

Public Utility Holding Company Act of 1935: 1935-1992

January 1993

Energy Information Administration
Office of the Administrator
U.S. Department of Energy
Washington, DC 20585

Preface

This special report was prepared by the Energy Information Administration (EIA) as part of its legislated responsibility to provide analysis of developments affecting energy production and demand under section 205(a)(2) of the Department of Energy Organization Act of 1977 (Public Law 95--91).

This report provides an economic and legislative history and analysis of the Public Utilities Holding Company Act (PUHCA) of 1935. This Act was substantially amended for the first time in 1992 by passage of the Energy Policy Act (EPACT). The report also includes a discussion of the issues which led to the amendment of PUHCA and projections of the impact of these changes on the electric industry. The report should be of use to

Federal and State regulators, trade associations, electric utilities, independent power producers, as well as decisionmakers in Congress and the Administration.

Principal author of the report is Dr. Calvin A. Kent, Administrator of the EIA. Substantial contributions to Chapter 6 were provided by Brian Simons. Lawrence Klur provided expert assistance with legal issues. The manuscript was prepared by Carol Bingham and Diane Good, and edited by Dolores McCadney. Questions should be directed to the primary author at (202) 586--4361.

1. Introduction

This report presents an economic and legislative history and analysis of the Public Utility Holding Company Act of 1935 (PUHCA). That Act was born of events occurring during the Great Depression and continued with only minor alterations until substantially reformed by the Energy Policy Act (EPACT) of 1992. The debate which led to this reform reflects the rapid and dynamic changes which took place in the structure of the electric utilities industry over the past two decades. Those changes are continuing and may accelerate because of EPACT. The reader of this report becomes aware of the impact of the legislation in shaping and determining the way in which an industry does business and develops. The 1935 Act shaped the electric industry for over half a century by creating the legal parameters within which it was allowed to develop. By changing the legal framework EPACT will alter the course which the industry will take. This report and its analysis not only portray the reasons change transpired, but allow the reader to see the emerging issues to which the industry and those who regulate it must respond.

Reform of PUHCA was proposed in President George Bush's National Energy Strategy (NES) of 1991. But this was not the first plea for change. During the energy crises of the 1970's and 1980's, there were suggestions for either reform or outright repeal. In 1989, Louisiana's Senator Bennett Johnston suggested legislation which would have modified the Act to allow utilities to participate in independent power production without being subject to the Act's restrictions. There had been a rapid growth during the 1980's of electrical generation by firms which were not utilities subject to rate regulation. These independent producers were often cogenerators who produced electricity as a byproduct of producing steam for industrial purposes. Other independent producers used non--traditional fuels such as solar, wind, and biomass. Generation from these sources was encouraged under provisions of the Public Utilities Regulatory Policies Act of 1978. PUHCA in effect excluded utilities from participating in either type of generation except under limited circumstances.

Following the Persian Gulf War (1990--1991), both the Senate and House passed differing versions of PUHCA reform as part of their comprehensive energy packages. These bills were compromised in conference committee with the result being an overhaul of the 1935 Act's provisions regulating utility holding companies to allow for utilities to own independent power producers without running afoul of the Act. Many see this action as being the most significant development in the electric industry of the past half century, while others view it as a major step backwards toward a less reliable system.

Following this Introduction, this paper divides itself in chapters. The first traces the background and history which led to the enactment of PUHCA in 1935. Recorded in this section is how the utility holding companies grew and developed between the turn of the century and the passage of the 1935 Act, the advantages and disadvantages of the holding company form of organization.

The third Chapter is an analysis of PUHCA. A discussion of the abuses of the holding companies prior to the passage of the Act, and the results of the investigations which led to the passage of that Act are detailed. This Act was unique because it allowed for Federal regulation of an industry whose product, while consumed and distributed at the local level, was produced and transmitted by large interstate holding companies. This chapter summarizes the arguments of the debate favoring and opposing the passage of the Act, a summary of the provisions of the Act, and the changes in the structure of public utility holding companies which resulted from the passage of the Act.

The fourth Chapter deals with the debate over PUHCA which occurred during the 1970's and early 1980's. The arguments given both for and against the repeal or reformation of the Act are addressed and the reform legislation proposed is evaluated. The demands for modification during the 1970's came from the deteriorating financial position of many utilities during this period.

Utilities sought to diversify into nonutility lines of business as a means to improve their declining profits. During the 1980's, utilities no longer sought freedom from PUHCA to diversify but to exploit the positive experience of independent power producers under the Public Utilities Regulatory Policies Act (PURPA) of 1978. In both instances, the Act was seen as prohibiting the utilities from expansion which would have improved their bottom line.

The fifth Chapter is an investigation of the 1989 proposal by Senator Bennett Johnston to modify the Act by allowing public utility holding companies to diversify into independent power production. This proposed legislation led directly to PUHCA reform being a part of EPACT. Also included is an evaluation of the testimony on PUHCA reform given at Department of Energy public hearings across the Nation in the preparation of its interim report on the NES. Particular attention is given to questions raised as to whether PUHCA reform would reduce the ability of State regulatory commissions to po-

lice utility practices which could be detrimental to consumer interests.

The sixth Chapter is an analysis of the economic issues involved in modification of PUHCA. These issues emerged from both the testimony and the literature debating reform or repeal. The issues evaluated include operational reliability, financial reliability, system reliability, self--dealing and cross subsidization, transmission access, and bypass. These are all important and complex issues with no definitive resolution possible on any of them.

The final Chapter includes a discussion of the legislative history of EPACT as it pertains to the reform of PUHCA. The provisions of EPACT as they relate to a new class of independent producers called exempt wholesale generators (EWG's) are detailed along with the provision for opening transmission access. The chapter concludes with a forecast for the independent power sector of the electric industry now that EPACT has become law.

2. Background To Passage of The PUHCA

What is a Public Utility Holding Company?

The term “holding company,” in common practice, is used to describe a variety of industrial organizations. As the term was used in the 1930's it referred to:

A corporation formed for the express purpose of controlling other corporations by the ownership of a majority of their voting capital stock. In common usage, the term is applied to any corporation which does in fact control other corporations commonly referred to as subsidiaries.¹

There are two general forms of holding companies: the first is one which derives its profits solely from the investments in the securities of its subsidiaries. These are called “investment holding companies.” The second type, which may derive profits from investment securities, also receives profits from transactions with the subsidiaries and is called a “management holding company.” The second type describes the public utility holding companies regulated by PUHCA.

The Public Utility Holding Company Act of 1935 defines specifically what a public utility holding company is:

Any company which directly or indirectly owns, controls, or holds with power to vote, 10 percentum or more of the outstanding voting securities of a public--utility holding company or of a company which is a holding company by virtue of this clause... unless the [Securities and Exchange] Commission declares such a company not to be a holding company.... [Any] person which the Commission determines, after notice of an opportunity for hearing, directly or indirectly to exercise (ei-

ther alone or pursuant to an arrangement or understanding with one or more other persons) such a controlling influence over the management or policies of any public--utility or holding company as to make it necessary or appropriate in the public interest or for the protection of investors or consumers that such person be subject to the obligations, duties, and liabilities imposed in this title upon holding companies.²

Put simply, a public utility holding company exercises a controlling interest in another company which either directly or indirectly controls an operating public utility. During the 1930's, four types of public utility companies existed and are described as follows:

- The diversified investment type. This type, owned utilities which generated and distributed electricity over a wide geographical area but did not have contiguous territories and were generally not interconnected.
- The large connected type. These holding companies were also widespread geographically; in almost all instances the operating companies within the large connected type were interconnected with each other. Like the diversified investment type, the large connected type of utility holding companies primarily served small-- and medium--sized communities.
- The large city type. This type of holding company was established primarily to serve large cities and to consolidate service areas within the large city which in the past had been served by many small generating and distribution entities.

¹ William E. Mosher and Finla G. Crawford, *Public Utility Regulation*, New York: Harper and Brothers, 1933, p. 322.

² Public Utility Act of 1935, Public Law No. 333, Sec. 2(a)(7)(1935).

- The super holding company. This type of holding company was established to hold other holding companies which could have been any one of the three types. During the 1920's and 1930's, most of the concern was with the super holding company as detailed later in this report.

3

Reasons for Establishing a Public Utility Holding Company System

The literature of the period discusses six reasons or benefits to be derived from the establishment of public utility holding companies.

First, holding companies were an effective method of centralized control providing operating companies with a "common object."⁴ Common objects which could be more effectively achieved under the holding company organization included the following:

- Compliance with the requirements of State laws and the carrying out of related activities which were not authorized by the charter granted to a particular operating company by a State.
- Certain benefits under the Federal tax laws where losses incurred by one company could be used to offset the profits earned by another within the holding company structure. By this method, total taxes payable were reduced.
- Allowing operating companies to embark on new and uncertain enterprises without exposing the holding company to any greater loss beyond the amount of its own investment. This reduced the risk and encouraged the expansion of utility services.

Second, there existed a perpetuation of control by the transferring of the shares of a subsidiary company to the holding company.

When the stock of a subsidiary company was acquired by a holding company, this ensured that the holding company would continue to operate even in the case of the death of the major shareholders of the subsidiary company. This was a particularly important advantage when many of the generating and distribution companies were small family--owned enterprises, as was the case in the 1920's and 1930's. The holding company ensured the continuation of the utility even after the death of its original founder.

