

Tulsa Law Review

Volume 33
Number 3 *Mineral Law Symposium*

Volume 33 | Number 3

Spring 1998

Electricity Restructuring: A Case Study in Government Regulation

Joseph P. Tomain

Follow this and additional works at: <https://digitalcommons.law.utulsa.edu/tlr>



Part of the [Law Commons](#)

Recommended Citation

Joseph P. Tomain, *Electricity Restructuring: A Case Study in Government Regulation*, 33 *Tulsa L. J.* 827 (1998).

Available at: <https://digitalcommons.law.utulsa.edu/tlr/vol33/iss3/3>

This Legal Scholarship Symposia Articles is brought to you for free and open access by TU Law Digital Commons. It has been accepted for inclusion in *Tulsa Law Review* by an authorized editor of TU Law Digital Commons. For more information, please contact megan-donald@utulsa.edu.

ELECTRICITY RESTRUCTURING: A CASE STUDY IN GOVERNMENT REGULATION

Joseph P. Tomain†

Understanding the electric power industry can at times be overwhelming given the amount of information, technical jargon, economic forecasts, and detail involved with such a complex field. Indeed, the recent history of the industry has been a series of regulatory battles. A decade or two ago, such concepts as CWIP, AFUDC, plant cancellations, and rate shock led to qualifying facilities, DSM, and increasing customer demand, only to give way to mega NOPR's, wheeling, restructuring, and stranded costs, as examples of the most current battlefields.

I imagine that each battle can seem like an all-or-nothing fight and that practitioners, clients, regulators, and scholars would like to see some conclusion to these battles. I would also hope for some respite from the day-to-day controversies in order to experience some semblance of regulatory stability, a time to satisfy regulatory requirements and to plan for the future. Yet, just as the regulatory environment seems to stabilize, there is a dramatic shift in the economic environment. In short, the restructuring of the electric industry through deregulation promises more competition and with it lower prices and more profits. However, the new competitive environment will come only after experiencing a transitional period that will keep government regulators and private industry actors quite busy.¹ Indeed, it is precisely the alternation between political and economic forces that precludes regulatory stability. The curious thing over these last two decades or more is that a respite has not come. Nor does relief from significant changes in the near future seem likely.

For the sanguine (or the cynical), the more regulatory or deregulatory initiatives the better because the industry needs the regulatory services of law-

† Dean and Nippert Professor of Law, University of Cincinnati College of Law. A.B. University of Notre Dame; J.D. The National Law Center, George Washington University.

1. *See, e.g.*, LEONARD S. HYMAN, *AMERICA'S ELECTRIC UTILITIES: PAST, PRESENT AND FUTURE* 363-65 (6th ed. 1997). Hyman writes that during the transition regulators will continue to monitor distribution and transmission monopolies; address social issues such as subsidizing lower income consumers and protecting the environment; help the transition from monopoly to competition; maintain reliability and efficiency; redefine the service obligations; review old legislation, most notably the Public Utility Holding Company Act of 1935 and the Public Utility Regulatory Policies Act of 1978; and close down the old regulatory system.

yers and other consultants. For the less sanguine (or the less cynical), there is a desire for some stillness in this ongoing change in the regulation of the electric power industry.

It is the intent of this article to provide some relief through a brief regulatory history of the electric industry. This history will shine some light on the path that the industry has traveled over the last century and is likely to travel for the next generation. The broader purpose of the article is to explain the life cycle of government regulation of any industry using the electricity industry as a case study.² This story demonstrates that industries go through a cycle from competition through regulation and back to competition. Hopefully, by understanding this cycle both the regulatory history and the future of the electric industry will be more comprehensible. While the demands of day-to-day industry regulation cannot be greatly lessened, at least they can be understood and placed into a broader context.

I. INTRODUCTION TO GOVERNMENT REGULATION

The United States is a capitalist democracy. Stripped down to its bare essentials, in such a polity, we believe that the market is a desirable form of social ordering. Put less prosaically, when markets function well, economic and political values are promoted. On the economic side, economic efficiency, wealth creation and technological innovation are fostered. On the political side, liberty and equality are enhanced as individual choice is maximized and as every vote (dollar) in the market place is treated equally.³ Consequently, it should not be surprising that as a matter of government policy, workably competitive markets are attractive and favored. Achieving workably competitive markets, however, is not preordained. In fact, some markets have impediments or imperfections which prevent competition and prevent those markets from achieving the economic and political goals mentioned above. Faced with market failures, government regulation is an attempt to remove such imperfections and to promote competition, and, in some instances, the explicit purpose of government regulation is to promote better distribution.⁴ Government regulation, as we are all too familiar, is a human endeavor with imperfections of its own and it too can result in regulatory failure.⁵ Government regulation fails when it does

2. MARVER H. BERNSTEIN, *REGULATING BUSINESS BY INDEPENDENT COMMISSION* (1955); SIDNEY A. SHAPIRO & JOSEPH P. TOMAIN, *REGULATORY LAW AND POLICY* ch. 2 (1993); *see also* Joseph P. Tomain & Sidney A. Shapiro, *Analyzing Government Regulation*, 49 *ADMIN. L. REV.* 377 (1997).

3. These claims are intentionally descriptive of the virtues of a competitive market. A basic assumption of the microeconomic model is that the initial distribution of wealth is acceptable, consequently no claims are made about distributive fairness at this point. The reality, of course, is that distributive fairness is important and distributive issues are a part of government regulation. *See* SIDNEY A. SHAPIRO & JOSEPH P. TOMAIN, *REGULATORY LAW & POLICY* ch. 2 (1993); ROBERT KUTTNER, *EVERYTHING FOR SALE: THE VIRTUES AND LIMITS OF MARKETS* ch. 1 (1997).

4. *See id.*; CASS R. SUNSTEIN, *FREE MARKETS AND SOCIAL JUSTICE* (1997).

5. *See, e.g.*, RICHARD A. EPSTEIN, *SIMPLE RULES FOR A COMPLEX WORLD* (1995); PHILIP K. HOWARD, *THE DEATH OF COMMON SENSE: HOW LAW IS SUFFOCATING AMERICA* (1994). *But see* Joseph P. Tomain, *Simple Rules for the Regulatory State*, 36 *JURIMETRICS J.* 409 (1996) (review of RICHARD EPSTEIN, *SIMPLE*

not correct the market imperfection it intended to fix (i.e. regulatory costs are greater than projected benefits), when non-market goals are not satisfied (e.g. the desired redistribution is not achieved), or when the political climate changes (such as a change in presidential administrations). At this point of regulatory failure, existing regulations must be replaced by regulatory reform or deregulation.⁶ In the case of complete deregulation, an industry is back operating in the market.

Thus, the life cycle of a regulated industry is such that an industry can: (1) operate in a market until (2) a market imperfection is identified which is (3) corrected by government regulation until (4) there is regulatory failure which is responded to either by (5) regulatory reform or (6) total deregulation placing an industry back in the hands of the market. The history of the electric power industry is instructive because the industry has gone through each of these stages and is currently in the throes of stages (5) and (6). The regulatory history below explains the different stages of the life cycle of the electric industry and suggests what the future holds.

