition, the business of bringing products and services to market will be characterized by a different, more entrepreneurial mentality than was present under regulation. Geographic market

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13. Severin Borenstein & Nancy L. Rose, *Competition and Price Dispersion in the U.S. Airline Industry*, 102 J. POL. ECON. 653 (1994).

14. For a discussion of price levels, predictability and volatility, *see generally* Diana Moss, *Promoting Competition in the U.S. Electricity Industry: What Are the Big Policy Issues?* 15 ELEC. J. 19 (2002) [hereinafter Moss].

15. Incentives to over-capitalize as a result of a guaranteed return on investment were first explored by Averch and Johnson. Harvey Averch & Leland L. Johnson, *Behavior of the Firm Under Regulatory Constraint*, 52 AM. ECON. REV. 1052 (1962). Subsequent research indicates that while the incentive to overcapitalize is present, the "A-J effect" does not bear up well empirical scrutiny. *See generally* MICHAEL A. CREW & PAUL R. KLEINDORFER, THE ECONOMICS OF PUBLIC UTILITY REGULATION 123 (1986).

expansion and product line diversification are key strategies that have emerged among electric utilities and independent power producers over the last several years, although with mixed results. For example, several recent vertical mergers paired electric generation and transmission with upstream gas transportation, for the purpose of providing integrated energy services. The so-called "dumb-bell" mergers of American Electric Power and Central and Southwest[16] and Northern States Power and Southwestern Public Service combined large, geographically distant electric utilities and were geared toward geographic market expansion.

There is also pressure to view demand in a more entrepreneurial way in a competitive world. Consumers of a heavily regulated service did not have to make choices about the type of service they purchased, from whom they bought and when they consumed. In a successfully competitive world, consumers will first (and at least) make the decision about whether they want choice. If they do, consumers evaluate competing offers and select among them.[17] This means that consumers must: (1) spend time learning about a service that they have purchased for years using one-stop shopping, (2) compare prices and contract terms, and (3) deal with multiple suppliers. Search and transaction costs go up, especially for those consumers not capable of handling their new role.

It is as yet unclear how reliability will fare in the deregulated electricity world. There was a "one size fits all" approach to reliability under regulation, which is eroding during the transitional period. Private decision-makers are concerned about reliability because consumers will react to service quality as one dimension of the product they are evaluating. Hence, we could expect supply contracts to include specific provisions regarding reliability depending on the customer's sensitivity to reliability problems.[18] However, if the threat of switching to alternative suppliers in response to reliability problems is not a credible one (because consumers have few options), then competitive suppliers will pay less attention to reliability. Even with many options available to consumers, reliability may take on a different character in a deregulated world than in the formerly regulated one. Reliability is expensive. In a regulated world, electric utilities were required to maintain enough excess capacity in the form of a reserve margin to withstand a very low "loss of load" probability. In a competitive world, cost minimization may eat away at reserve margins formerly in the range of fifteen to twenty percent.

The culture of regulators is also quite different under a regime of economic regulation versus a regime of competition. The regulator focuses, as we have said, on fulfilling its public interest mandate, as defined centrally by statutes and regulations. The antitrust enforcer focuses, instead, on maintaining the process

16. The Securities and Exchange Commission's order approving the merger was recently vacated by the appellate court. National Rural Elec. Coop. Ass'n v. SEC, 276 F.3d 349 (D.C. Cir. Dec. 18, 2002).

17. Retail access has slowed and even shown formal signs of reverse in some states such as: Arkansas, California, Nevada, New Mexico, Oklahoma, Montana, Oregon, and West Virginia. U.S. Energy Infor. Admin., *Status of State Electric Industry Restructuring Activity, available at* http://www.eia.doe.gov/cneaf/electricity/chg_str/regmap.html (last visited Mar. 21, 2003).

18. Electricity customers obtain a greater degree of control over the level of reliability by installing distributed generation as backup or a substitute for grid-supplied power. Incentives for investing in distributed generation depend on how electricity is priced.

of competition. The regulator is concerned with reliability and striking the balance between lower-than-monopoly prices and returns that are sufficient to attract capital. Antitrust is concerned with market structure, firm conduct (pricing and output decisions and keeping decision-making decentralized), and market performance (choice and innovation).