Third, control of subsidiaries was achieved with a minimum outlay of capital.

The holding company form of business organization allowed for what was called "pyramiding." Since holding companies found it necessary to acquire only a relatively small percentage of the shares of the operating companies in order to effectively control them, the holding company form of organization allowed for considerable financial leverage.

Advocates of this leveraging system claimed there were benefits from pyramiding for utility customers in that this pyramiding "facilitated the development of large scale operations such as have played so considerable a part in decreasing production costs in the United States."⁵ Why was it that holding companies could lower production costs for electricity? These reasons were frequently given:

- The replacement of small, obsolete, inefficient production units by larger and more efficient ones
- The interchange of equipment and facilities among the various operating companies
- The standardization of equipment and facilities among the operating units
- The improved ability to obtain financing

³ G. Lloyd Wilson, James M. Herring, and Roland B. Eutsler, *Public Utility Regulation*, New York: McGraw Hill, 1938, pp. 266--267.

⁴ Mosher and Crawford, pp. 322--324.

⁵ Mosher and Crawford, p. 324.

- The centralized purchasing of supplies and materials for all operating companies
- The centralization of insurance and the handling of claims
- The ability to mobilize more experienced labor and move it as needed among operating companies
- The more economical use of specialists and executives who could serve more than one company
- The greater efficiency in the use of fuel.⁶

The result was perceived to be more uniform, continuous, and dependable service of a higher quality.

Fourth, costs of obtaining financial capital were reduced due to improved financial and technical purposes.

Financial backing was provided by the holding company which opened new financial markets to the operating utility. The individual utility may have had nothing behind its securities other than its own earning power as a utility. Since it lacked the diversity of resources that a holding company possesses, the utility would be less attractive to prospective investors.⁷

By diversifying risks, the holding company provided greater financial security for the operating companies under its umbrella. This not only allowed the operating companies access to financial markets in which they might have otherwise been excluded, but also permitted them to obtain capital at a lower cost. When the holding company provided temporary financing for the current needs of the operating utility, it freed the funds of the operating utility for use in other ways. The holding company may have chosen to pay the bills for the operating company for materials and supplies leaving the operating companies with significant amounts of funding representing earned surplus. While this may have been a benefit to the operating utility, as detailed in the next

chapter, this also was a major source of abuse by the holding companies which ultimately led to the passage of the 1935 PUHCA.

The holding company could also financially assist the operating company by providing temporary funds when market conditions were not appropriate for the sale of the operating company's shares to the general public. This allowed the holding company to insulate the operating company from having to sell securities when market conditions were poor. Particularly during the 1930's, this type of financing was an effective way to allow operating companies to wait until interest rates went down, or the stock market rallied before the selling of senior securities.

Fifth, technical services were provided.⁸

The centralization allowed by the holding company structure permitted the engineering, construction, and managerial functions to be furnished to the various operating companies by a smaller and more competent staff than would have been practical if the operating companies had to provide these services internally. The centralized staff replaced many local staffs with the centralized "experts" rotating from one operating company to another. Since the specialized staff could be fully employed, greater efficiency and labor use were achieved.

Also by providing centralized engineering services, the holding company could provide experienced staffs to the operating utility to do temporary work rather than forcing the operating company to hire either permanent personnel or consultants when needed only on a temporary basis. Such a result was also true in the area of management services.

Among the various services which could be centralized and provided at a lower cost due to economies of scale were purchasing, appliance merchandising, legal services, accounting services, advertising, and sale of stock or other securities.

Sixth, better services were developed with a broadening of the consumption of the utility's product.

⁶ Wilson, Herring, and Eutsler, p. 260; Herman H. Trachsel, *Public Utility Regulation*, Chicago, IL: Richard D. Irwin, 1947, p. 377.

⁷ Trachsel, pp. 378--380; Wilson, Herring, and Eutsler, pp. 260--262.

⁸ Trachsel, p. 376; Wilson, Herring, and Eutsler, pp. 259--260.

This conclusion was reached by the Federal Trade Commission which listed these benefits accruing to utility customers by the development of holding companies:

- The wide extension of services, particularly to many small communities, suburban areas, and isolated firms and industrial operations. This was particularly true for electric power and natural gas utilities.
- Improved service dependability. Through the holding company network, the growing demands of customers could be met with little or no delay. Surplus capacity could be devoted where it was needed and the efficiency of obtaining new investments, along with the greater skill and construction operation of the holding company utilities, resulted in improved efficiency.
- The intensive methods designed primarily to sell appliances increased the consumers' total consumption of the utility product. It also had the effect of improving the service to the customer and reducing the customer's costs due to the efficiencies of a larger scale of operation.
- Declining prices to the consumers which had occurred almost yearly since the turn of century.⁹

One set of economists writing during this period did not contend that the utility holding company structure was the sole cause of these benefits, but concluded:

...even though they have not been wholly responsible for the initiation of these policies that have rounded to the benefit of the ultimate consumers, at least they have not stood in the way of their adoption.¹⁰

Others have not been as impressed with the results of the holding company activities. The Securities and Ex-

change Commission in its review of the period felt that the benefits all occurred during the 1920's, and by the 1930's the dispersed acquisition of the holding companies did not result in any economies of scale in operations or other efficiencies.¹¹

Growth of Holding Companies

It is not surprising that due to the advantages detailed above, the public utility holding company gained control of more and more operating utilities during the 1920's and the 1930's. Use of the holding company structure allowed for the inflating of asset values through pyramiding, as described later. This would not have been possible under a simple merger where the assets of the operating company were absorbed and the operating companies ceased to exist as legal entities. In 1924, 74.6 percent of all electricity generated in the United States was produced by operating companies which were parts of holding companies; by 1930, 90 percent of all operating companies were controlled by 19 holding companies. In 1927, there were 828 changes in ownership; 1928--—893 changes in ownership; 1929--—672 changes in ownership; and in 1930--—195 changes in ownership. While some of these may have been nothing more than reorganizations of operating companies, most involved holding companies gaining control over previously independent operating units.¹²

How extensive the control of these holding companies was can be shown by these examples: Middle--West Utilities Company owned operating companies serving 4,741 communities in 30 States and Canada, supplying electricity to 1.4 million customers and gas to 252,000 customers. The Associated Gas and Electric Company in 1930 supplied 1.43 million customers in 24 States, Canada, and the Philippines. Standard Gas and Electric Company operated in 20 States serving 1,648 communities. City Service Company controlled more than 65 utility operating companies in more than 1,000 communities in 20 States and Canada and served between 800,000 and 900,000 customers.¹³

⁹ Summary Report of the Federal Trade Commission on Utility Corporations, Senate Document 92, 70th Congress, 1st Session, pp. 840--841.

¹⁰ Wilson, Herring, and Eutsler, 1938, p. 265.

¹¹ U.S. Securities and Exchange Commission, Statement Concerning Proposals to Amend or Repeal the Public Utility Holding Company Act of 1935, June 1982, pp. 5--7.

¹² Mosher and Crawford, p. 327.

¹³ Mosher and Crawford, pp. 330--331.

The strength of the holding companies was intensified by the existence of interlocking directorates. Individuals would serve on the boards of more than one of the holding companies. This provided a means of concerted action. The Federal Power Commission commented that:

48 major projects fall under the control of 10 groups serving 12,487 communities with a population of more than 42 million. The community of interest between the 10 groups is evidenced by the

fact that 19 directors or officers were directors in at least 2 groups.¹⁴

It was this high level of concentration and control, as well as the collapse of the utility holding companies and the poor performance of the operating companies during the Great Depression, which ultimately led to demands for their regulation.

¹⁴ Federal Power Commission, *Holding Company Control of Licenses*, Washington, 1933, p. ix.

3. Passage and Provisions Of The Public Utility Holding Company Act Of 1935

Problems With Utility Holding Companies During the 1920's--1930's

The highly concentrated nature of the public utilities business, along with the collapse of many of the utility empires during the Great Depression led to investigations and ultimately demands for stern regulation of public utility holding companies. Proposed “solutions” ranged all the way from legislation seeking to socialize the utilities by turning them into Government entities, the prohibition of operating utilities from being included as part of a holding company structure, the regulation of the stocks issued by utility holding companies, and the requirement that the holding companies produce more complete and accurate data on their operations. This chapter investigates the problems of regulating public utility holding companies during the 1930's, the abuses which resulted from public utility holding companies, a discussion of the events leading to the passage of the 1935 Act, and an evaluation of the effects of that Act.

Difficulty in Regulation

Prior to 1935, it was extremely difficult for the public utility holding companies to be effectively regulated. This lack of regulation was due primarily to the “difference of two sovereignties,” State and Federal, powers which are mutually exclusive, each being predominant in the appropriate sphere.¹⁵

Prior to 1935, the regulation of electric utilities had been left almost exclusively to the States because the operating utilities were primarily local in nature. In fact, some States had even left regulation in the hands of municipal governments since in many areas it was unusual for an

operating utility to service more than one municipality. But as increased efficiency in electricity generation took place, the service territories of the operating utilities began to expand. Since the holding companies controlled the operating companies and the holding companies were engaged in interstate commerce, it was difficult, if not impossible, for the State public utility commissions to effectively regulate the operating utilities because of Federal preemption. The situation was complicated by decisions of the Supreme Court which restricted the ability of States to regulate holding companies which were engaged in interstate commerce.¹⁶ The effect of these decisions and others was to establish that the transmission of gas or electricity from one State to another State was interstate commerce and that a State could not directly regulate or burden that commerce. (The regulation of interstate commerce was the exclusive purview of the Legislative Branch of Government, according to Constitutional principles.)

