The Evolution of the Electric Utility Industry

Richard Pomp
University of Connecticut School of Law

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Summary by Tax Analysts In a special report, Richard D. Pomp of the University of Connecticut examines the history of the electric utility industry.

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=============== SUMMARY ===============

In a special report, Richard D. Pomp of the University of Connecticut examines the history of the electric utility industry. Competition, or the lack of it, has always been a problem in the utility industry, Pomp writes. The most recent regulatory action attempting to restrain competition was the Federal Energy Regulatory Commission's move toward deregulation. The states are now moving toward deregulation.

=============== FULL TEXT ===============

I. Discovery, Innovation, and Expansion
A. 1878-1910: Incandescence to Incorporation

[1] The electric industry grew rapidly after Thomas Edison patented the first incandescent electric lamp in 1878. In contrast to the arc lighting method, whereby electricity leaped in an arc between conductive points, the incandescent light allowed increased light with less electricity, utilizing a vacuum-contained filament heated to a bright glow by electric current. Although electricity had been demonstrated as a light source in 1802, Edison's lamp unleashed public demand.

[2] Electricity was first used to light streets and selected buildings in major cities. In 1879, San Francisco was the first city to have an electricity generating station for arc lighting; Edison's system lit New York City's streets in 1882. Electric lighting successfully competed against candles and gas and kerosene lamps, but affordable generation, long-distance transmission, and reliable light bulbs awaited further developments.
During this early period, the power industry consisted of the three segments that still exist today: generation; transmission; and distribution. Generation is the production of electric energy from the conversion of fuels (gas, coal, nuclear) or renewable sources of energy (hydraulic or solar). Transmission is the movement of generated electricity over high-voltage lines to a distribution system. Distribution is the delivery of electric power to the end user. Different "electric companies" can control one or more segments of the industry, but the three segments are clearly interdependent.

Municipalities were initially unconstrained by federal regulations and issued revenue-raising franchises and charters to light the streets and to use the roads for transmission purposes. Municipalities previously issued franchises to gas companies, so that fierce competition developed between the electric and gas industries for lighting the cities. This competition resulted in "regulation by competition." Essentially, unrestricted government franchising allowed for competition between established and new companies, which kept prices low. Municipalities set price ceilings for street lighting contracts, and companies competed with each other to provide all forms of service at the lowest price possible.

Between 1880 and 1900, electricity use increased rapidly, as prices fell due to technological advances and to increased competition. The introduction of electric streetcars in the mid-1880s enlarged the daytime market for electricity. By 1900, electricity production had become a $100-million-a-year industry. From 1900 to 1910, electricity production increased 280 percent and generation capacity increased 375 percent.

Investor-owned, or "private" companies, drawn to the greater income to be derived from areas with larger numbers of customers per square mile, serviced the needs of the cities. State or local governments provided service to less-urban areas. Government-owned and-operated electric companies grew rapidly to meet this demand: there were four in 1882, over 100 by 1890, 728 by 1900, and 1,534 by 1910.

This increase masks the large number of government-owned companies being either privatized or discontinued due to competition with the privately owned companies. Private companies expanded to provide service outside of the cities and became a dominant source of electricity.

B. 1910-30: Technological Advances and Company Consolidation

Because the municipalities feared that market dominance by the privately owned companies would lead to high rates for consumers, states created commissions to regulate the electric industry. The industry was continuing to grow at a rapid rate due to technological, regulatory, and business organization developments, and legislators responded to the needs of the growing number of electricity consumers.

The industry also responded, perhaps in an attempt to forestall regulation. The Institute of Electrical Engineers helped standardize electric machinery, which reduced the number of outages due to the increased ease of repair and replacement of machinery. Associations like
the National Electric Light Association developed the metered-rate method of pricing. Originally, companies charged prices based on a fixed monthly rate per lamp; compared with metered pricing, the fixed rates resulted in customers being charged for less electricity than they were actually using. The metered-rate method of pricing allowed for a direct correlation between volume used and amount charged. Quantity discounting became common, which encouraged greater consumption.\textsuperscript{16}

[10] Rapid technological developments helped reduce the number of electric companies. New transformers were developed in the early 20th century that facilitated the development of large generating stations. Developments in higher-voltage equipment allowed generators to be miles apart. Accordingly, large generating stations could replace numerous local generating stations. Fewer stations were needed to provide electricity over a large area, and fewer companies were needed to meet energy demand.