II. REGULATORY HISTORY⁷

By way of a preview, note, following Arthur Schlesinger, Sr.,⁸ that in roughly every generation there is a major structural shift in our political economy between periods favorable to those opposed to government activity.⁹ So too we find similar shifts in every generation in the history of the electric industry and its regulation. The electric industry has gone from an unregulated competitive market to market failure and then to a system of strong, traditional government regulation. After a period, that traditional regulation itself failed, leaving the industry shaken and susceptible to regulatory reform and conversion to its current state of deregulation or restructuring. The question then is: What will the industry look like in the future? Will the industry restructure and function with another form of regulation? Or will the industry deregulate and thus start the cycle over again?

RULES FOR A COMPLEX WORLD(1995)).

6. See, e.g., STEPHEN BREYER, *BREAKING THE VICIOUS CIRCLE: TOWARD EFFECTIVE RISK REGULATION* (1993); CASS R. SUNSTEIN, *AFTER THE RIGHTS REVOLUTION: RECONCEIVING THE REGULATORY STATE* (1990).

7. See Peter C. Christensen, *Overview of Electricity Generation and the Industry*, in *THE ELECTRIC INDUSTRY: OPPORTUNITIES AND IMPACTS FOR RESOURCE PRODUCERS, POWER GENERATORS, MARKETERS, AND CONSUMERS* (Rocky Mountain Mineral Law Foundation 1996) [hereinafter *THE ELECTRIC INDUSTRY*]. See also Judith M. Matlock, *Federal Regulation and Wholesale Wheeling in THE ELECTRIC INDUSTRY*; JAN G. LAITOS & JOSEPH P. TOMAIN, *ENERGY AND NATURAL RESOURCES LAW IN A NUTSHELL* (1992); SHAPIRO & TOMAIN, *supra* note 2; HYMAN, *supra* note 1; TECHNOLOGY FUTURES, INC. & SCIENTIFIC FORESIGHT, INC., *PRINCIPLES FOR ELECTRIC POWER POLICY* (1984).

8. ARTHUR M. SCHLESINGER, JR., *THE CYCLES OF AMERICAN HISTORY* ch. 2 (1986).

9. See also SHAPIRO & TOMAIN, *supra* note 2, ch. 2.

A. Competition 1882-1920

On September 4, 1882, Thomas Edison flipped a switch and the first electric generation and transmission project in the country went into operation on Pearl Street in New York City. The Pearl Street Station allowed 85 consumers to light their homes with 400 incandescent lamps rather than by natural or coal gases.¹⁰ This cleaner, safer lighting innovation was very popular. Like any start-up industry with a promising technology, competition was vigorous and by 1922, there were 3,774 privately owned electric utilities.¹¹ In the early stages of the industry, power stations were constrained by existing technologies and did not exceed 10 MW. With increasing demand for the product, producers entered the market and the market contained a multiplicity of electricity generation and distribution stations. Thus, duplication was inevitable. With that duplication came technical problems of incompatibility and reliability, which posed a challenge for the industry and spurred further innovation.

A firm faced with growing demand and vigorous competition naturally tends to seek greater market share through technological innovation, corporate restructuring, or both. The electric industry did both as firms vertically integrated and expanded generation and distribution capacity in order to capture economies of scale and a greater share of the market. The larger firms built generators, ground conductors, electric fixtures, and even light bulbs. In Edison's own case several companies merged to become the General Electric Company.¹²

With such vigorous competition in a technologically advancing industry, it was not unlikely that economies of scale would be realized and that concentration would occur.

B. Concentration: 1920-1935

Firms realized that they could achieve economies of scale and capture market share. From 1922 to 1927, over 1600 privately-owned electric systems were eliminated as the industry concentrated.¹³ Further, as generation and transmission capacities increased, so did consolidation, and entrepreneurs like Samuel Insull and Henry Villard created holding companies to hasten consolidation so that by the mid-1920's, 16 holding companies controlled 85 percent of the nation's electric industry.¹⁴ These holding companies helped advance the capture of scale economies but at a real cost to consumers. The electric trusts, like the oil trusts before them, were susceptible to stock manipulation and shareholder abuses.¹⁵ And, as did with the oil industry, the public reacted sharply to the electricity trusts and the electricity industry came under scrutiny

10. HYMAN, *supra* note 1, at 85.

11. Christensen, *supra* note 7, at 1-2.

12. TECHNOLOGY FUTURES, INC. & SCIENTIFIC FORESIGHT INC., *supra* note 7, at 231.

13. Christensen, *supra* note 7, at 1-2.

14. *Id.* at 1-4; See also MICHAEL E. PARRISH, SECURITIES REGULATION AND THE NEW DEAL 149 (1970); DOUGLAS W. HAWES, UTILITY HOLDING COMPANIES § 2.03 (1987).

15. HAWES, *supra* note 14, § 2.05.

by state and federal politicians.

At the state level, politicians were drawn to retail ratesetting in order to protect consumers,¹⁶ and at the federal level politicians were drawn to curbing trust abuses and making electric service universally available.¹⁷

C. Regulation: 1935-1965

The specific legislative reaction to the abuse of trusts was the Public Utility Holding Company Act of 1935 ("PUHCA").¹⁸ Expansion of service was addressed specifically through hydroelectric power with the passage of the Federal Power Act Part I in 1920.¹⁹

Fundamentally, PUHCA is a registration act requiring holding companies whose subsidiaries are engaged in either the electric utility business or in the business of the retail distribution of natural gas to register with the Securities and Exchange Commission. A holding company is defined as a company that controls, directly or indirectly, ten percent or more of the voting securities of a public utility.

Under the Act, the SEC was authorized to examine the corporate and operational structures of the holding company to simplify and integrate operations for the purpose of avoiding shareholder abuses. The SEC also has the authority to order divestiture where operations of utility and non-utility operations pose the potential for financial abuse.²⁰

In addition, 1935 saw the passage of Part II of the Federal Power Act²¹ to regulate interstate wholesales of electric power, thus closing what had come to be known as the Attleboro Gap²² in the regulation of electricity. *Attleboro* held that states were precluded from regulating the interstate sales of electricity and were limited to retail sales. Part II of the FPA gave what was then known as the Federal Power Commission the authority to regulate those interstate sales. In other words, the heart of the national electric industry, generation and transmission, came under federal power.

The intellectual backbone of federal regulation of the electric industry, as with the regulation of the natural gas industry three years later, was twofold.²³ First, electricity was a product that was deemed to be in the public interest and was highly desirable as a consumer product. The idea that the federal government should promote consumption was a dramatic shift in economic thinking

16. HYMAN, *supra* note 1, ch. 17.

17. A dramatic discussion of the expanse of electricity occurs in the first volume of Robert Caro's powerful biography of Lyndon Johnson as he explains how electricity moved to the Texas hill country. ROBERT A. CARO, *THE YEARS OF LYNDON JOHNSON: THE PATH TO POWER*, ch. 28 (1982); See Ronald D. Jones, et al., *Electricity*, in 2 ENERGY LAW & TRANSACTIONS §§52.01-.03 (David J. Muchow & William A. Mogel eds., 1997).

18. Public Utility Holding Company Act (PUHCA) of 1935, 15 U.S.C. § 79 (1994).

19. Federal Power Act, Part I, 16 U.S.C. §§ 791a-823b (1994).

20. HAWES, *supra* note 14, § 3.02-.03.

21. Federal Power Act, Part II, 16 U.S.C. §§ 824-824m (1994).

22. Public Utilities Commission of Rhode Island v. Attleboro Steam & Elec. Co., 273 U.S. 83 (1927).

23. Natural Gas Act, 15 U.S.C. §717 (1994).

which surrounded the New Deal. Prior to the New Deal laissez-faire reigned, as courts, most notably the United States Supreme Court,²⁴ maintained a hands-off stance towards government. The New Deal dramatically changed that stance²⁵ and was based upon the idea that government had a role to play, not only of national economic stability, but of positive growth and product consumption.²⁶ Thus government began playing an active role in promoting the use and development of certain products. The promotion of growth of the electric industry and the consumption of that product became central to the New Deal regulatory program.