However, the effectiveness of antitrust enforcement is largely dependent on the resources devoted to it. Funding for the Federal Trade Commission (FTC) and Department of Justice antitrust division has failed to keep up (since 1970) with the pace of mergers or other measures of antitrust requirements.[19] If the burden of protecting competition in transitional and deregulated markets is to fall on the antitrust enforcement infrastructure, some thought should be given to equipping the agencies to handle the load. Funding levels should, but do not, account explicitly for the increased workload associated with enforcement in transitional industries.

Having described the characteristics of regulation and competition, we can move on to the most challenging part of the regulatory reform process – transition. The transition phase, quite simply, has the mission of moving not only the regulated industry, but also regulators and consumers from regulation to competition. It has not been sufficiently recognized that all three of these tasks must be accomplished, and in a balanced way.

IV. TRANSITION: THE CHALLENGE

Transition can be found in two major types of reform. The first is economy-wide or utility sector reform through privatization of state-owned industry. The second type of reform occurs in an industry that consists largely of privately owned natural monopolies. The first type of reform involves several tasks that occupy the "transitional" space:

- Dismantling of public monopolies through privatization;
- Creation of the basic institutions necessary for the: (1) interim regulation of privatized natural monopolies, and (2) functioning of markets, including laws protecting private property, development of capital markets, and emergence of independent judiciaries; and
- Passage of competition policy laws, development of competition policy agencies.

This type of reform has received the most attention in the United Kingdom and, then in Eastern and Central Europe after the fall of communism.[20] Nation after nation (often newly established as independent) opted to move from a socialist to market-based economy. Great controversy surrounded each of the necessary tasks going in, since there were so many different ways in which each

19. John E. Kwoka, *Commitment to Competition: An Assessment of Antitrust Agency Budgets Since 1970*, 14 REV. INDUS. ORG. 295 (1999).

20. An expanding literature studies the conditions of transitions from regulation to competition on an international basis. William E. Kovacic, *Getting Started: Creating New Competition Policy Institutions in Transition Economies*, 23 BROOK. J. INT'L L. 403 (1997). *See also* MAKING MARKETS: ECONOMIC TRANSFORMATION IN EASTERN EUROPE AND THE POST-SOVIET STATES (Shafiqul Islam & Michael Mandelbaum eds., 1993).

could be directed. Equally noteworthy was the debate over the pace and sequencing of transition and the priorities assigned to various tasks. One group advocated the "big bang," or doing as much as possible fast and at the same time. The transition phase, under this approach, should be short and abrupt, taking advantage of popular support for radical change and avoiding a prolonged period during which opposition can congeal.

A competing camp called for a slower, step-by-step pace. This approach recognizes the complexity of transition and the fear that the rapid, simultaneous change could lead to collapse. Indeed, at least in telecommunications, it appears that in countries that set up separate regulatory authorities before privatization, there was increased investment and technology penetration than in countries that did not establish regulatory authorities *ex ante*.[21] The two opposing viewpoints on the pace and order of restructuring also expose a critical tension, that a government can get a lot more from selling off a monopoly than it can if it restructures the industry to be competitive.

The daunting mission of privatization has proceeded with dramatically varying degrees of success. Dismantling public monopolies in many cases has not created effective competition. The British Gas case is a good example. In the ten years since privatization, there has been a shift from integrated monopoly toward competition. This transition was costly and difficult however, unaided by the creation of appropriate regulatory and institutional framework geared toward protecting new entrants against the exercise of market power.[22]

The second type of reform involves already private, but regulated industries. Therefore, the first task listed above (privatization) is not necessary. Moreover, the creation of regulatory institutions, which is often part of the institution-building task of broader economy and sector-level restructuring, is already in place. The key tasks for transition in the second type of restructuring, therefore, are to:

- Implement legal and policy initiatives that promote competition;
- Identify the appropriate functions of regulation and antitrust;
- Promote competitive market structure and conduct;
- More closely coordinate federal, state, and regional regulatory and law enforcement; and
- Re-acculturate companies, regulators, and consumers.