[11] Government policies also reduced the number of companies. Between 1880 and 1910, states mostly left regulation of the electric industry to municipal or local governments.\textsuperscript{17} Municipalities often issued overlapping franchises, resulting in a large number of companies competing for a relatively small consumer base.\textsuperscript{18} After a period of cutthroat price warfare, most companies were driven out of business by, bought out by, or merged with other companies. This consolidation of the industry resulted in the sole surviving company monopolizing service in a given area.\textsuperscript{19}

[12] State regulations requiring companies to provide service to customers -- the "obligation to serve" -- within their jurisdiction encouraged monopolistic trends.\textsuperscript{20} Companies needed to ensure that they met such commitments; they did so by controlling all three industry segments either indirectly, by long-term contracts, or directly, by ownership.

[13] Fewer electric companies serving larger areas created regulatory problems on the local level: companies based in one municipality were providing service to customers in other municipalities, sometimes even crossing state lines. An emerging issue was how a municipality could control a power company based outside its jurisdiction, especially one based in another state.

C. The 1930s: The Rise of the Holding Companies

[14] In the 1920s, large private electric companies began buying government and publicly owned power utilities, adding to their previous acquisitions of small private companies during the consolidation period. Although municipally owned utilities still served many customers, these companies often found it cheaper to purchase power from the private firms than to generate it themselves, thereby encouraging the growth of the private giants. In 1909, less than 10 percent of the municipalities purchased their power from investor-owned companies; by 1923 over one-third did.\textsuperscript{21} As municipally owned utilities became increasingly transmission- and distribution-oriented, private companies' domination of electric power generation increased.\textsuperscript{22} Furthermore, as the profits and market share of the private companies increased, the number of municipally owned companies diminished. In 1923, there were 3,083 municipally owned companies; by 1931, 1,210 of these companies had been sold or gone out of business.\textsuperscript{23} By 1932, the private companies generated 95 percent of all power, received 94 percent of all revenue, and serviced 91 percent of all customers.\textsuperscript{24}
As competition in their service areas diminished, the private electric companies raised rates and increased their profits. Companies having to justify rate increases to regulators could easily inflate costs, as there were no other companies doing business in the area with which they could be compared. A company could also claim disproportionate expenses for complying with regulatory service requirements, such as the "obligation to serve."  

Electric utilities further avoided regulatory restrictions through holding companies. The holding companies controlled all three elements of the industry: generation; transmission; and distribution. Interstate transmission became common and allowed for increased investment opportunities, producing considerable profits for the holding companies, but creating problems for state regulators. Long-distance electric transmission had grown considerably with transformer improvements, and interstate wholesale sales (as opposed to retail sales, which tend to be intrastate) increased. As had occurred in the gas industry, the holding companies controlling interstate transmission could charge excessive prices. The Commerce Clause, as then interpreted, protected interstate transmission of electricity from state interference and made state regulators powerless to control these inflated costs.

Although holding companies controlled both gas and electric utilities, the latter were more lucrative investments because of the opportunities for "overcapitalization." Overcapitalization is the excessive buildup of tangible assets, such as generating and transmitting equipment, in order to increase the value of the utility. The nature of the electric industry facilitated overcapitalization. Because of rapid technological improvements in generation, transmission, and distribution equipment, electric utilities could frequently replace "obsolete" equipment (even if such equipment was satisfying current and projected service demands). Overcapitalization by the holding companies led to the unrealistic inflation of value, because the utilities owned more tangible assets than they actually used. A Supreme Court ruling encouraged overcapitalization by allowing regulated utilities to receive a "fair return upon the value of that which [they employ] for the public convenience."  

During the consolidation period, holding companies had their utilities buy out cheap, smaller generating plants. Although the smaller plants were no longer in use, the utilities could nonetheless hold them as "standby plants," and count them as part of a utility's potential power source "for the public convenience." The utilities would often overvalue these standby plants.