The second idea that drove electricity regulation was based on the economic notion that utilities had characteristics of a natural monopoly. Simply put, natural monopoly theory holds that one firm can more efficiently deliver a product at a lower cost than multiple firms.²⁷ Multiple firms cause unnecessary duplication, such as constructing multiple transmission and distribution systems. This duplication is wasteful and therefore it is better to promote one firm than to have wasteful competition from a multiplicity of firms. In such a market, government regulation is necessary. If unchecked, the strongest natural monopoly firm will consolidate until it has monopoly market power and can visit the sins of monopoly on consumers.²⁸

Given the desire to promote the growth of the industry and the distribution of the product as well as the idea that a single firm in an area was the best provider, the so-called "regulatory compact" between government and utilities was formed.

In brief, the regulatory compact moved the electric industry from an unregulated industry that was moving toward monopoly to a regulated monopoly. A utility was given an exclusive service area and assumed an obligation to serve all persons in that area. The government would set the rates that the monopoly could charge and would allow (as opposed to "guarantee") the utility to earn a reasonable return on its prudent capital investment. The traditional rate formula allowing such returns can be seen as cost plus contracts. As long as a utility behaves prudently, it earns a reasonable return on its capital investment.²⁹ For

24. See, e.g., *Lochner v. New York*, 198 U.S. 45 (1905).

25. The New Deal moved the country from the *Lochner* Era to the activist state. See HERBERT HOVENKAMP, *ENTERPRISE AND AMERICAN LAW 1836-1937* 105-204 (1991). Concerning the revolutionary dimensions of the change compare BRUCE ACKERMAN, *WE THE PEOPLE: FOUNDATIONS* chs. 5 & 6 (1991) and MORTON J. HOROWITZ, *THE TRANSFORMATION OF AMERICAN LAW 1870-1960: THE CRISIS OF LEGAL ORTHODOXY* ch. 8 (1992) with BARRY CUSHMAN, *RETHINKING THE NEW DEAL COURT: THE STRUCTURE OF A CONSTITUTIONAL REVOLUTION* (1997) and WILLIAM J. NOVAK, *THE PEOPLE'S WELFARE: LAW AND REGULATION IN 19TH CENTURY AMERICAN* (1996).

26. ALAN BRINKLEY, *THE END OF REFORM: NEW DEAL LIBERALISM IN RECESSION AND WAR* (1995).

27. Formal definitions can be found in: I ALFRED E. KAHN, *THE ECONOMICS OF REGULATION: PRINCIPLES AND INSTITUTIONS* 11-12; II Kahn at 2-3 (MIT Press) (1988); STEPHEN BREYER, *REGULATION AND ITS REFORM* 15-19 (Harvard University Press) (1982); W. KIP VISCUSI, JOHN M. VERNON & JOSEPH E. HARRINGTON, JR., *ECONOMICS OF REGULATION AND ANTITRUST* 76-87 (2nd ed. 1995).

28. Monopoly power has the effect of raising prices, reducing output, and causing losses of consumer surplus. SHAPIRO & TOMAIN, *supra* note 2, at 189-191.

29. See, e.g., SHAPIRO & TOMAIN, *supra* note 2, at 196-206; *Jersey Central Power & Light Co. v. FERC*, 810 F.2d 1168, 1189 (D.C. Cir. 1987).

years, the regulatory compact made utility investments safe ones. As long as the national economy was expanding, the demand for energy was increasing predictably, and economies of scale were continuing to be realized, utility investments were protected.

This period, from 1935 to 1965, has been called the "golden age" of the electric industry.³⁰ For privately owned, vertically integrated utilities ("IOUs"), economies of scale continued as the size of generation units grew. Growth and demand for electricity also grew steadily, doubling every ten years at a rate of roughly seven percent annually. Continued technological advances, together with reliable and predictable growth, caused the average cost of production to stay relatively flat for a period of time. This meant that consumers saw their rates rise slightly or not at all. Public Utility Commission ("PUC") hearings were non-controversial and the PUC's had little work to do aside from the occasional rate decrease. Utilities were content because they continued to grow and earn more money. Shareholders were pleased because their stock portfolios were stable. Consumers were subdued because their rates were modest or declining. And regulators were content because there were no political costs associated with their activities. Once technological advances flattened, this complacency changed.

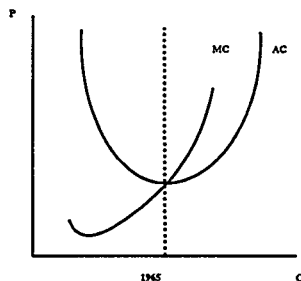
D. Regulatory Failure: 1965-1996

The regulatory compact, establishing a government protected monopoly operating essentially under a cost plus rate formula, works well in an expanding economy with accompanying technological advances. Under such circumstances, industry growth occurs while prices stabilize or fall. However, when economies of scale and technological advances flatten, the cost of doing business increases. An increased cost of doing business can have negative effects on any business. It can have disastrous effects on a regulated business whose activities are constrained because of those regulations.

In economic terms, starting approximately in 1965, the marginal costs for a utility began to exceed its average costs resulting in a profitability squeeze.³¹

30. HYMAN, *supra* note 1, at 119-130.

31. The history of electric industry rates can be roughly graphed. Traditionally, rates were based on historic average cost rather than on marginal costs.



Prior to 1965, utilities were delighted with this form of ratemaking because when $MC < AC$, and last year's

This economic situation is disastrous for a regulated firm whose earnings are calculated on prudently incurred historic costs. The traditional rate formula is based on historic (average) costs. As a firm continues to take advantage of economies of scale, its average costs decline and the firm can expand its capital investment, thus earning a reasonable rate of return on that investment. However, increasing marginal costs mean lower profits for utilities; and those profits will continue to decline until rates are set at marginal cost.³² One consequence of the traditional rate formula encouraging capital investment was plant expansion because returns were calculated on capital investment. Unfortunately, just as microeconomic theory predicts, increased costs bring higher prices and higher prices mean declining demand. In other words, the traditional rate formula contributed to excess capacity as utilities over-invested in new plants, especially nuclear power plants.³³

During this period, utilities, with the rest of the economy, faced inflation, rising labor costs, the collapse of the nuclear power industry and the OPEC and Iranian Oil Embargoes.³⁴ These economic indicators put great pressure on utilities to raise prices at unprecedented rates, causing rate shock among consumers and dramatic political repercussions in state regulatory commissions.³⁵ Rising prices also revealed that there was more price elasticity of demand for electricity than previously assumed. As utilities overexpanded and tried to capture their high fixed costs, electricity rates rose and consumers, contrary to expectations, consumed less electricity than predicted.³⁶

The "energy crisis" of the 1970's held some surprises for everyone including the electric industry. Such is the law of unintended consequences that, what started as a conservation measure in the "moral equivalent of war"³⁷ had the result of creating a new electricity market. In response to foreign oil embargoes, the Carter Administration initiated a series of legislative initiatives known as the National Energy Act of 1978. This legislation was intended to promote conservation, lessen dependence on foreign oil, and develop alternative energy sources. One of the key pieces of legislation was the Public Utility Regulatory Poli-

costs form the basis of this year's rates, then a utility's profits are maximized because of declining average and declining marginal costs. Thus, average cost ratemaking meant healthy profits for utilities. When $MC > AC$, however, and ratemaking continued to be based on average costs, then profitability declined and cash flows were constricted because it cost more to produce the next units of electricity but rates were based on the preceding year's lower costs.