Regulatory reform in the U.S. electricity industry clearly poses the second type of reform we described above. It raises questions that are the keys to successful transition. Should the industry remain vertically integrated?[23] How will competition at the deregulated levels of the industry emerge and how will consumers be protected? What functions must remain regulated and how should

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21. SCOTT WALLSTEN, DOES SEQUENCING MATTER? REGULATION AND PRIVATIZATION IN TELECOMMUNICATIONS REFORMS (World Bank, Working Paper No. 2817, 2002). *See also* JOSEPH E. STIGLITZ, GLOBALIZATION AND ITS DISCONTENTS (2002).

22. *See generally* ANDREJ JURIS, MARKET DEVELOPMENT IN THE UNITED KINGDOM'S NATURAL GAS INDUSTRY, (World Bank, Working Paper No. 1890, 1998); Catherine Waddams Price, *Competition and Regulation in the UK Gas Industry*, 13 OXFORD REV. ECON. POL'Y 47 (1997).

23. Albert A. Foer, *Institutional Contexts of Market Power in the Electricity Industry*, *available at* http://www.antitrustinstitute.org/recent/11.cfm (last visited Mar. 21, 2003).

they continue to be regulated? What role will regulators play during the reform process? How should the change from state and federal regulatory oversight to antitrust oversight be made, in terms of laws, budgets, and decision-making?

The central task in the transition phase of regulatory reform is to promote and generate competition. This is a job that utilizes principles that underlie antitrust, but that might better be described as "competition policy." Another way of saying this is that at a practical (not theoretical) level, free markets are not natural. They come embedded in institutions and those institutions must be envisioned, then created, then nurtured by the appropriate policies. The following are some of the more important tasks of transition.

A. Legal and Economic Policy Initiatives that Promote Competition

First, what has been done to install the machinery for promoting competition or, as an early step, to move away from cost-based regulation and begin the process of leveling the playing field for existing and potential competitors? The machinery includes the Public Utilities Regulatory Policy Act of 1978, the Energy Policy Act of 1992, the Federal Energy Regulatory Commission's (FERC) open-access conditions that were the price of a merger approval prior to 1996 and the subsequent 1996 rulemakings on open transmission access (Order No. 888-A),[24] open-access same-time information systems (Order No. 889-A),[25] and authorizations for generators to charge market-based rates (if they nominally demonstrated a lack of market power).

With the basic machinery in place, the FERC has more recently acted to further competition policy through a number of additional, more tailored actions. For example, the Commission's rulemaking governing the formation of Regional Transmission Organizations (Order No. 2000)[26] was designed to improve transmission system operation and planning, reducing congestion and expanding the scope of markets. The FERC recognized a number of current market issues in developing filing requirements for mergers and other dispositions in Order No. 642.[27] Many critics argued, however, that the order did not go far enough in requiring certain types of information from applicants that would better account for competitive market developments. In current legislative proposals, Congress is considering a major overhaul that would touch nearly every significant energy law on the books, including the Public Utility Holding Company Act and powers granted to the FERC to fulfill its now changed role in overseeing the U.S. electricity industry. Meanwhile, despite retrenchment in competition initiatives at the state level, some states are still independently pursuing legislation and

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24. Order No. 888-A, *Promoting Wholesale Competition Through Open Access Non-discriminatory Transmission Serves by Public Utiltities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilties,* [Regs. Preambles 1996-2001] F.E.R.C. STATS & REGS. ¶ 31,048 (1997), 62 Fed. Reg. 12,274 (1997) (codified at 18 C.F.R. pt. 35).

25. Order No. 889-A, *Open Access Same-Time Information System and Standards of Conduct,* 78 F.E.R.C. ¶ 61,221 (1997), 62 Fed. Reg. 12,484 (1997) (codified at 18 C.F.R. pt. 37).

26. Order No. 2000, *Regional Transmission Organizations,* F.E.R.C. STATS & REGS. ¶ 31,089 (1999), 65 Fed. Reg. 809 (2000) (codified at 18 C.F.R. pt. 35).