These decisions applied to activities of holding companies relating to the transmission of electricity or of gas across State lines. The States and municipalities were still free to regulate retail rates within State boundaries. But since they had no jurisdiction over the costs of transmitting interstate power or gas, the State utility commissions and municipal governments naturally lacked the necessary information for effective regulation.

Technically, the lack of adequate jurisdiction was not the only reason why States and localities were unable to effectively regulate. These regulatory agencies simply did not have the resources to do the job,¹⁷ lacking the money, experience, and capable personnel which were needed to cope with the large holding companies. The holding companies had acquired highly experienced staffs which

¹⁵ Wilson, Herring, and Eutsler, p. 237.

¹⁶ *Pennsylvania Gas Company v. Public Service Commission*, 252 U.S. 23 and *Public Utilities Commission v. Landon*, 249 U.S. 236.

¹⁷ Trachsel, p. 394.

were very familiar with the legal, engineering, and financial aspects of the firm and the industries. This expertise allowed them to be effective opponents of any policies which the State commissions would attempt to defend in court. Even with the appropriate legislation extending their jurisdiction to regulate the holding companies, it is unlikely that the States and localities would have done so effectively. With the limited resources which the commissions had, the holding companies would simply outspend them in court and the legal system would work to the holding companies' advantage. As one historian noted, "the State [c]ommissions have insufficient appropriations and staffs for competent regulation of the local utilities, and it is unlikely that they could cope with the much larger task of regulating their holding companies."¹⁸

Abuses and the Holding Company Structure

Holding companies were established through the process of pyramiding. Pyramiding, as explained earlier, was defined as the "inter-position between the holding companies and the operating companies of one or more subholding companies."¹⁹ At the bottom of the pyramid would be the operating utilities which were actually generating and distributing electricity. Control of the operating company was gained by the holding companies which through various methods were able to purchase a controlling interest in the operating companies. These holding companies in turn were bought by other holding companies until many "levels" were added to the holding companies' structure.

Two reasons were given for pyramiding. The first was to reduce the amount of funds that were needed to gain control of operating utilities. Second was to dramatically increase the amount of income which would occur to the holding company at the apex of the pyramid. This process has been described earlier and is known as "leveraging." (For a discussion see U.S. Securities and Exchange Commission, Statement Concerning Proposals to Amend or Repeal the Public Utility Holding Company Act of 1935, June 2, 1982, pp. 6--12).

Leveraging increases as the ratio of debt to equity to capitalize a firm increases. Pyramiding multiplies the leveraging by advancing it to additional levels of a corporate structure.

The pyramiding process allowed the holding companies to make extremely large gains on very small increases in operating company profits. It was this unique feature of the pyramid which made it so highly desirable. For example, a 5--percent increase in the value of the assets of an operating company which was part of a 4--tiered public holding company pyramid could lead to increases in value of the assets of the holding company which was many times the increase in operating company profits.

For example assume that there are 3 operating companies, each worth \$10 million, which are capitalized 50 percent by bonds, 25 percent by preferred nonvoting shares (which earn a fixed return), and 25 percent by common or voting stock. Control of the \$30 million of assets of the three operating companies can then be purchased outright by an expenditure of \$7.5 million by a first--tier holding company. If the first--tier holding company is capitalized as were the operating companies (50 percent debt, 25 percent preferred shares, 25 percent voting shares), then control of the first--level holding company could be acquired by a second--level holding company for \$1.8 million, an amount sufficient to purchase all of the voting shares. That second--level holding company in turn could be purchased by a third--level holding company for \$468,000. The fourth--level holding company could purchase control in the third--level holding company for \$117,187. This small expenditure by the fourth--level holding company could then control the \$30 million worth of operating utility assets.

If the value of the assets of the three operating utilities goes up by 5 percent (\$1.5 million), all of the increase accrues to the shareholders of the voting stock of the highest level holding company resulting in an increase in the value of the fourth--level holding company shares equal to almost 13 times the original investment. Pyramiding of this magnitude was the rule rather than the exception. The Securities and Exchange Commission (SEC) noted that usually five to six tiers of holding companies were placed on top of the operating companies. In some cases

18 Trachsel, p. 394.

19 Trachsel, p. 385; Wilson, Herring, and Eutsler, p. 268.

the figure was as high as twelve.²⁰ In its report, the Federal Trade Commission (FTC) indicated that one 5 tier holding company produced a return of 295 percent to the top holding company on returns which averaged only 5 percent for the operating companies.²¹

The Federal Trade Commission in its report summarized the situation as follows.

“The highly pyramided holding company group represents the holding company system at its worst. It is bad that it allows 1 or 2 individuals or a small coterie of capitalists, to control arbitrarily enormous amounts of investments supplied by many people.... Finding the exaggerated importance to the top holding company of comparatively small differences in the profits of the operating companies greatly enhances the incentive of the holding company to increase such profits.”²²

The result of pyramiding was that the top level holding company's principal interest was in the increased profits of the operating companies. The holding companies were remote from the customers served by the operating companies. Customer service and reliability were secondary considerations. In addition, consumers often paid rates which were felt to be unfair because the rate holders were, in effect, subsidizing speculative ventures. This occurred because any gain in revenues from higher rates received by the operating company resulted in increases in value for the holding company stock which was several times as great. The higher the rates, the greater the run-up in speculative values.

Writeup of Securities and Inflation of Capital Assets

It follows from the practice of pyramiding that the inflation of and writeup of securities became comparatively easy, particularly in an age where securities regulation was in its infancy. The FTC in its investigation of the 18 largest holding companies, their 42 subholding companies, and the 91 operating companies which they controlled found combined assets amounting to \$8.5

billion.²³ The FTC found that these assets were overvalued by at least \$1.5 billion. The FTC report indicated three ways by which these writeups were accomplished and the inflated values were achieved: (1) Inflated construction costs; (2) Inflated values of the shares of subholding companies and operating companies due to the internal sale of those shares at above market prices; (3) Writeups of values of the consolidated company based upon optimistic judgments of the economies that would be achieved by the consolidated company with a resulting overestimation of the potential earning power of the holding company.

These writeups reflected no real value to the investors whose shares were of questionable value and whose earning power had been vastly inflated. Indirectly, the ratepayers were also harmed as these inflated values would often go undetected in the determination of the utilities rate base. The primary beneficiaries were the holders of the shares in the apex holding company.

Intercompany Financial Practices and Transactions

The lack of effective regulation made it possible for holding companies to abuse intercompany financial practices and transactions. In theory, the holding companies were supposed to provide additional stability to the operating companies, but it was contended that the early 1930's holding companies were actually milking the operating companies in three ways:

1. The operating utility would borrow money on its good credit and then lend all or part of the proceeds to the holding company receiving only an unsecured note from the holding company.
2. The holding company would lend money to the operating company at interest rates well above what the operating company could have obtained in the market.

20 SEC PUHCA Statement, p. 10

21 FTC Report on Utility Corporations, Part 72A, pp. 162--166.

22 FTC Report on Utility Corporations, Part 72a, p. 860.

23 FTC Report on Utility Corporations, Part 72a, pp. 298--299.

3. The operating company would be forced to pay unjustifiably high dividends to the holding companies.²⁴

It was the feeling of at least one expert that, had the Federal government not stepped in, the holding companies would have literally milked the operating companies dry, severely curtailing the ability to supply customers with reliable power.²⁵

Excessive Fees and Services

The holding companies also abused the operating companies by levying upon them excessive fees for the services the holding company rendered.²⁶ The operating utility would receive engineering, construction, management, and financial services from the holding company's centralized staff or from another corporation within the holding company. For the services, fees were levied which were either lump sums, a percentage of gross income, a percentage of gross sales, a percentage of gross construction costs, or special fees negotiated for special services which the operating company received.

The fee structure varied with the type of services. Management service contracts usually carried a lump sum fee or were based on gross sales or gross income. Construction and engineering services were based on the percentage of gross construction costs.²⁷ The holding companies were in essence monopsonists (single buyers) so far as the operating companies were concerned. Since the operating company was controlled by the holding company, it could not seek the lowest cost purveyors for the services. While the general standard was that these fees should not exceed costs plus a fair margin of profit, the FTC found that in the past, many payments for services rendered had been exorbitant when judged by this standard.²⁸ Consumers were adversely affected in that these exorbitant fees charged to the utility companies had to be covered by the rates the operating companies charged to their customers.

24 Wilson, Herring, and Eutsler, p. 272.

25 Trachsel, p. 363.

26 See PUHCA Statement, p. 13.

27 Wilson, Herring, and Eutsler, pp. 264--265.

28 FTC Report on Utility Corporations, pp. 466--467.

29 SEC PUHCA Statement, p. 13.

30 Wilson, Herring, and Eutsler, p. 278.

31 Wilson, Herring, and Eutsler, p. 279.

Competition for Control of Strategic Operating Companies

Because of the advantages of pyramiding and the use of leverage, the holding companies sought to secure their market positions by acquiring strategic operating companies as well as absorbing other holding company groups.²⁹ With franchise territories outside of major cities often poorly defined, the holding companies sought to consolidate their position by absorbing potential competitors. The competition among the holding companies for other operating companies and other integrated groups caused a rise in the price of the securities of the companies being sought. This led to extremely high prices for those securities and many operating companies and holding companies were acquired at prices well above the value of the company.³⁰ The holding company had a further motive to buy its competitors, and that was to avoid the cut--throat competition which could result if potential competitors were not acquired.