32. See, e.g., *In re Madison Gas & Electric Co.*, 5 P.U.R. 4th 28 (1974).

33. Harvey Averch & Leland L. Johnson, *Behavior of the Firm Under Regulatory Constraint*, 52 AM. ECON. REV. 1052 (1962).

34. JOSEPH P. TOMAIN, *NUCLEAR POWER TRANSFORMATION* (1987).

35. Public utility commissions, once non-controversial, safe places for public servants, became highly politicized as utilities, regulators, and consumers confronted unprecedented rate increases. See WILLIAM T. GORMLEY, JR., *THE POLITICS OF PUBLIC UTILITY REGULATION* (1983).

36. TOMAIN, *supra* note 34, at 82-86; FERC Staff, Office of Economic Policy, *Regulating Independent Power Producers: A Policy Analysis*, in *COMPETITION IN ELECTRICITY* 361, 368-69 (James L. Plummer & Susan Troppmann eds., 1990).

37. *The President's Address to the Nation on the Energy Problem*, 13 WEEKLY COMP. PRES. DOC. 560-65 (1977).

cies Act ("PURPA")³⁸ which encouraged small electric power production and cogeneration as conservation measures.³⁹ These small sources of generation were known as qualifying facilities ("QF's") and PURPA was more successful than people imagined. Not only did QF's conserve power, QF's also became new (and cheaper) generation sources. The Federal Energy Regulatory Commission ("FERC") further assisted the development of new generation sources by requiring that local public utilities buy excess power generated by QF's at the "full avoided cost."⁴⁰

The local utility, in other words, had to connect with cogenerators and small power producers and purchase any excess electricity generated by the QF at the utility's "full avoided cost" which was the utility's marginal cost of electricity. Utilities which had over-expanded their facilities had to buy competitor's electricity not at the prevailing market value, but at the utility's own higher cost of producing electricity. Needless to say, new producers found this market attractive.

If you are an entrepreneur selling a low cost product to a guaranteed purchaser, what do you do other than produce as much of that lower cost product as possible? PURPA, unintentionally, tapped into this new generation market.

It should be apparent that the stage for competition was then set. Traditional, rate-regulated utilities followed the rules, earned favorable, stable returns but overbuilt. The overbuilds raised the utilities' fixed costs. These utilities needed to recover their fixed costs but consumers balked for two reasons. First, in many instances consumers were asked to pay for capital expenditures that generated no electricity.⁴¹ Consumers did not want to pay something for nothing. Second, consumers, especially large industrial, full-switchable firms, saw the availability of cheaper electricity and they wanted to purchase that product. The question then became: How do consumers get to the cheaper electricity? Non-utility generators (NUGs) of various sorts,⁴² including QFs, were perceived as being able to generate electricity at a lower cost than traditional public utilities. Consequently, consumers wanted to take advantage of new sources of cheaper electricity and free market advocates of deregulation thought this was a good idea.

E. Reregulation/Deregulation: 1996 - Present

The Reagan/Bush Era was hailed, to some extent erroneously, as an era of deregulation. In fact, many deregulation initiatives involving traditionally regu-

38. Public Utility Regulatory Policies Act (PURPA) of 1978, 16 U.S.C. §§ 2601 et seq. (1994).

39. 16 U.S.C. §824a-3 (1994); 16 U.S.C. 824j (1994).

40. *See American Paper Institute, Inc. v. American Electric Power Service Corp.*, 461 U.S. 402 (1983).

41. *See* Tomain *supra* note 34; Richard J. Pierce, *The Regulatory Treatment of Mistakes in Retrospect: Canceled Plants and Excess Capacity*, 132 U. PA. L. REV. 497, 505(1984); *Duquesne Light Co. v. Barasch*, 488 U.S. 299 (1989) (upholding a state law which prohibited a utility from including certain capital expenditures in its rate base).

42. A non-utility generator is a non-traditional utility generating electricity for wholesale. *See* Matlock, *supra* note 7; Glossary in THE ELECTRIC INDUSTRY, *supra* note 7, at 14-12.

lated industries such as railroads, motor carriers, natural gas, electricity, and airlines, began during the Carter Administration. Still, the mood was ripe for deregulation initiatives in both the electric and gas industries, as well as others, because there were cheaper sources of both products to be had. In the electricity and natural gas industries, two problems loomed large. The first is known as the transportation bottleneck, which exists in both industries. The second problem is uncompensated regulatory costs.

Most public utilities, including gas and electric, are vertically integrated and privately owned. A utility generates, transports, and distributes its product. In the electric industry, it was becoming increasingly clear that new sources of generation existed. Nevertheless, there were limited numbers of power lines for electricity transportation as there were limited numbers of natural gas pipelines. In fact, both transportation systems still had natural monopoly characteristics and there was no evidence of competition for the transportation segment while new generators were entering the market. There was no apparent reason for new transmission systems to be constructed. Consequently, the privately owned transmission lines, if left to the competitive marketplace, would witness privately owned utilities favoring its own generators and would set higher prices for the transmission of competitor's electricity. The issue was how to open access to the transmission segment in a pro-competition environment.

The second problem facing electric and gas public utilities concerned expenditures made in reliance on regulatory requirements. Traditional utilities built more plants because the rate formula encouraged and their service obligation required them to do so. The extra plants, however, were too costly. Who, then, should pay? Shareholders who prudently invested? Or ratepayers who were receiving no electricity? This is the problem of "stranded costs."⁴³

How did consumers get to the cheaper sources of electricity, particularly given the historic regulatory compact that encouraged utilities to invest in capital expansion?

Conceptually, the problem facing the electric industry was simple. Allow customers access to transmission systems, so that the cheaper sources of supply could get to consumers. In this way competition is promoted and prices should decline. Needless to say, an industry that had been heavily regulated for over 60 years found the access idea hard to accept because capital investments had to be recovered and transmissions systems were privately owned by vertically integrated utilities. In other words, the government would be hard pressed to justify taking privately owned transmission systems and making access available to consumers. Nevertheless, as the political rhetoric changed from deregulating the electric industry to restructuring it, consumers' demand for access grew loud enough for regulators to hear. It only remained for regulators to do two things. First, develop a system of open access to transmission systems and second, to deal with those costs incurred under traditional utility regulation. These prob-

43. See, e.g., Willaim J. Baumol & Gregory Sidak, TRANSMISSION PRICING AND STRANDED COSTS IN THE ELECTRIC POWER INDUSTRY (1995).

lems of wheeling and stranded costs, respectively, are issues that currently confront federal and state regulators and are the subject of new federal, and state legislation.

F. Reprise

Note that this brief regulatory history takes us through the regulatory life cycle at roughly thirty year intervals. Before the turn of the century, technological innovation placed a new product on the market. Consumer demand was high and the product was seen to be of high public interest. Competition was vigorous and private markets tended toward consolidation which had the undesirable effect of restricting access to that product. Once consumer and shareholder abuses were recognized, government stepped in to remove those restrictions as well as to promote the development of the product.