The overvaluation of standby plants had three major effects. First, it allowed a utility to increase its rates because its capital base appeared to be larger than what it actually was. Furthermore, utilities could attribute costs to the maintenance and upkeep of these plants, and justify a rate increase. Second, the seemingly larger capital base would make the utility more valuable, which would increase the value of the holding company's stock. Third, the utility's apparently larger capital base and its increased rates allowed it to pay increased dividends to the holding company, which in turn allowed the holding company to pay increased dividends to its investors. Plant and equipment sales could also be orchestrated between a holding company's utilities, in order to mislead regulators and investors.

These practices were especially dangerous to a nation in the throes of the Depression, and contributed to the economic turmoil. In issuing large volumes of securities, based in part on the overvaluation of the utilities that they owned, the holding companies enriched a few to the detriment of many.
The opportunities to reap lucrative profits from the issuance, marketing, and servicing of the enormous volume of securities that supported [the holding companies] provided exorbitant profits to favored investment bankers and insiders and created incentives for further abuses. Shoddy accounting, and worse, was typical of the financial manipulations required, in a period of rapidly declining operating profits, to permit lower-tier subsidiaries to report the earnings and to declare and pay dividends required for the continued payment of dividends by the parent holding companies. . . . The end result was that the operating utilities and their ratepayers were milked of all possible resources through such practices. When the depression hit in full force, the operating companies . . . were unable to carry these heavy additional burdens. Many bankruptcies resulted. 29

[21] Market dominance by a small number of holding companies reached its peak in the mid-1930s; by 1935 nine holding companies controlled the entire electric power industry. 30

II. Increased Demand, Improved Technology, And Increased Regulation

A. 1925-35: Federal Attack on the Holding Companies

[22] A 1925 Senate resolution ordered a Federal Trade Commission (FTC) investigation of the
Electric Bond & Share holding company for possible monopolistic practices "in restraint of trade or commerce and in violation of law." The FTC issued its report in 1927, concluding that Electric Bond & Share's practices were typical of those of the other holding companies. Although the report provided no policy prescriptions, the study focused the government's attention on the industry.

Reacting to the regulatory problems arising from electric industry consolidation, Congress reorganized the Federal Power Commission (FPC) as an independent agency in 1930. Created by the 1920 Water Power Act, the FPC previously exercised negligible regulatory power, being under the authority of the secretaries of Agriculture, the Interior, and War, who were preoccupied with other affairs. The FPC would now assume a very active role.

In 1928, the Senate initiated an FTC study of the use of holding companies in the electric industry. In 1935, the FTC presented its findings. The public benefits of the holding companies were noted: increased investment opportunities, and better delivery and quality of electric service. The study concluded, however, that these benefits were outweighed by the detriments: manipulated intercorporate asset transfers and the inflation of asset values by utilities, leading to increased rates and the unjustified payment of dividends to holding companies, which in turn paid increased dividends to their shareholders. The FTC considered the industry to be organized in a dangerous pyramidal structure allowing:

one or two individuals, or a small coterie of capitalists, to control arbitrarily enormous amounts of investment supplied by many other people. In such a situation few men could be relied on to devote their attention to prudent management of the operating companies, because the speculative element [the desire to profit from securities] is so overwhelming. It tends, apparently, to make them (1) neglect good management of operating companies, especially by failing to provide for adequate depreciation; (2) exaggerate profits by unsound, deceptive, accounting; (3) seek exorbitant profits from service fees from subsidiaries; (4) disburse unearned dividends, because the apparent gains, so obtained, greatly magnify the rate of earnings for the top holding company; and (5) promote extravagant speculation in the prices of such equity stocks on
the exchanges. Such concentration of control, even without that speculative pressure, appears objectionable as a matter of sound national welfare. . . . Finally, the exaggerated importance to the top holding company of comparatively small differences in the profit of the operating companies greatly enhances the incentive of the holding company to increase such profits, or to obtain a revenue through the exaction of service and other fees in addition to the ordinary revenue by way of dividends. 39

[25] State regulatory efforts had proven ineffective, particularly the "obligation to serve," 40 and the Supreme Court's "fair value" doctrine for determining rates offered only vague regulatory guidelines. 41 The FTC concluded that restructuring of the industry was required. 42

[26] The FTC's recommendations fell on waiting ears. Between 1933 and 1935, hearings held by the House Committee on Interstate and Foreign Commerce and the Senate Committee on Interstate Commerce had set the stage for federal regulation of the electric power industry. 43 Congress responded quickly to the FTC report by adopting the Public Utility Act of 1935.