In order to purchase the operating companies or the integrated holding companies groups, the holding companies would often turn to investment bankers. The buying and selling of holding company securities was a principal activity for many investment banking houses.³¹ The investment banking companies were interested in making a profit on their transactions. Since the underwriting fees were higher for bonds, they encouraged the use of debt financing and the issuance of fixed return preference shares rather than using equity to raise capital. This further increased financial instability of the holding companies by driving up their debt to equity ratios and saddling them with significant fixed costs for interest payments on bonds and preference shares.

Summary of Holding Company Abuses

What permitted the growth of the utility holding companies was basically the lack of effective regulation. States were either unwilling or unable to regulate the large interstate holding companies that came to dominate the utility business after the turn of the century. The holding company approach led to pyramiding. The result of pyramiding was the extensive use of bonds and preference shares which paid fixed returns as a means of financing the acquisition of operating companies and other holding companies. This growth in debt and the fixed interest payments required to service the debt made the holding companies more vulnerable to the business cycle.

Holding companies were also felt to have abused the system by the use of questionable intercompany transactions and the charging of exorbitant service fees to subsidiary companies. These excessive fees (e.g., construction charges) were then capitalized into the accounts of the holding company which in turn inflated the operating utility's book value and caused the rates charged to the customers to increase. The result was unrealistic prices for the holding company securities. The desire of the holding companies to continue to acquire operating utilities and other holding companies caused them to purchase these entities at prices well above the market value.

Federal Regulation Prior to the 1935 Act

The problems associated with the public utility holding companies aroused widespread public dissatisfaction. In 1926 alone, there were more than a thousand utility mergers.³² The only Federal regulation of utilities at that time was the Federal Power Act (FPA) of 1920. This law allowed the Federal Power Commission to control the

licensing of hydroelectric power projects along the navigable waters of the United States.³³ Less than half of the electricity generated in the United States came from hydroelectric dams at the date of enactment. This law was viewed as being ineffective due to its limited scope.³⁴ In 1927, the Federal Trade Commission issued a report which found no conclusive evidence of the existence of a "power trust" and asserted that the power company consolidations which were taking place were necessary in order to raise capital, reduce fixed costs, and provide adequate returns to investors.³⁵ That report so inflamed Senator Thomas J. Walsh of Montana that he demanded an entirely new study be conducted by an independent committee. This suggestion was vigorously opposed by the industry. A compromise resolution was passed by the Senate which called for a new FTC investigation with widespread public participation in the investigation. This provision, along with the change in FTC personnel, ensured that the new investigation would not be another "whitewash."³⁶ This investigation was conducted over a 7--year period involving thousands of pages of testimony and meticulous analysis.³⁷ It was the opinion of the report that there were five aspects of the holding company system which called for some form of regulation.³⁸

First, the States had made no substantial progress in effectively regulating holding companies. Second, holding companies performed no producing function and therefore contributed nothing to the supply of power or to the general economic well--being of the Nation. Third, public investors often had no voting rights or the voting rights they held were so widely disbursed that management could not be effectively opposed. Fourth, only appropriate Federal legislation could be effective and could serve to neutralize the leniencies under which many holding companies were organized. Fifth, there was a concern that if the trends of the past decade continued, there might have eventually been the concentration of all operating public utilities into one monopoly holding company system.³⁹

32 Michael C. Blumm, *Northwest Hydro--Electric Heritage: Prologue to the Pacific Northwest Electric Power Planning and Washington Law Review*, April 1983, p. 190.

33 Wilson, Herring, and Eutsler, p. 311.

34 Blumm, p. 90.

35 Blumm, p. 192.

36 Blumm, p. 192.

37 Young, pp. 43--44.

38 Young, pp. 43--44.

39 FTC Report on Utility Corporations, p. 62.

One Utility Holding Company Empire

Perhaps the most widely discussed public utility holding company empire constructed during this period was controlled by Samuel Insull and his family¹. Insull's interests were exercised through the Middle West Utility Company which at one time had operating subsidiaries in 30 States and supplied 5,300 communities. The Middle West Utility Company grew by acquiring small operating utilities, consolidating them into larger ones, and combining these into a subholding company between Middle West and the operating utilities. This was done to reap the benefits of pyramiding. By acquiring the operating utilities in this way, Middle West was able to carry the operating utilities at practically no costs because the subholding companies would issue preferred stock and bonds for an amount approximately equal to the purchase price of the utilities. These properties were then written up (as described above) to balance the cost of the securities which were issued by the subholding companies. Very little voting stock was issued so that Insull through Middle West Utility Company could maintain control of the operating utilities with very little investment.

Insull continued to expand his empire during the 1920's and 1930's, often acquiring operating companies and other holding companies at highly inflated prices. It was also a common practice for Middle West to purchase operating utilities that were run down and in need of repair. The Insull interests used accounting practices which would not be acceptable today. They virtually ignored depreciation and thereby increased the earnings of the parent companies. Middle West would sell and resell properties within the holding company system in order to write up the book value after each sale. Excessive expenses and engineering fees were capitalized, further inflating the book value of the holding companies. One expert notes, "Another device for unduly inflated earnings was to take stock dividends received into the income account at market value at time of receipt. Later on, when the market prices had dropped severely, they were taken in and the amount charged to surplus by the issuing companies." Since the amount charged to surplus by the issuing company was likely to be in excess of market value in a downmarket, the switch in accounting practice made earnings appear higher when the stock distribution was included at the higher price.² During the 1920's, Middle West Utility Company fared quite well. Dividends on common stock rose from \$125 per share in 1925 to \$1.75 per share in 1929. The stock price itself rose from \$82.50 in 1925 to \$570.00 in 1929 and later split 10 for 1.

Insull soon learned that the problem with pyramiding and leverage is that they work both ways. While small increases in operating utility profits can lead to much greater increases in holding company profits, small decreases can cause a whole structure to collapse. When the market dropped in 1929, Middle West was stuck with heavy fixed charges for preferred dividends and interest on bonds which drained it of cash. The decision was made to try to retire preferred stock by offering rights to purchase common stock to existing preferred stockholders and providing stock dividends to common stockholders rather than cash. In order to retire the preferred stock, the amount needed was \$200.00 per share for the rights. In order to make sure that the rights were executed, the Insull interest sought to drive up the price of the shares from \$159.00 where they stood on May 5, 1929. This was done by insider trading and the purchasing of large blocks of stock by the company and its directors. By July 27, 1929, the price had risen to \$364.00 at which point the common stock rights were converted and the preferred shares were retired. The company then began to sell senior securities and to shield the sell-off from the unsuspecting public. Despite the manipulation of its debt, Middle West Utility Company was placed in receivership on April 24, 1932. While its books had shown a surplus of \$2.9 million, that was converted into a \$177.7 million deficit.

While the fall of the Insull empire was by far the most dramatic, it was not the only collapse during the period. The abuses of the holding company structure and the subsequent collapse of the holding companies which left many customers with high rates and unreliable service led to demands for the passage of regulation during the early 1930's.

¹Harold H. Young, *Forty Years of Public Utility Finance*, Charlottesville, VA: University Press of Virginia 1965, pp. 30-38.

²Young, p. 34.

After the 7 years of meticulous investigation which covered 18 top level holding companies, 42 subholding companies, and 91 operating utilities, and after making 73 monthly published reports, the FTC recommended that holding companies could either be tolerated or they could be suppressed.⁴⁰ The Commission said that, if any holding companies were to be suppressed, then all holding companies should be suppressed. The method of suppression mentioned would be simple. The Federal government would simply prohibit the holding companies from engaging in interstate electric sales, or from selling securities in interstate commerce. This solution was met with alarm by public investors who recognized that their investments in the public utility holding companies would be worthless when, in effect, the companies would be declared illegal. As a second alternative, the report suggested four possible avenues of regulation: taxation, statutory inhibition, compulsory Federal licensing, or a Federal corporations act.

These proposals were received enthusiastically by President Franklin Roosevelt, who believed that “centralization of wealth and power in the electric industry amounted to private socialism.”⁴¹ In this respect, Roosevelt was following the thoughts of Supreme Court Justice Louis Brandeis who believed that concentrations of economic power should be disbursed because these concentrations resulted in inefficiency and political corruption. President Roosevelt felt that, because of their size, the public utility holding companies could not know sufficient details about their own operations, thereby leaving the utilities to be managed inefficiently. Since the public utility holding companies were viewed as centralizing wealth and power in the hands of only a few, President Roosevelt called for the elimination of the holding companies.⁴² President Roosevelt felt strongly that such a step would promote the economic independence of the operating companies with the results that service would be improved and rates would be lowered to consumers.⁴³

Following the publication of the Federal Trade Commission's summary report, the first Congressional reaction was on February 6, 1935, when Congressman Sam Rayburn of Texas introduced a bill to control and eventually eliminate the holding companies. At the same time, Senator Burton K. Wheeler of Montana introduced a similar bill in the Senate. These two pieces of legislation became known as the Wheeler--Rayburn Bill.⁴⁴ The major difference between the two bills was that the House would eliminate the holding companies entirely after 5 years while the Senate proposed that the utility holding companies be forced to reorganize or dissolve by 1940. There was tremendous and not unexpected opposition by the holding companies to both bills. Public utility holding company investors were concerned that the bills if enacted would destroy their investment. From this quarter there was opposition to any fundamental reorganization of the utility industry. Instead, they favored legislation which “would preserve the holding companies very much as they were with provisions designed to prevent the more extreme of uses.”⁴⁵ They claimed that the real agenda was to destroy the industry and made much of the fact that no investors or consumers had appeared at any hearings to support the legislation. In addition, investment bankers were also concerned because they had floated many of the utility securities.⁴⁶

On May 5, 1935, the Senate Committee on Interstate Commerce released its report on holding company regulation which would require that the holding companies be reduced to a single system of operating companies. It exempted from this elimination utility holding companies which operated predominately in only a single State. Allegedly, these holding companies could effectively be controlled by the State regulatory commissions. The Senate vote on the bill was 56 to 32 with a dissolution date being set at January 1, 1942.