This last point is a significant one. Government regulation is most often not undertaken to constrain economic activity as much as it is to promote the use of private property. The threats of concentration and monopoly in the electricity industry were enough to provoke government intervention to make electricity universally available.

Government regulation proved to be a temporary fix. The traditional rate formula encouraged and rewarded expansion just as it prevented monopoly rent-seeking. This formula worked best while the economy was expanding and the utilities were realizing positive scale economies. When average costs began to increase, especially when marginal costs exceeded average costs, the traditional formula became a disaster. Regulators cannot mimic the market no matter how hard they try. With ratemaking in the electricity industry, after a period of time regulators effectively overpriced the product and encouraged overproduction.

Traditional regulation eventually caught up to regulators as consumers demanded access to newer and cheaper sources. The same phenomena occurred in the natural gas, airline, and telephone industries where incumbents enjoyed the fruits of regulation. The challenge in each industry, and for deregulation generally, is to open the industry to new entrants without injuring incumbents who relied on existing regulatory schemes while furthering the public interest. At this point, it may very well be the case that the new electricity industry will go through a thirty year period of major and significant restructuring. The keys to that restructuring must address wholesale and retail wheeling and the problem of regulatory assets or stranded costs.

III. THE NEW ELECTRICITY INDUSTRY

A. Federal Regulation and Wholesale Wheeling

The electric industry, like the natural gas industry, has a bottleneck problem. In both industries, producers and consumers are separated by a transmission system displaying monopoly characteristics. Thus, the electric industry has

the natural gas industry to look to for useful analogies in addressing transmission access problems.⁴⁴

The natural gas industry, as a result of similar economic forces and changes in energy markets, found itself with cheap supplies which consumers demanded. The industry also found itself constrained in getting those supplies to customers because of existing regulations. As energy supplies constricted during the 1960's and 1970's, a dual natural gas market developed. The less regulated intrastate market allowed natural gas prices to rise along with world prices. However, the federally regulated interstate market priced natural gas on historic average costs; therefore keeping prices well below the world market, which priced gas according to consumer demand. Consequently, a natural gas shortage occurred because domestic producers, subject to FERC jurisdiction, were prevented from raising prices to the world level while consumers demanded more gas at the lower domestic price, thus giving rise to a natural gas shortage.⁴⁵

Natural gas producers had three strategies available to them: sell gas in the intrastate market, withhold supplies from the interstate market until market conditions or government regulations changed, or attempt to contract around the problem by entering into mutually advantageous contracts with pipelines.

The first two strategies were not successful. Federal regulators were very reluctant to let federally dedicated gas producers abandon the interstate market and enter the higher priced intrastate market.⁴⁶ And, withholding gas from the market is not profitable.

Contractual arrangements between producers and pipelines, however, were promising. Pipelines played two roles in the natural gas industry. As buyers, pipelines bought and sold gas to customers in bundled transactions. As transporters, pipelines transported gas in unbundled transactions to customers who purchased gas from producers. As a result of the shortage, in order to secure a source of supply, pipelines would enter into long-term "take-or-pay" contracts with producers for specific volumes of gas.⁴⁷ In other words, pipelines agreed to pay for a certain amount of gas regardless if they used it.

As long as prices remained at the contract level, everyone was satisfied. Producers could rely on cash flow to continue exploration and production. Pipelines could satisfy their customers and consumers received gas. When the energy crisis subsided, artificially high natural gas prices because of foreign oil cartel activities, inevitably fell unleashing a new array of market forces. More

44. See, e.g., JAMES MCGREW, *GAS DAILEY'S GUIDE TO FERC'S REGULATION OF NATURAL GAS* (1997); S. Lawrence Paulson, *Gas Restructuring: Can Distributors Repeat the Success of Pipelines?*, 135 *PUB. UTIL. FORT.* 20 (1997).

45. STEPHEN G. BREYER & PAUL W. MACAVOY, *ENERGY REGULATION BY THE FEDERAL POWER COMMISSION* (1974); ARON R. TUSSING & CONNIE C. BARLOW, *THE NATURAL GAS INDUSTRY: EVOLUTION, STRUCTURE AND ECONOMICS* (1984); M. ELIZABETH SANDERS, *THE REGULATION OF NATURAL GAS: POLICY AND POLITICS, 1938-78* (1981).

46. See *California et al. v. Southland Royalty Co. et al.*, 436 U.S. 519 (1978); see also *United Gas Pipeline Co. v. McCombs et al.*, 442 U.S. 529 (1979).

47. See Jonathan D. Schneider et al., *Natural Gas Transportation*, 3 *Energy Law & Transactions* § 83.03 [1]; James McManus, *Natural Gas*, 2 *Energy Law & Transactions* § 50.04[1][d] (David J. Muchow & William A. Mogel eds., 1996).

specifically, consumers wanted lower priced gas; producers wanted to get more gas to the market and avoid take-or-pay obligations; and, pipelines wanted to transport and sell new gas and rely on existing contractual obligations.

The culprit behind these new market problems was the dual natural gas market which created artificial shortages and economic distortions. While it was in the gas industry's interest to eliminate that market, producers and pipelines had committed capital under the old regime and had entered into long-term contractual relations. Federal regulators began to unify the dual markets by deregulating natural gas prices.⁴⁸ Immediately following the shortage, in the era commonly known as the Gas Bubble Era, the FERC tried to force the renegotiation of contracts between producers and pipelines and to force the unbundling of services between sales of natural gas and its transportation through interstate pipelines.⁴⁹

The solution was essentially simple—move more gas to consumers. However, the existing regulatory structure gave the FERC little authority over forcing pipelines and producers to renegotiate.⁵⁰ More to the point, actors in the natural gas industry relied on those regulations in establishing business and contractual relationships. Consequently, producers needed to recoup their costs and wanted to enjoy the benefits of their contractual relationship.

The electricity industry had similar experiences. In reliance on the traditional rate formula, IOU's invested in generation capacity based on the historic experience of escalating demand and in response to a reward system, which gave utilities a return on their investment for capital expended for generation. Once electricity prices rose and as demand fell, utilities found they had over-spent capital on generation and they had excess generation plant capacity. The overspending and excess capacity, particularly on nuclear power, were signals that electricity could be produced at lower costs. Again, like the natural gas industry, consumers wanted access to lower cost electricity but were prevented from getting it because of the existing regulatory scheme.

Not only can electric industry policymakers view the history of natural gas regulation in this country, there are international lessons to be learned as well. Electricity restructuring is happening in Europe, most notably Britain, Norway, Sweden, and Denmark. The foreign restructuring involves many of the issues faced by the domestic industry, such as vertical divestiture, power pools, new producers, and privatization.⁵¹ It may be too early to judge the success or outcome of those experiences, though one writer suggests that electricity prices did not decrease as predicted and that regulation has expanded to address new com-

48. Natural Gas Policy Act, 15 U.S.C. §§ 3301 (1994).

49. Order No. 436, Regulation of Natural Gas Pipelines After Partial Wellhead Decontrol, 18 C.F.R. pts. 2, 157, 250, 284, 375, 381 (1985); Order No. 500, Regulation of Natural Gas Pipelines After Partial Wellhead Decontrol, 18 C.F.R. pts. 2, 284 (1987); Order No. 636, Pipeline Service Obligations and Revisions to Regulations Governing Self-Implementing Transportation; and Regulation of Natural Gas Pipelines After Partial Wellhead Decontrol, 18 C.F.R. pt. 284 (1992).