27. Order No. 642, *Revised Filing Requirements Under Part 33 of the Commission's Regulations,* F.E.R.C. STATS & REGS. ¶ 31,111 (2000), 65 Fed. Reg. 70,983 (2000) (codified at 18 C.F.R. pt. 33).

regulatory initiatives that would give retail electricity consumers their choice of supplier.

In further advancing competition policy, the FERC recently issued several more proposed rulemakings. These proposed rules govern level-playing field issues, like preventing anticompetitive information transfers between affiliated companies, standardized interconnection policies for generators, and standardized market design and monitoring.[28] So, over the last ten years, the FERC has continued to develop competition policy as part of the transition to competition. It has done so by sequentially refining the issues and eliminating obstacles that must be addressed to produce the desired end result.

The aforementioned process has met with a degree of success. However, the industry is now in the very difficult part of the transition phase where there are fewer, but still important and sticky, issues left for which there are no easy approaches. There are also some smaller and more elusive issues that require carefully tailored policies (as opposed to broader policy initiatives and legislation), together with clearly defined and coordinated roles for federal and state-level regulation and antitrust enforcement. It is in this part of the transition that much of what has been gained over the last several years could be lost. This brings us to a second key issue, defining the appropriate roles of regulation and antitrust in the transitional phase of restructuring.

B. Appropriate Roles of Regulation and Antitrust

Because competitive industries are subject to antitrust oversight rather than economic regulation, there is a tendency to believe that antitrust will dominate the transition phase. Placing too much faith in the ability of antitrust during transition, however, can lead to mismatches between problems and policies. For example, as we mentioned earlier, antitrust in competitive industries is generally reactive. But in cases where natural monopoly gave rise to regulation in the first place, there may be lingering competitive concerns throughout the transition phase. Thus, many proponents have encouraged a more aggressive antitrust posture. This approach attempts, *ex ante*, to make markets more conducive to competitive outcomes by vertical de-integration at multiple levels through divestiture or reducing market concentration at one level through divestiture.

Antitrust generally serves the function of "maintaining competition."[29] That is, antitrust enforcement generally addresses anticompetitive behavior in industries with market structures that are more or less conducive to competitive outcomes. An enforcement action can prevent companies in a concentrated industry from merging, thereby preserving the industry from further concentration or can restrain cartel members from colluding. However, antitrust has rarely been able to take a non-competitive industry and make it competitive,

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28. Advance Notice of Proposed Rulemaking, *Standardizing Generator Interconnection Agreements and Procedures*, 97 F.E.R.C. ¶ 61,099 (2001); Notice of Proposed Rulemaking, *Standards of Conduct for Transmission Providers*, 96 F.E.R.C. ¶ 61,334 (2001).

29. So describes the antitrust mission at the Federal Trade Commission. *See generally* Federal Trade Commission, *Fiscal Year 2002 Overview Statement and Budget Request*, *available at* http://www.ftc.gov/ftc/oed/fmo/budgetsum2002.htm (last visited Mar. 20, 2003).

nor is it geared for such a task. A company can gain a monopoly without violating antitrust laws. Moreover, even after a company violates the antitrust laws, there is little likelihood that the government will break it up to bring to life a more competitive industry.

In light of the foregoing, when we speak in terms of competition policy, we recognize that transition must combine aspects of both economic regulation and antitrust. In this transition, traditional rate-of-return regulation is left behind (except in the bottleneck segments of the industry such as transmission and distribution). What replaces it is regulatory oversight and enforcement of market design and rules, together with ongoing competition policy initiatives. Antitrust works in parallel with a redefined mission to maintain the competition that has already developed.

C. Promoting Competitive Markets and Coordinating Market Oversight

The third and fourth important elements of successful transition can be taken together. They are promoting pro-competitive market structure and conduct, and more closely coordinating federal, state, and regional regulatory and law enforcement. There are three particular issues that fit into these areas: mergers, market design and monitoring, and information and dissemination.

D. Mergers

Regulated companies are experienced at working within the constraints of the regulatory system. As owners and managers forecast the future, they react with strategies that will allow them to stay in control of their environment. One obvious way to get ahead of the curve is through consolidation. Consolidation in the electricity industry has taken many forms. For example, over the period of 1995 through early 2001, the FERC approved a variety of mergers, fifty-seven in total (not including a multitude of assets sales) involving electric utilities.[30]

One variety of combination is the horizontal merger between geographically contiguous or non-contiguous companies at the same level of production (generation). For the most part, these mergers eliminate firms that would otherwise be actual or potential competitors in a post-regulatory reform market.[31] These mergers also can generate economies of scale and scope (nuclear and non-nuclear mergers combine capacity that can be used to produce multiple products).