B. The Public Utility Act of 1935

[27] Congress enacted the Public Utility Act, also called the Wheeler-Rayburn Act, in 1935. 44 The act had two parts: the Public Utility Holding Company Act (Title I of the Act, or PUHCA) and the Federal Power Act (Title II of the Act, or FPA).

[28] The PUHCA was designed to create a system of "effective public regulation" and to prevent further industry practices "injurious to investors, consumers, and the general public." 45 By December 2, 1935, all holding companies involved in interstate commerce had to register with the Securities and Exchange Commission (SEC), provide detailed reports, and conform to certain standards. 46 The PUHCA defined holding companies as entities owning 10 percent or more of a gas or electric public utility company. 47

[29] The PUHCA prohibited loans between holding companies and placed restrictions on transactions occurring between the holding company and its lower-tier companies. 48 Holding companies could enter into intercorporate service, sales, or construction contracts only with SEC permission. 49 Most significantly, section 12 of the PUHCA limited each holding company's operations to a "single integrated public utility system." 50 Known as the "death sentence clause," this provision abolished holding companies more than twice removed from their operating subsidiaries; such companies were seen as serving shareholder interests rather than customer needs.

[30] The holding companies fought back, but the Supreme Court repeatedly upheld the
constitutionality of the PUHCA. The death sentence clause was upheld by the Court against charges that it deprived companies of property without due process.

The PUHCA effectively dismembered the holding companies. Between 1938, when the death sentence clause came into effect, and the mid-1950s, 214 entities controlling 922 utilities and over 1,000 nonutility companies were reduced to 25 entities controlling 171 utilities and 137 nonutilities, divesting assets of $13 billion.

The second half of the Public Utility Act, the FPA, confirmed the states' jurisdiction over local distribution and intrastate transmission, and gave the FPC increased regulatory power over "the transmission of electric energy in interstate commerce and . . . the sale of electric energy at wholesale in interstate commerce." Existing companies were not "grandfathered"; companies already involved in interstate commerce had to secure FPC approval to continue their operations.

The FPA granted the FPC jurisdiction over acquisitions and mergers of companies involved in interstate transmission or sales, in order to "assure an abundant supply of electric energy throughout the United States with the greatest possible economy and with regard to the proper utilization and conservation of natural resources." The FPA empowered the FPC to set "just and reasonable" rates according to its determination of the fair value of utility-owned property, and to set appropriate accounting methods for determining fair value. Furthermore, the FPC could order companies to provide "proper, adequate, or sufficient service."

While not intruding on the state regulations concerning the "obligation to serve," the FPA increased FPC jurisdiction. The Commission -- the FPC and its heir, the Federal Energy Regulatory Commission (FERC) -- would eventually exert jurisdiction over intrastate electricity sales potentially affecting interstate commerce. The commission could regulate power entering the interstate market; even a supplier selling electricity exclusively to purchasers within the supplier's state could be regulated if these purchasers were reselling electricity across state lines. As long as the commission's orders were "just and reasonable," and fairly compensated the affected companies for incidental expenses, the commission could order a company to build facilities and purchase equipment, as well as approve or disapprove of mergers and acquisitions.

C. Federal Efforts to Diversify Utility Ownership

In conjunction with its regulation of the investor-dominated electric power industry, the federal government encouraged ownership of power companies by municipalities and other public organizations. Responding to a proposal by President Franklin Delano Roosevelt, Congress approved the Tennessee Valley Act, creating the Tennessee Valley Authority (TVA) to encourage, inter alia, agricultural and industrial development. The legislation authorized the TVA to develop and supervise Tennessee River-based hydroelectric power generation and transmission, selling electricity to states, municipalities, and other local nonprofit organizations, especially those in isolated rural areas. The TVA operated independently of the FPC, even after the FPA extended the FPC's jurisdiction, and became a powerful public utility that exists to the present day.