50. *Associated Gas Distrib. v. FERC*, 824 F.2d 981 (D.C. Cir. 1987).

51. *EUROPEAN ELECTRICITY SYSTEMS IN TRANSITION: A COMPARATIVE ANALYSIS OF POLICY AND REGULATION IN WESTERN EUROPE*(Atle Midttun ed., 1997).

petitive problems such as reintegration and consolidation occur.⁵²

The FERC now, after having experience on the natural gas side of its docket, moved to the electricity side and began open access to the electricity transmission system through an arrangement known as wheeling.⁵³ Wheeling is the practice of a generating utility using another utility's transmission lines to move electricity to consumers. Under the old Federal Power Act, the FERC had the authority over transmission of electric energy in interstate commerce and the sale of electric energy at wholesale in interstate commerce. Voluntary interconnections for wheeling were allowed under the Federal Power Act and the FPA had limited authority to order interconnections, but rarely used that authority.⁵⁴

PURPA expanded the FERC's interconnection authority slightly. Under section 210, in response to the energy crisis and as an attempt to promote conservation and alternative uses of energy, PURPA created a regulatory category of "qualifying facilities" ("QF's") which were small power producers and co-generation units, not greater than 80 MW.⁵⁵ The QF's were originally seen as alternatives to larger electricity generation that would capture small amounts of electricity that might otherwise be wasted, thus also promoting conservation.

As it turned out, QF's opened the door to today's new competitive market in electricity. That door was unlocked, as noted earlier, with a regulatory key requiring the local public utility to purchase any excess electricity that the QF would generate at the local utility's cost of generating its own electricity. This became known as the full-avoided cost.⁵⁶ In order to make these required purchases, the FERC could order the connection of QF's to the local public utility.⁵⁷

QF's were wildly popular and an unpredictable success as the government began creating a new market. There were 1200 QF's by 1993 which constituted 10% of new generation.⁵⁸ Thus, the economic hunch that cheaper electricity was available turned out to be true. Yet the problem still remained of getting that cheaper electricity to the consumers who demanded it.

The Energy Policy Act of 1992⁵⁹ ("EPAct") further vitalized the emerging electricity market by exempting certain generation from the holding company requirements, thus stimulating more production.⁶⁰ Then EPAct allowed the

52. John E. Kowka, Jr. *Transforming Power: Lessons from British Electricity Restructuring*, REGULATION (Summer 1997).

53. See especially, Rules and Regulations, Order No. 636, *Pipeline Service Obligations and Revisions to Regulations Governing Self-Implementing Transportation; and Regulation of Natural Gas Pipelines After Partial Wellhead Decontrol*, F.E.R.C. STATS. & REGS. ¶ 130,939 (1992), 57 Fed. Reg. 13,267 (1992).

54. Matlock, *supra* note 7, at 2-8 to 2-9.

55. 16 U.S.C. § 824a-3 (1994).

56. *American Paper Inst., Inc. v. American Elec. Power Serv. Corp.*, 461 U.S. 402, 421-23 (1983); THOMAS E. MARK, *PURPA and the Regulation of Alternative Energy Sources*, 4 ENERGY LAW & TRANSACTIONS § 130.02[1] (David J. Muchow & William A. Mogel eds., 1996).

57. 16 U.S.C. § 824j (1994).

58. See Sheila S. Hollis, *The Changing Scene: An Overview of Recent Developments in the Electric Regulatory Arena in The Electric Industry*.

59. Energy Policy Act of 1992, Pub. L. No. 102-486, 106 Stat. 2776 (1992) [hereinafter EPACT]; RICHARD D. AVIL, JR. & EDWARD B. MYERS, *Energy Policy Act of 1992 in 3 ENERGY LAW & TRANSACTIONS* § 58-08[1] (David J. Muchow & William A. Mogel eds., 1996).

60. Exempt Wholesale Generators (EWG)—the term "exempt wholesale generator" means any person

FERC the authority to order a transmitting utility to provide transmitting services. EPart, however, prohibited the FERC from ordering retail wheeling and limited its authority to wholesale wheeling.

In response to the limited wholesale wheeling authority of the EPart of 1992, FERC passed Order No. 888.⁶¹

The FERC based its authority for Order No. 888, on the finding that new generation capacity was available at lower prices, as PURPA and other actors had already demonstrated. FERC also found that non-traditional utility generators ("NUGs") were competitive and that consumers were demanding access to these new generators.

Order No. 888 has multiple goals, most importantly obtaining efficiency through competitively priced generation.⁶² The structure of the demand side of the industry is such that large industrial users have more bargaining power with their local utilities, or with other utilities, because large users have more options for their source of power. For example, an industrial consumer can consume electricity, generate its own, or use an alternative fuel more easily than can a residential consumer. Consequently, large users can, with greater ease, make demands on utilities for lower rates than smaller users. Thus, while bargain based market transactions make sense for large users in an effort to promote economic efficiency, such bargains are not readily available to smaller users. Other goals of Order No. 888 include ensuring reliability, as well as nondiscrimination in access and transmission rates for all users. Finally, Order No. 888 addresses the issue of stranded costs. Utilities who now must provide access over their transmission lines to other generators and users may find themselves losing energy sales from their generation units as a result of a decrease in market share. Those generation units, however, were constructed in reliance on the traditional scheme of regulation. Thus, to avoid companies being unable to recoup the cost of these units, care must be taken in authorizing access over an IOU's transmission lines.

It follows that Order No. 888, involves a system of mandatory open access and functional unbundling of a utility's vertically integrated electricity products. As a result of Order No. 888, the FERC believes that there should be \$3.8 to \$5.4 billion worth of savings each year. The FERC also believes that new market mechanisms should evolve to facilitate technical innovation in the generation and transmission of electricity and reduce rate distortion.

Wholesale wheeling partially restructures the industry by setting in motion a set of regulations that enable multiple generators to either pool their electricity or to enter into bilateral contracts with purchasers. The pooled electricity or

determined by the Federal Energy Regulation Commission to be engaged directly or indirectly through one or more affiliates as defined in section 79B(a)(11)(B) of this title, and exclusively in the business of owning or operating, or both owning and operating, all or part of one or more eligible facilities and selling electric energy at wholesale. 15 U.S.C. § 79z-5a (1994).

61. 75 F.E.R.C. ¶ 61,080; F.E.R.C. STATS. & REGS. ¶ 31,036; 61 Fed. Reg. 21,540 (1996).

62. Matlock, *supra* note 7, at 2-23; AMERICAN BAR ASSOCIATION, 1997 ANNUAL REPORT SECTION OF PUBLIC UTILITY, COMMUNICATIONS AND TRANSPORTATION LAW 137-40 (1997).

contract electricity will then be moved over a distribution system. The issues that remain to be addressed involve the structure and ownership of new transmission systems, which involves state regulators; they will be addressed below.

B. Retail Wheeling

The federally allowed wheeling at the wholesale level is only half of the picture of industry restructuring. Wholesale wheeling opens up transmission across interstate lines and among interstate utilities, but does not reach retail customers. The EPAct prohibition on retail wheeling was based on the traditional view that wholesale electricity in interstate commerce were subject to federal jurisdiction while retail sales were subject to state regulation. If intrastate customers wanted to have access to cheaper electricity, then wheeling would have to be allowed at the state, retail level but to date federal law does permit such open access.