Another type of merger combines firms at different levels of production (fuel suppliers with generation/transmission or transmission with generation). Vertical mergers are often motivated by the desire to control, and possibly

30. Over the period from 1995 through 2001, the fifty-seven mergers occurred as follows: 1995 - two mergers; 1996 - six mergers; 1997 - ten mergers; 1998 - eight mergers; 1999 - thirteen mergers; 2000 - fourteen mergers; and 2001 - seven mergers. Diana L. Moss, Merger Review at the FERC, 43rd NARUC Annual Regulatory Studies Program, Michigan State University, August 13, 2001.

31. In the 1999 merger of Southern Bell Co. and Ameritech, the Federal Communications Commissions stated that its potential competition analysis took into account the fact that telecommunications represented a "transitional market," moving from regulated monopoly status to a more open environment. John E. Kwoka, *Non-Incumbent Competition: Mergers Involving Constraining and Prospective Competitors*, 52 CASE W. RES. L. REV. 173, 184-185 (2001).

exploit, several levels in the production chain (fuel inputs, networks, and generation with generation, or transmission with transmission), to manage risk, or develop new product lines. They can also generate efficiencies by reducing transaction costs.[32] Typically, electricity mergers have both horizontal and vertical dimensions.

Merger policy is a good barometer of how pro-active policymakers want to be in shaping the landscape of the deregulated industry. Competition policy, recognizing that a transition phase has to preserve existing and generate new competition, could place a "transition" moratorium on consolidation. While a moratorium may have the advantage of keeping industry restructuring (through merger) from getting out ahead during transition, its benefits should be balanced against the costs of sacrificing efficiency-enhancing consolidation.[33] Short of a moratorium on mergers, "judiciously-managed" merger policy is a powerful tool for promoting competition in the transition phase. By "judiciously managed," we mean that the FERC should carefully review mergers within the context of ongoing industry changes. These changes include, among others, significant churn in generation assets and corresponding changes in market concentration, changing boundaries of Regional Transmission Organization (RTOs) and associated effects on market definition, the emergence of potential competition as a significant competitive issue, and the development of "power marketing" as a relevant product.[34]

An issue that persistently arises in Congress is whether the FERC or the federal antitrust agencies (Department of Justice (DOJ)/FTC) should have primary responsibility for overseeing mergers. Right now, the FERC and the antitrust agencies each perform an independent review. When competition has displaced regulation, primary responsibility should certainly rest with the antitrust agencies. In the transition phase, however, there are at least three reasons why the FERC should continue to play the primary role:

- The FERC has a "public interest" charge that allows it to take a more pro-active position than the antitrust agencies in shaping an industry for competition.
- The FERC has significant expertise in the highly complicated electricity industry, not matched by the antitrust agencies and especially needed during the chaotic transition phase. In particular, the FERC has a "bird's-eye view" of the industry and is more fully apprised of the structure of regional markets that could be affected by merger activity.
- The interplay of the FERC and the antitrust agencies allows both regulatory and antitrust concerns to contribute substantively to decisions, at a time when neither one nor the other, but a combination of the two, is needed.

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32. OLIVER E. WILLIAMSON, MARKETS AND HIERARCHIES: ANALYSIS AND ANTITRUST IMPLICATIONS (1975).

33. The number of firms in the regulated U.S. electricity industry was, for many years, artificially defined by local service area franchises.