President Roosevelt encouraged the House to quickly pass the bill in the same form as the Senate. The House reported out a bill eliminating the provision for dissolution of the holding companies and giving the Securities

40 FTC Report on Utility Corporations, p. 59.

41 Blumm, p. 193.

42 Report of the National Power Policy Committee on the Utility Holdings Companies, 74th Congress, 1st Session, 1935, p. 2316.

43 Blumm, pp. 191--193.

44 Young, p. 47.

45 Trachsel, p. 397.

46 Young, p. 48.

and Exchange Commission regulatory power over the holding company system. The House proposal effectively eliminated the “death penalty” provisions. On August 22, 1935, the House bill was finally passed with the provision that holding companies would have to be reduced to a single integrated system, in effect agreeing with the Senate. That bill was signed on August 26, 1935 and provided that, beginning October 1, 1935, all holding companies must register with the Securities and Exchange Commission which was charged with the supervision of the holding company system.

Major Provisions of the Public Utility Holding Company Act of 1935

The primary objective of the Act as summarized by one authority was to “eliminate the evils connected with the public utility holding companies which are engaged in interstate commerce or in activities which directly affect or burden interstate commerce.”⁴⁷ The SEC was charged with the administration of the Act and the regulation of the holding companies. The jurisdiction of the SEC was extended to any gas or electric utility holding company which participated in interstate commerce or made use of the U.S. mails. The responsibility of the SEC was to bring about the geographic integration and simplification of the holding company system.⁴⁸ Under the legal structure thus provided, control of the public utility holding companies operating in interstate commerce was given to the SEC. Those utilities operating primarily within a single State were to be regulated by that State’s utility commission. Perhaps the most important feature of the Act was that the SEC was empowered to eliminate the large interstate holding companies by forcing them to divest of their holdings until they became a single integrated system serving a limited geographic area.⁴⁹

Specific Provisions of the 1935 Act

The many provisions of the Act can be summarized under specific headings.⁵⁰

47 Trachsel, p. 399.

48 Text of Footnote

49 Trachsel, p. 399.

50 For more detailed discussion, see SEC PUHCA Statement, pp. 14--21; Trachsel, pp. 400--406; and Wilson, Herring, and Eutsler, pp. 287--294.

• Registration of the Holding Companies

Holding companies were required to register with the SEC beginning October 1, 1935, but not later than December 31, 1935. The holding companies’ registration statement had to contain:

- Copies of the charter or articles of incorporation plus any partnership agreements, by-laws, trust indentures, mortgages, underwriting arrangements, and voting trust arrangements
- Full revaluation of the financial structure of the company
- A list of all officers and directors
- Explanations of any bonus and profit sharing arrangements
- Divulging of the provisions of any contracts for materials, services, or construction
- Present consolidated balance sheets and comparable information.

These provisions entailed a meticulous accounting of the holding companies’ total business operation. It was through the registration process that the SEC would gain the information it needed to determine whether or not a holding company should be reorganized or exempted from the provisions of the Act.

Regulation of Security Issues

The Act provided guidelines for the SEC to follow when regulating the issuance of securities by the holding companies and for revision of the rights of the current security holders. The Act specifically provided that a registered holding company could not issue or sell securities or exercise any rights contained in current

securities without filing a declaration with the SEC and receiving prior approval from the SEC. Holding companies were banned from selling securities door to door or through their officers and employees.

In addition, holding companies had to observe any of the restrictions on the issuance of securities levied by the State in which the holding company was organized. If there were no such restrictions, the Act provided guidelines for the SEC to follow in approving the issuance of the securities. These included:

- The SEC was allowed to approve only those securities which it felt were reasonably adapted to the securities' structure of the holding company
- The fees and commissions associated with the sale of the security were reasonable
- The security did not assume the liability for securities issued by other companies which would create an improper risk for the holding company
- The terms and conditions were determined not to be detrimental to the interest of the general public, the utilities' investors, or the consumers.

Acquisition of Securities

Under the Act, public utility holding companies were not allowed to acquire securities of other utilities unless the SEC had previously approved the acquisition. Again, any restrictions in the State of incorporation were to prevail. If such restrictions did not exist, then the SEC could approve the acquisition of these securities if they met the following conditions:

- That such an acquisition would not lead to a concentration of control of public utility holding companies that would be detrimental to the interest of the general public, the utilities' investors, or their consumers
- That any fees, commissions, and other payments involved in the acquisition were reasonable and reflected the earning capacity or assets of the utility

- That such an acquisition would not unduly complicate the capital structure of the holding company in such a way as to violate the interest of the public investors or consumers.

In addition to these three specific requirements, the holding company must also demonstrate that the acquisition would bring about the development of a more economically efficient and integrated utility.

Limitations on IntraSystem Transactions

One of the major abuses which had been perpetrated by the holding companies was the charging of excessive fees for services which they rendered to the operating companies. In addition, the holding companies systematically syphoned off the revenues of the operating companies to unsecured loans. The Act forbade such loans by the operating companies to the parent companies as well as the payment of excessive dividends to them. In addition the Act restricted the holding companies to provide only engineering and managerial services to the operating companies, and required that they had to be performed at cost. This eliminated the practice of the holding companies profiting from the excessive fees and then capitalizing those fees into the accounts of the operating companies forcing up their rates to consumers. This occurred because these capitalized fees became part of the rate base upon which the utility was allowed a rate of return.

Accounts, Records, and Filing Reports

The Commission was given the authority in the Act to require the holding companies to keep and preserve any records which the SEC felt were necessary to promote the public interest and to protect the investors and consumers of the utility. Specifically, the SEC was empowered to require that every registered holding company file such annual, quarterly, and other periodic reports as were necessary to enforce its regulations.

Limitations on Political Activity

The Act also prohibited the holding companies from being involved financially in the promotion of any candidate either for election or appointment to a public office. Holding companies were also prohibited from

supporting any political party or agency thereof and had to inform the SEC of any political lobbying activity which was conducted either by the apex holding company or by any subsidiary or operating company.

Elimination of Uneconomical Holding Companies

The Act required that all holding companies be integrated into an efficient system. Integration meant that the system had to be physically interconnected or capable of that interconnection. It also had to be economically operated as a single interconnected and consolidated system. The operating utilities had to be economically operated as a single interconnected and consolidated system, usually within a single State or contiguous States. The effect of this provision was to confine utility holding companies to generally operating within only one State where they could be effectively controlled by that State's public utility commission.

The Removal of Needless Complexities

The Act also provided that needless complexities in corporate structure be eliminated and that the voting power be fairly distributed among the security holders. In addition, the holding company was to be confined solely to conducting business which was necessary and appropriate for the operation of a single integrated utility. The effect of these provisions was to eliminate the unending pyramid of holding companies by limiting the structure to no more than two layers of holding companies. While in theory the holding company structure was retained, virtually all of the existing holding companies were eventually forced into radical reorganization.

While the Act required the utilities to reorganize, the companies were allowed to prepare their own plans for compliance. If they did not comply voluntarily, the SEC could institute mandatory proceedings to bring about the reorganization. The SEC could also institute mandatory

proceedings if the plans voluntarily presented by the holding companies were found to be inadequate. The reason for allowing the submission of voluntary reorganization plans was to permit the holding companies to have input into their own reorganization. The Act required that these plans were to be filed by January 1, 1938, approximately 3 years after the passage of the Act. In addition, the SEC had the right to approve or reject any reorganization plans which resulted from bankruptcy proceedings involving a public utility holding company. This approval had to be obtained prior to the submission of the reorganization plan to the bankruptcy court. Without such approval, no reorganization would be permitted.

Aftermath of the 1935 Act

The first response of the holding companies was resistance to the Act.⁵¹ As a result, 58 cases were brought challenging the law's constitutionality.⁵² These cases led to some of the most colorful and intricate legal maneuvering of the New Deal years.⁵³

The most significant case was that which involved the Electric Bond and Share Company. While the company sought to have the entire Act declared unconstitutional, the government was successful in limiting the case only to the question of registration. The company contended that the law requiring registration was not proper regulation under the Interstate Commerce Clause of the Constitution. When the Supreme Court rejected this case⁵⁴ it became obvious to the holding companies that they would have to register and many began to comply.