In 1935, President Roosevelt issued an executive order creating the Rural Electrification Administration (REA), whose powers were later enlarged by the Rural Electrification Act of
1936. Free from FPC jurisdiction, the REA made loans to encourage electric power transmission to rural areas, with discounted rates for governmental entities, cooperatives, and nonprofit organizations.

[37] To ensure adequate power in the event of war, the Bonneville Power Administration Act of 1937 (BPA) authorized the Secretary of War to develop hydroelectric capabilities in the Pacific Northwest. Like the REA’s financing policies, the BPA gave preferential treatment to government entities and cooperatives assisting rural consumers, but the FPC had jurisdiction over BPA rate determinations.

[38] These programs created new public utility systems in their service areas, but they did not start a new trend of ownership diversification or competition. Federally operated utility companies that merely substituted government monopolies for private monopolies did not fully resolve customers’ problems. Monopolies, irrespective of ownership, tend to be unresponsive to the competitive forces that can lead to low rates and high quality of service. Furthermore, no efforts had been made to change the “obligation to serve” requirement imposed by state regulators, which continued to encourage consolidated control over generation, transmission, and distribution systems in order to fulfill this obligation.

III. Diversification, Regionalism, And Deregulation

A. The 1940s-1970s: Cooperation and Regionalism

[39] Although no longer controlled by holding companies, the electric power industry did not experience significant structural changes in the decades following the enactment of PUHCA. To be sure, ownership diversified somewhat with the growth of cooperatives (usually distribution-oriented) and public utilities (state, municipal, or federal), generally oriented towards limited distribution and generation. Nonetheless, vertically integrated private power companies (mostly generation and transmission monopolies) continued to dominate the industry.

[40] The industry made efforts to self-regulate to encourage reliability and efficiency. In 1968, three years after a blackout of the Northeast, industry representatives formed the North American Electric Reliability Council (NERC). In order to promote the reliable supply of electricity, the NERC was created to review and monitor industry practices and compliance with industry and government guidelines. Currently composed of 10 regional reliability councils in the United States and Canada, NERC members include private, federal, cooperative, state, municipal, and provincial utilities, independent power producers, customer groups, and power marketers. Federal and state regulatory and industry observers attend meetings of the NERC’s Board of Trustees, consisting of 30 industry executives.

[41] Industry and regulatory efforts brought about increased cooperation through the development of transmission networks and utility interconnections to encourage efficiency, conservation, and reliability. Wholesale wheeling and pooling were two practices developed
to accomplish these ends. Wholesale wheeling occurs when a utility transmits electricity across its lines to a wholesale customer on behalf of another utility.\textsuperscript{76} Power pools are groups of utilities that coordinate efforts to share power in order to ensure efficient and reliable service, while minimizing generating costs. Pooling utilities share information on the amounts of electricity they generate and transmit, and allow each other access to this electricity when needed.\textsuperscript{77} Because electricity in a power pool is produced by generators varying in age, size, and fuel type, sharing these units allows utilities to cut costs; utilities with newer equipment receive access to new customers without having to build facilities to reach them, and utilities with older equipment can rely on the generators of the more reliable pool participants when their equipment breaks down.\textsuperscript{76}

\[42\] The NERC also established nationwide power "grids."\textsuperscript{79} A grid is a managed system of interconnected generators and transmitters, allowing dispatch of electricity as needed to meet the requirements of the customers connected to the grid at various points.\textsuperscript{80}

\[43\] These efforts, however, did not allow customers to choose their suppliers. In the 1970s, the dependence of customers on local utilities was illustrated when inflation and fuel shortages resulted in high costs and corresponding rate increases.\textsuperscript{81} Oil-fired generation was a major source of power. Because customers could not choose alternative power suppliers, utilities were not under pressure to adopt cost control measures. Furthermore, regulators viewed the existence of monopolies as undercutting the goals of reliability and efficiency because utilities did not have to offer dependable service to maintain customers.\textsuperscript{82}

Electric Utility Deregulation Bibliography


o Logan, John P. "21st Annual Georgetown University State
and Local Tax Institute Highlights New State Tax
Frontiers: Part One." 59 State Tax Review 12 (Jul 13,
1998).