34. For more analysis of the major policy issues related to market structure *see generally* Moss, *supra* note 14.

In continuing on complementary paths in merger review, however, it is important in the transitional phase for the FERC, the DOJ, and the FTC to coordinate. This coordination should be to the maximum extent possible, but with deference to their different statutory responsibilities, much like the arrangement between the Federal Communications Commission and the antitrust agencies. This coordination can exploit economies of scope in the agencies' collective review process. It can also avoid mishaps. For example, both the FERC and the DOJ conditioned approval of the merger of Pacific Enterprises, parent of Southern California Gas, and Enova Inc., parent of San Diego Gas & Electric (SDG&E). In a consent decree, the DOJ required SDG&E to divest its fossil steam generation to eliminate incentives for the merged company to adversely affect electricity prices by raising rivals' costs. The Commission's requirement was that Southern California Gas be prohibited from transferring sensitive information on competing generators that shipped gas on its pipeline to its generation affiliate SDG&E. Without such information transfers, the merged company would be less able to adversely affect electricity prices.[35] While these were conditions imposed separately by the FERC and the DOJ, the agencies were careful to avoid any conflict in their implementation.

E. Market Monitoring

Another key issue in the transition phase is the monitoring of electricity markets. "Monitoring," can be defined as: (1) a set of well-defined criteria for identifying market power and remedying its abuse; (2) applied consistently by monitors (within, and across markets) that have no stake in market outcomes; and (3) that facilitate the functioning of markets based on a competitive model. These procedures should ensure the transparency of market interactions, identify market power abuse, and support enforcement actions.

It is necessary to monitor electricity markets to see if they are, in fact, operating competitively, enabling state and federal regulators to know when (and perhaps how) to intervene when competition is failing to achieve acceptable results. Part of the goal of transition is creating an environment that is conducive for competition to flourish. Without consistency in monitoring, policy intervention is *ad hoc*. This makes for time consuming and potentially inconsistent analysis and solutions that are less likely to withstand judicial review.[36] This means that regulatory reform proceeds in a potentially inefficient manner.

Since its inception, monitoring has varied significantly across the several regional U.S. electricity markets and has been inconsistent, with unclear thresholds and complex rules that are not universally understood. The lack of clearly established protocols for regional, state, and federal regulatory and law enforcement oversight and coordination also make consistency in market monitoring imperative. Relationships between the monitor and RTO and the

35. *San Diego Gas & Elec. Co. & Enova Energy, Inc.*, 79 F.E.R.C. ¶ 61,372 (1997).

36. For example, California lacked a capacity market, which might have had a mitigating effect on high prices and price volatility.

monitor and the FERC are, in many cases, vaguely defined.[37] Moreover, some monitors cannot approach the FERC directly, without first going through management of the regional transmission organization. Open channels between the monitors and the FERC are essential and need to be clarified. Monitors should provide feedback directly to the FERC on market design issues and the Commission should be prepared to adjust or modify standardized design as experience accumulates.

Finally, the accretion of market power and its potential abuse is even more important to police in a world of market-based rates. There has been much said about the abuse of market power and gaming markets, especially in California and during the earlier years of United Kingdom power sector reform.[38] A key objective of standardized market design and monitoring is developing a clear understanding of the range of possible market power strategies and manipulation. This is particularly important when anticompetitive activity can occur for very short periods of time and may be more difficult to detect than longer term withholding or price fixing strategies. Collecting useful data and developing analytic tools to understand these issues should be a key part of this effort. The FERC should look to evaluating market structure and conduct on a regular, prophylactic basis to avoid problems before they emerge. This includes developing indicia of the potential for market power in deregulated markets.[39] Information on the nature and source of network economies would also be helpful in establishing permissible levels of concentration.

The market monitoring proposals in the Commission's recent proposed rulemaking on standard market design go far in addressing some of the foregoing issues, but the proposals need strengthening in a number of areas.[40] For example, the definition of market power and the criteria for identifying it require clarification burden under the current proposals. Under the current proposals, monitors are expected to perform an exceeding large analytical and information-collection role. Monitors cannot carry the transitional process along without the benefit of greater higher-level coordination and consistency. That role is essentially acting as "field offices" for the FERC by assisting in the review of market performance, identifying problems in their infancy, reporting

37. Many of these issues were identified in *Workshop on Electricity Market Monitoring*, Am. Antitrust Inst. (Dec. 11, 2001), *available at* http://www.antitrustinstitute.org/recent2/166.cfm (last visited Mar. 20, 2003).