But this was not the end of the constitutional challenge. In the North American Company case, the Court was called upon to determine whether or not the SEC had authority to order the reorganization and economic integration of public utility holding companies.⁵⁵ The company typified the pyramiding of utility holding companies and was made up of over 80 separate corporations plus a wide variety of other interests such as railroads, coal mines, and amusement parks. The SEC had

51 Joe Seligman, *The Transformation of Wall Street and The History of the Securities and Exchange Commission in Modern Corporate Finance*, Boston: Houghton, Mifflin Company, 1982., p. 134.

52 Young, p. 52; Trachsel, p. 406.

53 Joseph L. Rauh, "Lawyers and Legislation of the Early New Deal," *Harvard Law Review*, February 1983, pp. 947--958.

54 *Electric Bond and Share Company v. the Securities Exchange Commission*, 303 U.S. 419.

55 *North American Company v. Securities and Exchange Commission*, 327, U.S. 686.

ordered the company to confine its activity solely to the Union Electric Company in Missouri and to dispose of its other properties.

The company contended that forcing it to reduce its scale of operation amounted to a taking without just compensation, prohibited by the due process clause of the 5th Amendment to the Constitution. In sustaining the Act the Court concluded that it would not substitute its judgment for that of Congress on the appropriateness or inappropriateness of economic structures for corporations and found that Congress had acted within the sphere of its legislative power.

The constitutionality of the Act was further confirmed in subsequent Supreme Court decisions in the American Power and Light and the Electric Power and Light cases. The decisions in these cases destroyed any lingering doubts about the constitutionality of the Act. Any holding companies that had not moved to comply proceeded to do so. By 1947, virtually all holding companies had undergone some type of simplification or integration and, by 1950, the utility reorganizations were virtually complete.⁵⁶ At least one authority has viewed the enactment of the Public Utility Holding Company Act and the resulting breakup of the utility holding companies as one of the most “far reaching accomplishments of the Roosevelt Administration.”⁵⁷

⁵⁶ Keith M. Howe, *Public Utility Economics and Finance*, Englewood Cliffs, NJ: Prentice Hall, 1982, p262.

⁵⁷ Seligman, p. 260.

4. Regulation Under The Public Utility Holding Company Act During The 1970'S - 1980'S

Problems in the 1970's

The late 1970's were a trying time for the utilities. Many of them had overexpanded their capacity expecting growth rates in electrical demand which simply did not materialize. When State utility commissions increased their surveillance through the use of prudence reviews and, in many instances, disallowed in total or in part the addition to the rate base of the excess capacity, many utilities were placed in a precarious financial position. As a result, many were faced with extremely high debt burdens intensified by the high interest rates of the period.⁵⁸

The plight of the utilities was further exacerbated by the exhaustion of economies due to increased scale of plant and coordination with other utility systems. Cost of fuel rose quickly due to the shocks in 1972, 1974, 1979, and 1980. Environmental costs associated with plant construction also accelerated. The result was sharp increases in price which dampened demand. The result was that by 1981, as a group, electric utility stocks sold for less than book value, earnings fell below the cost of debt, and most utilities failed to earn the rates of return allowed them by their regulatory commissions.⁵⁹

The financial plight of these utilities and their consequent desire to diversify, plus the general fervor for deregulation, led for calls in the early 1980's for either modification or outright repeal of the Public Utility Holding Company Act. One authority provided this summary:

These efforts had their origin in the belief of many that the Commission had long ago completed the principal task thrust upon it in 1935, when it completed the restructuring of the industry and the development since 1935—economic, legal, and regulatory—had rendered needless or duplicated remaining activities of the Commission under the Act.⁶⁰

Events Leading to the Introduction of Legislation

The 1935 Act did contain exemptions which the Securities and Exchange Commission could choose to use if it found the reorganization of a holding company to be in the interest of the public, investors, or consumers. Exemptions were practically automatic for holding company systems which confined their activities to one State where the parent company was an operating utility with its operations in one or contiguous States. Between 1935 and 1970, over 2,500 holding companies had been exempted from the registration requirements of the 1935 Act.⁶¹

The Commission had not exercised stringent oversight of the activities of the holding companies during the 1950's and 1960's. But in 1971, the staff of the Commission recommended that Pacific Lighting Corporation have its exemption withdrawn because of acquisitions it had made which were unrelated to its utility business. The Commission which was only 4 members at the time, split 2

⁵⁸ U.S. Congress, Congressional Budget Office, *Financial Condition of the U.S. Electric Utility Industry*, March 1986, pp. xi-xii.

⁵⁹ R. Richard Geddes, "A Historical Perspective on Electric Utility Regulation," *Regulation*, Winter 1992, pp. 78-79.

⁶⁰ A.A. Sommer, Jr., "Public Utility Holding Company Act, Is There a Dance in the Old Girl Yet?", *New York Law Journal*, December 12, 1988, p. 28.

⁶¹ Sommer, p. 28.

to 2, and for that reason, the exemption remained.⁶² The case caused the holding companies to sense that in the future SEC oversight might increase. The nervousness of the utility companies was accentuated by the 1977 report of the General Accounting Office which chastised the Commission for its failure and urged it to more stringently apply its powers to review the exempt status of utilities.

By 1981, the number of registered companies had diminished to only three gas and nine electric utilities. These companies, in a desire to improve their profits and their long-term stability, sought to turn to diversification as a means to achieve those ends. Other companies might have been interested in registering so they could have operated within a wider geographical area had the restriction on diversification in the Act not been in place. The SEC and the courts had consistently construed the Act as prohibiting any acquisitions which were not functionally related to the utility business, thus effectively barring the diversification which the utilities desired.⁶³

Both the gas and the electric utilities sought diversification but for different reasons. The electric companies saw their profit margins and access to capital markets severely restricted due to their falling profits brought about by the unfavorable regulatory environment, as well as rising fuel costs. On the other hand, the gas companies faced severe shortages of gas along with saturated markets. Both saw development of unrelated businesses as a way of improving their overall financial position.⁶⁴

The PUHCA Reform Movement of the Early 1980's

During the 97th Congress, three bills were introduced in the House and four in the Senate to either repeal or reform PUHCA. H.R. 220, introduced by Congressman Tom Corcoran on December 15, 1981, had as its purpose:

To amend the Public Utility Holding Company Act of 1935 to improve the financial performance of electric and gas utilities by removing unnecessary impediments to the exercise of sound and prudent judgment by utility executives.

Congressman W. J. Tauzin also introduced a bill to completely repeal the Act (H.R. 5465) on grounds the Act was no longer necessary to accomplish the purposes for which it was enacted. Congressman James W. Collins introduced H.R. 6134 which provided not only for repeal of the Public Utility Holding Company Act but for provision of an exemption in the Federal Power Act for utilities subject to PUHCA.

Four bills were introduced in the Senate. One provided for the outright repeal (S. 1877). Another would have extended the power of the SEC to allow utilities to make acquisitions not related to the utility business (S. 1869). A third confined itself to exempting gas utility holding companies from the Act (S. 1871), and the fourth was the companion piece to Representative Corcoran's Bill (S. 1870). These bills were subject to hearings.⁶⁵ During the hearings, certain arguments were developed which were to reappear a decade later in the debate over the Energy Policy Act (EPACT).

⁶² Pacific Lighting Corporation, SEC, Holding Company Act, Rel. No. 17856 (1973).

⁶³ For example, see *Philadelphia Electric Company v. the SEC*, 117 F.2d 720 and *Michigan Consolidated Gas v. the SEC*, 444 F.2d 913.

⁶⁴ Jeffrey W. Knapp, "Effective Rate Regulation of Utility Diversification," *University of Pennsylvania Law Review*, June 1988, p. 1678.

⁶⁵ Hearings before the Subcommittee on Securities of the Senate Committee on Banking, Housing, and Urban Affairs on S. 1869, S. 1870, and S. 1871 to amend, and S. 1877 to repeal the Public Utility Holding Company Act of 1935, 97th Congress, 2nd Session, 1982.

The Case for Repeal of PUHCA

In reviewing the testimony before the House and Senate, the following debate ensued regarding repeal and modification of the Public Utility Holding Company Act. Those supporting repeal presented three major arguments.

Purposes of the Act Had Been Accomplished

Advocates of reform stressed that the Act had finished its main goal of restructuring the public utility holding companies into manageable and regulated entities and this transition had been completed 20 years ago. The primary purpose of the law was to simplify the holding companies system and to prevent the abuses which had been evidenced in the 1930's. These advocates agreed with Congressman Collins, who in defense of his bill stated that there was compelling evidence to suggest that PUHCA's goals of the simplification and the integration of the sprawling utility holding companies of the 1920's and the 1930's had been achieved.⁶⁶ Advocates of repeal listed these changes which they believed rendered the Act obsolete:

- The development of an extensive disclosure system for all publicly held companies, including the public utility industry
- Increased competence and independence of accounting firms
- The development of accounting principles and auditing standards and the means to enforce them
- The increased sophistication and integrity of security markets and security professionals

- The increased power and ability of the State regulators
- The elimination of the constitutional restrictions placed on State regulatory commissions.⁶⁷

These points were agreed to and elaborated upon by the Securities and Exchange Commission (SEC) in their House testimony where they supported repeal:

The Commission's decision to recommend repeal of the 1935 Act was based primarily on significant developments since 1935 and Federal and State regulation of electric and gas utilities, the disclosure and financial reporting requirements now applicable to most publicly owned companies and changes in the accounting profession and investment banking industry.⁶⁸

It was the Commission's judgment that the interest of the investors in obtaining accurate information and requiring full disclosure are now being served by "disclosure and financial reporting under the Securities Act of 1933 and the Securities Exchange Act of 1935, in addition to the development of uniform accounting standards, and changes in the investment banking industry."⁶⁹ The Commission felt that if the 1935 PUHCA was repealed investors would lose none of the information now made available for them. The amendments to the 1935 PUHCA in 1964 and 1968 further strengthened these provisions.⁷⁰

PUHCA also required extensive accounting and recordkeeping. The uniform system of accounts established in 1935 by the Federal Power Commission and used by its successor, the Federal Energy

⁶⁶ Public Utility Holding Company Act, Hearings before the Energy and Commerce Subcommittee on Energy Conservation and Power, House of Representatives, 97th Congress, 2nd Session, June 9, 1982, p. 19.