o Madget, James "Confronting Deregulation." 69 American
School and University 34 (May 1997).

o Matterson, Gary C. "Electrical Energy Service Options:
Deregulation Presents New Opportunities." 28 Business
Officer 37 (June 1995).

o Nailen, Richard L. "Electric Utility Deregulation: 'Are
We There Yet?'" 51 Electrical Apparatus 41 (June 1998).

o Nation's Cities Weekly. "Electric Utility Deregulation
Issues Grow in Importance." 19 Nation's Cities Weekly 14
(Dec 16, 1996).

o Orenstein, Beth. "What is the State of Deregulation in
Pennsylvania Now?" 9 Eastern Pennsylvania Business
Journal 8 (Dec 14, 1998).

o Pounds, Nancy. "MEA Pursues Chugach as State's Utilities
Brace for Deregulation." 22 Alaska Journal of Commerce 2


o Worsham, James. "States Plug In to Deregulation: While Electricity Deregulation Is Being Debated in Congress, 16 States Have Approved Retail Competition." 86 Nation's Business 6 (April 1998).

-- Heather Bennett and Deanna L. High

[44] In Otter Tail Power Co. v. United States, 83 the Supreme Court suggested that competition among utilities would create some degree of choice for customers. In deciding an antitrust action brought by the federal government against an electric utility company that refused to comply with court-ordered wholesale wheeling, the Court described the FPC's primary purpose as encouraging cooperative efforts among interstate transmission companies. 84 The Court stated that ordered wheeling was not a power exclusively reserved to the FPC by the FPA, 85 and determined that the legislative intent underlying the FPA supported the use of wheeling as an effective and appropriate antitrust measure. There is nothing in the legislative history which reveals a purpose to insulate electric power companies from the operation of the antitrust laws. To the contrary, the history of Part II of the [FPA] indicates an overriding policy of maintaining competition to the maximum extent possible consistent with the public interest. 86

[45] Antitrust laws are designed to prevent unreasonable restraints on competition; the Court's holding that members of the electric industry can be subject to antitrust laws implicitly suggests that competition is a desired element of the electric power industry. Even after Otter Tail, however, the electric power industry continued to be vertically integrated and noncompetitive: all
three segments being owned by corporate entities insulated from competitive pressures.

B. National Energy Legislation in the Late 1970s

[46] In 1977, Congress created the Department of Energy (DOE) and replaced the FPC with the Federal Energy Regulatory Commission (FERC), under DOE control. 87 These administrative bodies consolidated federal oversight of the energy industry into one department, ostensibly to improve the effectiveness of regulatory efforts under legislation that would soon be passed. /88

[47] In 1978, that legislation was passed; 89 of most significance to the electric industry was the Public Utilities Regulatory Policy Act (PURPA). 90 PURPA encouraged state application of federal energy conservation (the nonwasteful use of energy) programs and federal fair utility rate-making standards through incentive programs. 91 PURPA also gave the FERC jurisdiction over the operation of power pools, and the ability to order interconnections, coordination efforts, and wheeling. PURPA required utilities to buy electric power from "private qualifying facilities" under long-term contracts at its "avoided cost rate." 92 This avoided cost rate was equivalent to what the utility would have spent to generate or purchase (for resale or transmission) that power itself. 93 Private qualifying facilities are independent (not owned by, or contractually obligated to, a previously established utility or power company) power generators that produce electricity using a specified fuel type, 94 and that meet FERC-established ownership, size, and efficiency criteria. 95 PURPA also required utilities to provide customers choosing other generation sources a reasonably priced backup supply of electricity.

[48] Although PURPA expressed increased federal concerns about monopolization, the legislation did not drastically affect the structure of the industry. Furthermore, while the FERC regulated the rates charged by utilities to their consumers, thereby preventing utilities from arbitrarily increasing rates, "add-ons" were allowed. Add-ons include charges added to customer bills in order to recover past capital investments and regulatory charges imposed for public policy reasons. 96 Because these charges were now specifically allowed by the federal government, add-ons gave utilities another opportunity to increase rates.