Like wholesale wheeling, retail wheeling involves the unbundling of services. In addition, state law may involve the divestiture of an IOU's assets such as separating generation from transmission services. This separation would allow a customer can purchase transmission or distribution services from one utility and generation services from another and other ancillary services, e.g. load control, from yet another. However, as with wholesale wheeling, the problem at the retail level goes back to the regulatory compact.

Vertically integrated utilities relied on the traditional regulatory scheme and subjected themselves to regulatory rate setting and mandatory service obligations in exchange for exclusive territories. Once services are unbundled, however, some capital investments made in reliance of the regulatory scheme may not be able to earn a rate of return. Earlier it was noted that IOU's overbuilt generation in reliance on the traditional regulatory compact. Some IOU's transmission facilities, as well, may be under utilized and new transmission facilities may not be needed.

Regarding electricity industry restructuring, all eyes are on California because of the issuance of its famous "Blue Book" issued in 1994 to restructure the industry by creating a new electricity market which is scheduled to begin on January 1, 1998. California's Blue Book created an independent system operator ("ISO") to allow both pool-based transactions and bilateral trading.⁶³ Pool-based transactions are those in which the ISO operator serves a coordinator who monitors generation committed by multiple suppliers of electricity into the pool.⁶⁴ The ISO then dispatches it to customers. Bilateral trading occurs with negotiations between customers and generators and the transmission occurs over

63. See Laurie M. Rodgers & Joseph F. Schuler, Jr., *Ready, Fire, Aim: California and the Nation on the Eve of Competition*, 136 Pub. Util. Fort. 26 (January 1, 1998); William W. Hogan, *Rethinking WEPEX: What's Wrong with Least Cost?*, 136 Pub. Util. Fort. 46 (January 1, 1998). See also Leonard S. Hyman & Marija Ilic, *Scarce Resource, Real Business or Threat to Profitability?* 135 Pub. Util. Fort. 34 (October 1, 1997).

64. See *id.*

the ISO lines.⁶⁵ The dilemma between whether or not to operate the ISO as a pool or as a marketplace for bilateral trades again raises issues of market power. Clearly, large end users will have more leeway to bargain than smaller users with less market power. Consequently, a transmission system operator must pay attention to the nature and balance of the types of transmission transactions allowed in the system. Too many bilateral trades may adversely affect smaller users.

Retail wheeling involves a wide array of legal and policy issues including legal issues such as end use customers right to choose suppliers and the right of access to the pool by competitors in unbundling services and prices. Policy issues include: What is a state to do about universal service? Should wheeling be available to all customers? Are there environmental issues involved with wheeling and more competition?⁶⁶ And, how quickly and in what manner should retail wheeling policies emerge?

Retail wheeling also involves operational issues, such as reliability, divestiture, and the role of the transmission system operators. Would they be government run or privately run? In other words, who should administer retail wheeling systems?⁶⁷ And finally, what to do about stranded costs?

C. *Stranded Costs*⁶⁸

The central problem in any economy is correctly predicting the future so that a firm can stay financially viable. Financial prediction is more complicated in a mixed economy in which signals are sent both by the market and by the government. There is, however, some mitigation for a firm who faithfully follows governmental signals. In certain instances, government cannot change the rules of the game without compensating a firm for financial injuries incurred in reliance on those rules. Regulated firms are restricted from earning marketplace profits and in exchange are provided some financial protection. Under traditional price regulation, for example, an electric utility was prohibited from earning monopoly rents but could earn a reasonable rate of return on all prudently invested capital. Stranded costs may well be the type of assets that are afforded similar protection. Utilities invested capital in reliance on a regulatory scheme, then the regulations changed. The perplexing question involves the extent to which those regulatory assets are recoverable.

One of the first difficulties involved in this issue is defining stranded costs at all. The estimates for stranded costs vary from \$100 billion to \$200 bil-

65. *See id.*

66. *See* Natural Resources Defense Council, Public Service Electric & Gas Co., & Mid-Atlantic Energy Project, *Benchmarking Air Emissions of Electric Utility Generations in the Eastern United States* (last modified April 1997) <<http://www.nrdc.org/nrdcpro/ util/index.html>>.

67. *See* James Barker, Jr., et al., *Regulation of Power Pools and System Operators: An International Comparison*, 18 ENERGY L.J. 261 (1997).

68. *See* Sheila S. Hollis & Mary Ann Ralls, STRANDED COSTS: THE NEXT GREAT ENERGY BATTLE IN THE ELECTRIC INDUSTRY; J. Gregory Sidak & Daniel F. Spulber, *Deregulatory Takings and Breach of the Regulatory Contract*, 71 N.Y.U. L. REV. 851 (1996).

lion.⁶⁹ What did regulators learn, if anything, from take-or-pay contracts in the natural gas industry? Does the stranded cost problem involve the equitable sharing between ratepayers and shareholders? Will stranded costs be dealt with similar to cancelled nuclear plants? Are stranded costs those that were prudently incurred or those that were used and useful?⁷⁰ How will investors respond to a system with or without stranded costs recovery? Will stranded cost recovery displace the efficiency gains to be realized in the new electricity market?⁷¹ Can stranded costs be recovered from departing customers with an exit fee? What legislative and financial arrangements can be made to protect stranded assets?⁷²

The stranded cost problem presents difficult and complex economic choices. It also presents difficult and complex policy problems. As the electric industry restructures, there will be a propensity for producers to put the cheapest electricity they can generate on the market first. For generators that use a fuel mix, they are more likely to put electricity generated by coal or natural gas or hydropower on the market before they market nuclear-generated electricity. Consequently, those utilities with a relatively high percentage of energy produced from nuclear plants will end up a more stranded plant than others.⁷³ As an aside, the choice of use of fuels presents certain environmental difficulties as well.⁷⁴

These questions, and more, are those being asked by industry actors, regulators, consumers, shareholders, investment advisors, and scholars.⁷⁵ In brief, these are policy questions. Some concern economic efficiency, while others involve precedent and fairness. Decision-makers will balance the economic and political pros and cons regarding stranded costs and make some apportionment.⁷⁶ Little more can be said about the precise contours of that apportionment as state and federal regulators and legislatures wrestle with this multi-billion dollar problem.

69. Hollis, *supra* note 58, at 12-2; ENERGY INFORMATION ADMINISTRATION, *ELECTRICITY PRICES IN A COMPETITIVE ENVIRONMENT: MARGINAL COST PRICING OF GENERATION SERVICES AND FINANCIAL STATUS OF ELECTRIC UTILITIES—A PRELIMINARY ANALYSIS THROUGH 2015*, ix (August, 1997); J. Gregory Sidak & Daniel F. Spulber, *Deregulatory Takings and the Regulatory Contract* 8-9 and n. 9 and n. 29 (1997).

70. See *Jersey Central Power & Light Co. v. FERC*, 810 F.2d 1168 (D.C. Cir. 1987); see generally JOSEPH P. TOMAIN, *NUCLEAR POWER TRANSFORMATION* (1987).

71. The Energy Information Administration predicts modest to no price reduction. ENERGY INFORMATION ADMINISTRATION, *ELECTRICITY PRICES IN A COMPETITIVE ENVIRONMENT: MARGINAL COST PRICING OF GENERATION SERVICES AND FINANCIAL STATUS OF ELECTRIC UTILITIES—A PRELIMINARY ANALYSIS THROUGH 2015*, xi-xvi (August, 1997).