⁶⁷ Sommers, p. 28; Howe, p. 269.

⁶⁸ Statement of the U.S. Securities and Exchange Commission concerning Proposals to Amend or Repeal the Public Utility Holding Company Act of 1935, House Hearings, June 1982, pp. 540-624.

⁶⁹ SEC PUHCA Hearings, p. 570.

⁷⁰ SEC PUHCA Hearings, pp. 572-573.

Regulatory Commission (FERC) applied to both the electric and gas utility companies (18 C.F.R. Parts 101, 104, 201, and 204). In addition, every State provided for uniform systems of accounts for the utility companies operating within their jurisdictions. In addition, uniform accounting and auditing standards had been developed by the private accounting profession through the Financial Accounting Standards Accounting Board (FASB). Again, investors, consumers, and regulators now had available the type of financial disclosure needed to evaluate the financial position and earning power of the utilities and their subsidiaries, even if PUHCA were repealed.⁷¹

One of the major problems with the pre-PUHCA era was that investment bankers often served on the boards and in management positions within the utilities. The 1935 Act prohibited investment bankers from being on the boards of the holding companies or their subsidiaries, as well as giving the Commission the right to approve the fees and other charges associated with the underwriting of new issues of securities. Almost all of the investment bankers today belong to one of the industry's self-policing groups such as the National Securities Exchange (NSE) or the National Association of Security Dealers (NASD) which have established standards to protect clients from unscrupulous activities by underwriters. The Commission also noted that those who had been injured by inaccurate or misleading advice provided by underwriters could sue in private action.⁷² In addition, there was a growing number of professional financial analysts who specialize in utilities. These analysts vigorously scrutinize the financial statements and offerings of the utilities and widely publish their results, and provide ratings for their securities.

Existing Federal and State Regulations Were Adequate

The Commission also felt that the increased effective regulation of electric and gas utilities at both the Federal and State level was another reason rendering PUHCA to be obsolete. The Federal Power Act and the Natural Gas Act established comprehensive schemes for Federal regulation of all aspects of the interstate transmission sale of electrical energy and natural gas. The FERC was given the responsibility of enforcing these laws and ensuring minimum supplies, continuity of services, as well as establishing just and reasonable rates.⁷³

In addition, the Commission felt that since the 1930's the capacity of the State regulatory commissions to deal effectively with the regulatory problems presented by the holding companies had been significantly increased. The Commission did recognize:

that the States are still unable to regulate interstate utility holding companies directly in a comprehensive fashion and that the pattern of State control over operating utilities and their relationships with affiliates remain uneven.⁷⁴

But the Commission still felt that the States had sufficient practical experience, resources, and statutory authority to be effective regulators. The Commission specifically felt that the past reorganizations of the holding companies under the 1935 Act presented State regulatory commissions with firms that had basically simple capital structures which were operating companies and this change had further eased the enforcement burden.

In addition, the effective reach of State utility commissions had been expanded by favorable rulings from the Supreme Court⁷⁵ causing the Commission

⁷¹ SEC PUHCA Hearings, p. 575.

⁷² SEC PUHCA Hearings, p. 577.

⁷³ 15 U.S.C. 824d(a) and 15 U.S.C. 717c(a).

⁷⁴ SEC PUHCA Hearings, pp. 583-584.

to conclude that, although the States could not exercise direct regulatory powers over foreign utility holding companies, they were generally able to regulate the various relations and dealings between operating companies, their parent holding companies, and other affiliates.⁷⁶

The Commission concluded its Congressional testimony by listing four examples of State legislation which empowered State regulators to effectively control holding companies. Included were accounting and reporting requirements, prior approval of transactions with affiliates, control over financing, and capitalization and review of major corporate changes.⁷⁷ While concluding that not all States had enacted comprehensive systems of utility regulations, the Commission noted that all could and concluded:

It seems clear that the States had the authority to enact such systems and it seems equally clear that a comprehensive State system is fully able to protect the financial integrity of a public utility operating within its jurisdiction to assure that neither utility revenues, utility assets nor utility credit are used for nonutility purposes except in accordance with prescribed guidelines while following review and approval by State regulators.⁷⁸

Need for Utilities to Diversify

Those advocating PUHCA reform cited the need to increase the ability of the utilities to acquire new and unrelated businesses as a means to diversify their endeavors. The SEC noted that the Act placed limits on diversification by holding companies and “there is no other Federal law that directly duplicates these restrictions.” The SEC further noted

that the Act will not “impose any restrictions or limitations on investment in nonutility businesses by operating electric or retail gas utilities that are not part of a holding company’s system.”⁷⁹

Acquisitions were a continuing problem for holding companies under the PUHCA since the Act placed restrictions on the type of acquisitions that could be made by holding companies. Any acquisitions must become part of an integrated utility system. In effect, this prevented nonutility companies operating in more than a single State from purchasing operating utilities because that would place the nonutility company under the jurisdiction of the Act and would require that the nonutility company divest all of its holdings which did not fit into the integrated utility system.

Many witnesses in the House testified that prudent diversification would be a significant financial benefit to the companies.⁸⁰ Former SEC Chairman John Shad testified to the effect that:

Repeal of the Act is not a panacea, but it will increase the financing, acquisition, and other alternatives, alternatives which these companies like all other utility companies should be permitted to pursue to improve their profitability and strengthen their financial conditions which in turn will permit them to do a better job for utility customers.⁸¹

It should be noted that no hard analysis or studies were presented in the Hearings to document that the profitability of the utilities would indeed increase if they were given more flexibility, diversification, and acquisition powers.

⁷⁵ *Western Distribution Company v. Public Service Commission* 285 U.S. 119 and *Natural Gas Pipeline Company v. Slattery*, 302 U.S. 300.

⁷⁶ SEC PUHCA Hearings, pp. 585-586.

⁷⁷ SEC PUHCA Hearings, pp. 586-590.

⁷⁸ SEC PUHCA Hearings, p. 590.

⁷⁹ SEC PUHCA Hearings, p. 591.

⁸⁰ Statements of James M. Collins, pp. 19-20; G.J. Tankersley, p. 62; Arron Levy, pp. 531-539; C.J. Peterson, p. 35; C.S. McNeer, pp. 58-61 in *Public Utility Holding Company Act, Hearings before the Subcommittee on Energy Conservation and Power, Committee on Energy and Commerce, 97th Congress, June 9, 1982.*

⁸¹ House PUHCA Hearings, p. 539.

Reasons for Retention of PUHCA

An equally vigorous defense of the status quo was presented by those in opposition to the repeal of PUHCA.

- States Inability to Effectively Regulate the Holding Companies Without the Act

It was the opinion of the National Association of Regulatory Commissioners (NARUC), that it would be particularly difficult for the Commissioners to oversee the interstate activities of the highly diversified holding companies and adequately ascertain the implication of those diversified holdings on the charges paid by local ratepayers.⁸² The Wisconsin Public Utility Commission chairman, speaking on behalf of NARUC, summarized the problem by saying:

If you take the law away, you will put States in the position of having to review the economic and financial activities of holding companies which may be located a half continent away from the State commission charged with monitoring its activities.... Even if States have the statutory authority to monitor the allocation, procedures, and cross-subsidization possibilities of a foreign holding company, it is highly questionable whether they have either the numbers of staff or the staff expertise to carry out that responsibility.⁸³

He cited specific concerns about the jurisdiction of the States when a holding company operates across State lines, the legislative authority of State commis-

sions to review the interstate activities of affiliated interests, plus the severe workload constraints as reasons why State regulation would be likely to be ineffective. He concluded by arguing that it was simply not realistic to assume that the State commissions can exercise the jurisdiction that had been the responsibility of the SEC.

- Adverse Effects on Ratepayers

Those opposing repeal of PUHCA contended that the changes would hurt the consumers through higher rates. First, the retained earnings of utilities, which in the past had been plowed back into the utility through re-investments and utility construction programs, could be diverted to other nonutility business within the holding company. This loss of the investment could increase the costs of future expansions for the utilities, which in turn would increase the rate base and the charges levied on consumers.⁸⁴

Second, ratepayers would be hurt by overcharges from affiliated companies. Studies done by the Federal Energy Regulatory Commission (FERC) concluded that neither FERC nor the State regulatory commissions now were able to adequately regulate transactions between utilities and their affiliated coal companies to insure that the fuel costs being passed onto customers represented what would have been obtained by arm's length bargaining among independent parties.⁸⁵ By inference, State regulatory bodies would be equally un-

⁸² Report of the Ad Hoc Committee on Non-Utility Investments, National Association of Regulatory Commissioners, 1972, p. 709 ff.