[49] Congress enacted the Energy Policy Act of 1992 (EPAct), establishing federal guidelines concerning equitable rates for consumers. 97 Furthering legislative goals of conservation and efficiency, the EPAct amended PURPA, recommending that state regulators utilize "integrated resource planning," that is, make more efficient use of the electric utilities' facilities and resources by analyzing demand and controlling the amount of energy generated to equalize demand and supply. 98 The most significant features of the EPAct, however, concerned the structure of the industry itself.

[50] The EPAct eliminated wholesale customer dependence on local utilities by allowing purchases from any available suppliers; 99 it mandated "equal access" for all to interstate transmission lines. Independent (i.e., not owned by, or under contractual obligations to, established utilities) wholesale electricity generator companies began to appear, taking advantage of the opportunity to offer generating services without having to own transmission capabilities. 100 Furthermore, the EPAct authorized the FERC to order utilities to transmit power from these independent generators if needed. 101

[51] The EPAct also extended PURPA's qualifying facility concept by exempting independent
generators qualifying as exempt wholesale generators (EWG) from PUHCA requirements for wholesale sales. Congress intended EWGs to compete with the established utilities, thereby forcing them to lower rates. Dedicated solely to electricity generation, EWGs benefit consumers by competing with the generator segment of established utilities; EWGs can use the utilities' transmission lines at cost to reach wholesale customers. Consequently, those customers with access to EWGs were no longer captives of existing utilities.

[52] The EPAct gave the FERC the authority to order utilities transmitting across state lines to provide transmission for wholesale purchases by retail electric utilities, including entities not subject to the FERC's general FPA jurisdiction, such as municipalities and rural electric cooperatives. Under the FPA, as amended by the EPAct, a retail electric utility denied transmission service by a transmission company can seek an FERC order compelling the latter to provide the service.

[53] Despite the broad authority granted by the EPAct, the FERC could not adequately respond to the volume of complaints it received concerning denial of transmission service. Investigating the electric transmission industry, the FERC concluded that utilities' refusal to provide transmission service to all interested third parties warranted an industrywide remedy. The FERC proposed open access rules in 1995:

We find that utilities owning or controlling transmission facilities possess substantial market power; that, as profit maximizing firms, they have and will continue to exercise that market power in order to maintain and increase market share, and will thus deny their wholesale customers access to competitively priced electric generation; and that these unduly discriminatory practices will deny consumers the substantial benefits of lower electricity prices.

[54] The FERC issued Orders No. 888 and No. 889 on April 24, 1996. The two rules required all utilities to offer open transmission service, participate in an Open Access Same-Time Information System (OASIS), and "functionally unbundle," that is, separate wholesale generation sales efforts (or "power marketing") from transmission operations. Under Order No. 888, each utility must provide transmission service to all eligible customers on a basis comparable to that which it provides transmission service for its established customers. Order No. 889 requires that utilities that provide open access transmission service establish, maintain, and operate an OASIS information network. Utilities post available transmission capacity on OASIS, and customers can make reservations for the use of that capacity; OASIS provides information to all customers, ensuring that utilities cannot covertly use their ownership,
operation, or control of transmission to limit access. \(^{109}\)

[55] The FERC's goal was to force the unbundling of the electric industry, relying on increased competition to lower the cost of electricity for customers. \(^{110}\) By the time FERC issued Orders No. 888 and No. 889, most state regulators and legislatures agreed with these goals, and had begun taking their own steps toward what would become known as deregulation.

**FOOTNOTES**

3. Ibid.
7. Ibid. p. 67.
8. Ibid. p. 61.
9. Ibid. p. 60.
10. Ibid. p. 67.
11. Ibid.
14. Ibid.
15. Ibid. pp. 59, 65.
16. Quantity discounting, a price reduction for large-volume users, is profitable for companies because delivering a large volume to one consumer is less expensive for the company than delivering the same aggregate amount to many small consumers. Bradley, pp. 59, 61.
17. Robert L. Swartwout, "Current Utility Regulatory Practice from a Historical Perspective," 32
18 Ibid. p. 299.