72. See Kenneth Rose, *Securitization of Uneconomic Costs: Whom Does It Secure?*, 135 *Pub. Util. Fort.* 32 (1997). FERC has ruled that you cannot recoup stranded costs through higher transmission fees. *Cajun Electric Power Corp v. FERC*, 28 F.3d 173 (D.C. Cir. 1994).

73. See Margaret Kriz, *Fuel Fight*, *NATIONAL JOURNAL* 1126 (1997).

74. See *id.*

75. See William J. Baumol & J. Gregory Sidak, *Transmission Pricing and Stranded Costs in the Electric Power Industry* (1995); Sidak & Spulber, *supra* note 66; J. Gregory Sidak & Daniel F. Spulber, *Deregulatory Takings and the Regulatory Contract* (1997); Glenn D. Meyers, et al., *Stranded Utilities: How Demographics, Not Managements, Caused High Costs and Rates*, 135 *PUB. UTIL. FORT.* 18 (1997); Steven Isser & Robert Michaels, *Stranded Investment: Utility Estimates or Investor Expectations?*, 135 *PUB. UTIL. FORT.* 26 (1997).

76. Retail stranded costs may be picked up through FERC jurisdictional rates if a state fails to act. The bottom line, of course, is who pays. If history is a clue, there will be some apportionment between shareholders and customers.

The electric industry may be undergoing its most exciting period in sixty years. We have already witnessed a spate of mergers and acquisitions and the occasional disallowance.⁷⁷ The industry also will experience the formation of new companies as unbundling becomes more prevalent.⁷⁸ There will be Genco's, Transco's, Gridco's Disco's, Poolco's, as well as the emergence of regional transmission grids ("RTGs").

Activity on Capitol Hill will be toward deregulation through the elimination of PURPA and PUHCA restrictions, as well as the introduction of federal legislation to mandate wheeling and promote the sale of "green power."

79

V. CONCLUSION

The electric industry has been presented as an illustrative case study in government regulation. While we are justly proud of living in a capitalist democracy with its faith in the free market, the reality is much more subtle and complex.

Markets do not exist without government. There is no clean division between "The Market" and "Government Regulation." Rather, ours is a mixed economy, as are most economies, and the political rhetoric contrasting governments and markets is really about matters of degree, not differences in kind.⁸⁰ The trick for any government involvement with the economy, of course, is to honor demands for both efficiency and fairness.⁸¹ Thus, the regulatory state and those industries, such as the electric industry, under its jurisdiction, are affected by the winds of the political marketplace as much as by those of the economic marketplace.

The story told above is not chaotic. The pendulum of regulation swings roughly every generation, sometimes toward more government regulation and sometimes toward more market ordering. The electric industry is not unique in

77. See Hon. Richard D. Cudahy, *The FERC's Policy on Electric Mergers: A Bit of Perspective*, 18 ENERGY L.J. 113, 116 (1997); Order No. 592, *Inquiry Concerning the FERC's Merger Policy Under the Federal Power Act*, 77 F.E.R.C. ¶ 61,263, 61 Fed. Reg. 68,595 (1996).

78. J. Robert Malko, *Assessing Corporate Restructuring in the Electric Industry: A Framework*, Address at the ABA Section on Natural Resources, Energy and Environmental Law 10th Annual Conference on Electricity Law and Regulation, tbl. C (February 1997); Joris M. Hogan, *Disaggregation and Beyond: Indenture, Corporate, Securities and Business Issues in Successful Restructuring*, Address at the ABA Section on Natural Resources, Energy and Environmental Law 10th Annual Conference on Electricity Law and Regulation, tbl. F (February 1997).

79. See Margaret Kriz, *Fuel Fight*, 29 NAT'L J. 1126 (June 7, 1997); Electricity Competition Act of 1996, S. 1526, 104th Cong. (retail competition by 2010; full recovery by utilities of prudently incurred retail stranded costs); Electric Power Competition Act of 1996, H.R. 2929, 104th Cong. (1996) (overhaul the PUCHA, the FPA, and the PURPA); Electric Power Competition and Consumer Act of 1996, H.R. 3782, 104th Cong. (1996); Electric Consumers Power to Choose Act of 1996, H.R. 3790, 104th Cong. (1996) (open access for all retail customers by the year 2000; Section 210 of PURPA and PUHCA repealed); Consumers Electric Power Act of 1996, H.R. 4297, 104th Cong. (1996) (open retail access by January 1, 1998; Section 210 of PURPA and PUHCA repealed; prohibit recovery of stranded costs through direct or indirect subsidies or exit fees).

80. See CHARLES E. LINDBLOM, *POLITICS AND MARKETS: THE WORLD'S POLITICAL-ECONOMIC SYSTEMS* (1977).

81. See ARTHUR OKUN, *EQUALITY AND EFFICIENCY: THE BIG TRADE OFF* (1975).

this regard. Similar stories can be told for broadcast television, cable television, long distance and local telephone services, airlines, railroads, trucking, and banking. Each of these traditionally regulated industries have gone through similar experiences. Each was regulated "in the public interest." Each regulatory scheme was challenged by market forces, and each is experiencing regulatory change regardless of whether it is called deregulation, reregulation, regulatory reform, or restructuring.

Now, if the past is a prologue, then the question may fairly be asked: What does the regulatory future of the electric industry look like? I can suggest two trends for the future, neither of which is particularly controversial nor all that revolutionary.

Clearly, traditional regulation has either served its purpose or has failed to meet its objectives, depending on one's political slant. Consequently, the heavy hand of government regulation will be lessened and market-based incentives and mechanisms will be substituted. Put another way, traditional regulation will be supplanted by more market-oriented regulation rather than complete deregulation. Regulators will reduce their involvement with classic ratemaking and promote a more competitive electric industry. Those forces are already operating and will continue to move forward.

The second prediction is also a modest one. Electric industry restructuring will not go all the way to complete deregulation. Rather, we are experiencing a dramatic change in regulatory structure. Regulatory problems persist however. Earlier, we spoke about how to compute and allocate stranded costs. Liability is a serious issue as independent system operators or pools are formed and as demand is made on those pools, how will the system respond when it becomes congested? Do customers pay a congestion fee as a flat fee or will consumers pay a flat fee or a fee based on marginal cost?⁸²

Competition in the electric industry will generate new products, new firms, new services and new entrants. Traditional IOUs will increase the unbundling of their services, marketers and aggregators will appear, electricity futures will be traded, and privately owned completely unregulated companies will be selling electricity. Also, the "virtual utility," that is a services firm with no traditional capital utility assets, is a real possibility. As a result of this greater competition, industry expansion will continue for a time and the stronger, most efficient firms will consolidate as global competition in energy increases. Ultimately concentration will occur. Once that concentration threatens industry actors and threatens consumer interests, then the pendulum will swing back toward more intensive government regulation. How long will that period of competition, expansion, and concentration last? About a generation.

82. See Cliff Rochlin & Roger Clayton, *Electric Transmission: A West Coast View: The Case of Flow-Based Access Fees*, 135 PUB. UTIL. FORT. 46 (1997); Samuel C. Thomas, *Electric Transmission: An East Coast View: The Right Price for PJM*, 135 PUB. UTIL. FORT. 40 (1997); Joseph F. Schuler, Jr., *Electric Industry Issues Forum: Reliability, Transmission, and Competition*, 135 PUB. UTIL. FORT. 45 (1997).