38. *See generally* SEVERIN BORENSTEIN, ET. AL., DIAGNOSING MARKET POWER IN CALIFORNIA'S RESTRUCTURED WHOLESALE ELECTRICITY MARKET (Nat'l Bureau of Econ. Research, Working Paper No. 7868, 2000); Nguyen T. Quan & Robert J. Michaels, *Games or Opportunities: Bidding in the California Markets*, 14 ELEC. J. 99 (2001).

39. Such indicia could include, for example, the Landes-Posner Index. The index is calculated as {firms' market share/[(elasticity of demand) + (elasticity of competitive supply) x (1 – firm's market share)]}. William M. Landes & Richard A. Posner, *Market Power in Antitrust Cases*, 94 HARV. L. REV. 937 (1981); Harry M. Trebing, *Emerging Market Structures and Options for Regulatory Reform in Public Utility Industries*, in TELECOM REFORM: PRINCIPLES, POLICIES AND REGULATORY PRACTICES 25 (William H. Melody, ed. 2001).

40. Notice of Proposed Rulemaking, *Remedying Undue Discrimination Through Open Access Transmission Service and Standard Electricity Market Design*, 100 F.E.R.C. ¶ 61,138 (July 31, 2002); Comments of the American Antitrust Institute, RM01-12-000 (FERC docketed Nov. 15, 2002), *available at* http://www.antitrustinstitute.org/recent2/216a.pdf (last visited Mar. 20, 2003) (These comments were to the FERC's NOPR in 100 F.E.R.C. ¶ 61,138).

on market dynamics, recommending changes to the rules based on accumulated experience, and sharing insights with antitrust agencies.

F. Information Collection and Dissemination

Regulators who oversee a transition phase and who monitor and periodically evaluate markets need information. This information, however, may be different from what is needed by antitrust enforcers in a competitive market, where the purpose is largely to prosecute violations after the fact. Another example of potentially misplaced policy, therefore, is for government to reduce information reporting requirements during the transition phase of regulatory reform. Why is this likely to occur? As competition unfolds, firms recognize the value of keeping sensitive information on output and other operating data confidential. The government is also anxious to show reduction in reporting burdens and its sensitivity to the development of competitive markets by no longer requiring that firms make information public.

Led by incumbents and new entrants alike, a gradual clawing back of long standing information reporting requirements is occurring in the electricity industry. The Energy Information Administration has launched initiatives to no longer require the collection, disclosure, and dissemination of certain plant level information.[41] While these initiatives have been scaled back in their magnitude, they will most likely proceed at a steady pace.

In competitive markets, the disclosure of cost and output level information can hamper firms' ability to compete or increase the likelihood of anticompetitive coordination. This argument has merit in cases where markets are demonstrably competitive. When markets are in transition, however, access to plant level information by state and federal regulatory and law enforcement is important. These agencies use data to independently analyze and monitor markets, evaluate market performance, and evaluate the effectiveness of restructuring policies. Since transition is focused primarily on promoting competition, it is necessary for regulators and antitrust enforcement to continue to have access to information that allows for adequate assessments of how regulatory reform is proceeding. Until markets are demonstrably competitive, such access to information should remain unimpeded.

V. CONCLUSION

Public policy toward regulatory reform in electricity should clearly recognize the three-stage paradigm of regulation-transition-competition. Each stage is fundamentally different and requires policies that are stage appropriate. Failure to make these distinctions can lead to a breakdown in the reform process which, as we have seen in California, degrades quality of life and damages the economy. In general, there is a paucity of literature dealing specifically with the

41. *See generally* Department of Energy, Energy Information Administration, *Agency Information Collection Activities: Proposed Collection; Comment Request*, 66 Fed. Reg. 14,562 (2001). In 1998, the American Antitrust Institute opposed discontinuance of publication in Energy Info. Admin., *Financial Statistics of Major U.S. Investor-Owned Electric Utilities*, *available at* http://www.antitrustinstitute.org/recent/4.cfm (last visited Mar. 20, 2003).

nature of transitional phases in private or public sector restructuring. However, the body of knowledge and experience in this regard is accumulating. As it does, and as the lure of market-based economies and sectors attracts more and more converts and speculators, further scholarly research is infinitely desirable.