19 Ibid. pp. 299-300. Chicago had 45 electricity companies between 1882-1905 -- only one was left standing in 1905. Id.


22 Ibid.


24 Bradley, pp. 59, 67, citing Burton Behling, Competition and Monopoly in Public Utility Industries 23 (1938) at 74-75.


28 Bradley, pp. 59, 81.


33 Bradley, pp. 59, 83.


40 See discussion supra section I(B).

41 The fair value doctrine had its origins in Justice Harlan's dictum in Smyth v. Ames, 169 U.S. 466 (1898). While Harlan enumerated six methods of evaluating rates, id., 546-47, four were subsequently rejected. Knoxvile v. Knoxville Water Co., 212 U.S. 1 (1909); Minnesota Rate Cases, 230 U.S. 352 (1913); Missouri ex. rel. Southwestern Bell Tel. Co. v. Missouri Pub. Serv. Comm'n, 262 U.S. 276 (1923); Brooklyn Union Gas Co. v. Prendergast, 7 F.2d 628 (1925). The two methods left were: (1) original cost of construction and amounts spent on lasting improvements; and (2) present construction costs.


43 Bradley, pp. 59, 84.


45 PUHCA section 1(b)(2), 49 Stat. at 804.

46 PUHCA section 1(b)(1), 49 Stat. at 803.

47 PUHCA section 2(a)(7), 49 Stat. at 806.

49 PUHCA section 13(a), 49 Stat. at 825.

50 PUHCA section 11(b), 49 Stat. at 820.

51 Electric Bond & Share Co. v. Securities and Exchange Comm’n, 303 U.S. 419 (1938)(holding that the PUHCA could require holding companies to register with the SEC). See also American Power & Light Co. v. Securities and Exchange Comm’n, 329 U.S. 90 (1946)(holding that the PUHCA did not unconstitutionally delegate power to the legislature).


53 Bradley, pp. 59, 86.

54 FPA section 201(a), 49 Stat. at 847.

55 FPA section 202(e), 49 Stat. at 849.

56 FPA section 203(a), 49 Stat. at 850.

57 FPA section 202(a), 49 Stat. at 848.

58 FPA section 205(a), 49 Stat. at 851; 301(a), 49 Stat. at 854; 302(a), 49 Stat. at 855.

59 FPA section 207, 49 Stat. at 853.

60 Proposed sections of the FPA that would have resulted in federal intrusion into this area were not enacted. For discussion see Justice Stewart’s opinion, concurring in part and dissenting in part, in Otter Tail Power Co. v. United States, 410 U.S. 366, 384-87 (1973).


64 Id. section 11, 48 Stat. at 65.


66 Bradley, pp. 59, 96.


68 Id. at 733.
69 Id. at 735.

70 See discussion supra at section I(B).


77 Phillips, p. 640.


80 "Electric Restructuring Glossary of Terms," naturalgas.org/history.htm.


84 Id., 372-75.

85 Id., 375-77.

86 Id., 373-74.

88 Phillips, p. 655.

89 Other legislation affecting the industry enacted in 1978 included the National Energy Conservation Policy Act (energy conservation and efficiency, utility safety standards) and the Energy Tax Act (incentives to switch from foreign oil).


91 A quarter of a million dollars per year was available for research and development grants for state agencies. Id.

92 Id., section 210.

93 Id.

94 The generator must be a cogenerator or fueled by renewable energy sources, such as the wind, solar, or geothermal. Phillips, p. 658. Cogeneration is the use of the heat generated after the initial generating cycle; because the electricity is being generated from electricity being generated, the process is less expensive and a more efficient use of energy. Id., 479, n.93 (1993), citing American Elec. Power Serv. Corp. v. FERC, 675 F.2d 1226 (D.C. Cir. 1982).

95 “Electric Restructuring Glossary of Terms,” naturalgas.org/history.htm.


98 PURPA, as amended by EPAct, sections 111(d)(7) through (10).


100 These generators are also known as Non-Utility Generators, or NUGs. Charles Tronsberg, "Disaster Planning Remains Critical as Deregulation Drives Ahead," Power Engineering, No. 7, Vol. 101 (July 1997), p. 46.

EWGs can be entities more than twice removed from distributors they own.

FPA sections 210-212.


END OF FOOTNOTES