⁸³ Statement of Stanley York, House PUHCA Hearings, p. 682.

⁸⁴ York, House PUHCA Hearings, p. 686.

⁸⁵ Alan H. Richardson, House PUHCA Hearings, p. 398-399.

able to evaluate intercompany transactions which might lead to higher fuel costs to ratepayers.

- Reduction in Competition and Increase in Monopolization

The American Public Power Association made this case:

The public interest is best served by the preservation of competition in the electric utility industry. Repeal of the Act would promote monopoly control at the expense of competition. Public power systems have successfully used the Act to prevent concentration of control of the bulk power market in the hands of a few large electrical utility systems.⁸⁶

The fear was that consolidation would result from PUHCA repeal leaving only a single, or perhaps a few, supplier(s) from which municipal and other public suppliers could purchase bulk power. Critics cited the situation before PUHCA passage in 1935 as supporting evidence.

- Diversification by Utilities was Not Advisable

The heart of the argument for the repeal of PUHCA was allowing the utility holding companies to diversify into nonutility areas. The desirability of utility diversification was closely questioned by witnesses opposing the modification of PUHCA. The first line of attack was that diversification would increase the riskiness of the utilities' business, thus jeopardizing the interests of the utility's native load customers,

primarily residences and small commercial businesses. Noting the contention that the utilities have not been able to invest in diversifications which are potentially profitable, one critic commented "where there may have been lost opportunities which would have been profitable, undoubtedly there would have also been lost opportunities which, if pursued, would have been disastrous."⁸⁷ Another contended that the costs and benefits of these risks are not equally distributed between stockholders and ratepayers. He felt that:

It is clear that if the diversification venture succeeds, the stockholder will benefit and if there is no cross subsidization, the ratepayer is not penalized. If on the other hand, the new venture fails, the stockholder has assumed some risk and may be penalized but any risk borne by the ratepayer has been involuntary and the ratepayer may also pay an involuntary penalty.⁸⁸

It was also stated by the critics of repeal that utility management may not be able to adequately handle diverse enterprises because they lack expertise outside of the utilities' field. Others contended that diversification created the possibility that managers of nonutility entities within the holding company might run the utilities. "There is absolutely no indication that those different managers will be better than existing utility management or that these new managers coming in will devote any of their talents to the utility aspect of the business."⁸⁹ The American Public Power Association made its position clear:

⁸⁶ Richardson, House PUHCA Hearings, p. 390.

⁸⁷ Richardson, House PUHCA Hearings, p. 386.

⁸⁸ York, House PUHCA Hearings, pp. 686-687.

Managerial attention might thus be diverted from providing an essential commodity – electricity or more broadly, energy services – to other areas.... It is simply a recognition that diversification is a procedure designed primarily to increase the profits for the benefit of the stockholders. The over-aggressive pursuit of this goal could occur at the expense of the utility and its captive customers.⁹⁰

At least one public utility opposed diversification because of the difficulties of trying to mix a typical management approach in the highly regulated utility business with the entrepreneurial approach needed in unregulated arenas.⁹¹ In these hearings, little evidence was presented by the opponents of repeal to establish that what diversification had taken place under the Act had harmed utilities; but, as was noted, utilities under the Act could diversify, so long as they did it only in enterprises directly related to the integrated utility system.

None of the bills was passed out of the House Energy and Commerce Committee. This is not surprising considering the opposition to them by the Subcommittee on Energy and Power Chairman, Representative Richard Ottinger, who stated at the beginning of the hearings:

I think that there are real concerns about very large companies coming

in and taking hold of utilities and not having the kind of attention to utility businesses that is presently required under affected State regulation with respect to intra-State companies. I think there is also a real danger that if PUHCA were repealed that you would have a great number of new utility holding companies created making the job of effective regulation even more difficult.⁹²

Action in the Senate

On the Senate side, proponents of PUHCA reform were more kindly received. Senator Alfonse D'Amato of New York held three days of hearings with his Subcommittee on Securities.⁹³ At those hearings the same arguments were made, often by the same people, as before the House. Recognizing the opposition, Senator D'Amato urged the proponents of reform to get together with the opponents to see if a bill agreeable to all could be drafted. Such a bill was produced and introduced into both the House and the Senate.⁹⁴

After a series of meetings among proponents and opponents, a proposed compromise amendment was presented at an early fall 1983 hearing.⁹⁵ Under the compromise legislation exemptions would be allowed for utility holding companies under certain conditions if the public utility activities were principally confined to the State where they were organized and regulated. The SEC would be allowed to deny an exemption if it determined that the exemption would adversely affect the public utility aspects of the holding company's operation by increasing costs or undermining the financial

⁸⁹ York, House PUHCA Hearings, p. 687.

⁹⁰ Richardson, House PUHCA Hearings, p. 391.

⁹¹ Don C. Frisby, "Pacific Power and Light: Still Diversifying as Electric Use Slows," *Business Week*, January 18, 1982, p. 58.

⁹² House PUHCA Hearings, p. 1.

⁹³ Hearings before the Subcommittee on Securities of the Senate Committee on Banking, Housing, and Urban Affairs on S. 1869, S. 1870, and S. 1871 to amend, and S. 1977 to repeal the Public Utility Holding Company Act of 1935, 97th Congress, 2d Session, 1982.

⁹⁴ S. 1174, 98th Congress, 1st Session, 1983; H.R. 2994, 98th Congress, 1st Session, 1983.

⁹⁵ Hearings on H.R. 2994 before the Subcommittees on Energy Conservation and Power and on Telecommunications, Consumer Production, and Finance, the House Committee on Energy and Commerce, 98th Congress, 1st Session, 1983.

base. The application for an exemption would become effective unless a State public utility commission, which had jurisdiction over one or more of the utilities in the holding company's structure, objected to diversification. Holding companies would be allowed to make nonutility, non-functionally related acquisitions if certain provisions were met: holding companies could acquire new businesses if the net assets of the acquisition did not exceed 10 percent of the shareholders' equity in the holding company. In addition, the holding company acquisition would be automatically effective unless a State Public Utilities Commission objected on the grounds that it would not be in the best interests of consumers.

In addition, the compromise bill provided that regulators could only approve service and other contracts between entities within the holding company if they were based on market-based prices rather than on cost. Holding companies could not be subject to a hostile takeover unless the SEC approved the takeover. Despite the agreement reached, the bill died in the House Committee.

Legislation in 1985 and 1986

These laws affecting Public Utility Holding Companies were passed in 1985 and 1986:

- Public Law 99-186 (Cogeneration Activities by Gas Utility Holding Company Systems) allowed registered public utility holding companies to acquire in any geographical area any qualifying coal generation facility as defined in the Public Utilities Regulatory Policies Act (PURPA). This law exempted any holding company from provisions in PUHCA only to allow them to acquire the coal generation facilities, but did not exempt the remaining holding company facilities from the Act.
- Public Law 99-648 (Securities and Exchange Commission Exemptive Author-

ity) was designed to exempt from PUHCA any holding company with only one gas utility subsidiary if the holding company or its subsidiaries were not operating utilities and the gas company was incorporated to operate only as a utility company on June 16, 1986. In addition, the holding company had to own all of the voting securities of the gas utility, and neither the holding company nor any of its subsidiaries were to sell or service residential or commercial heating, plumbing, refrigeration, or air conditioning.

Immediately after the passage of these pieces of legislation, the rate of mergers and acquisitions by holding companies increased.⁹⁶ These diversifications were primarily financed through utilities' reserves which had accumulated. Almost all of the expansion took place in traditional energy fields including: research and exploration for gas, oil, and other minerals; transmission and storage of natural gas; and coal mining operations.

During this period utility holding companies divided their operations into two portions. The first consisted of the regulated utility business. The second was non-regulated entities which included the functions mentioned above plus others which provided services to the regulated utilities including finance and management.

In evaluating the economic impact of these diversifications, it was concluded by one observer that "there had been no showing that diversified activities have permanently harmed any utility, although some diversification results may be marginal at best."⁹⁷

Conclusions

The early 1980's saw an acceleration of activity regarding the modification or repeal of the 1935 Public Utility Holding Company Act. Only minor

⁹⁶ Diane Sponseller, "An Overview of Utility Reorganization Activity," *Public Utilities Fortnightly*, October 15, 1987, p. 43.

⁹⁷ Sponseller, p. 63.

modifications in the law were made, but these modifications may have contributed to a wave of acquisitions and diversifications by utility companies. As the 1980's progressed, the financial posi-

tion of most utilities improved and pressure for repeal or reform of PUHCA abated. But as the decade ended, new reasons to push for PUHCA reform began to emerge and the debate resumed.

5. Setting The Stage For PUHCA Reform

By the end of the 1980's, the arguments for reform of the Public Utility Holding Company Act had changed. The financial position of most public utilities had improved over the last half of the decade as excess capacity was slowly absorbed by growing electric demand, and as fuel costs and interest rates declined. In addition, most utilities had either completed or canceled their nuclear power projects, further reducing the financial pressures associated with constructing these highly capital intensive generating facilities.⁹⁸ The argument for reform was no longer the need for utility holding companies to be able to diversify into nonutility businesses, but rather to participate in the market for independently produced power.

The Impact of the Public Utilities Regulatory Policies Act (PURPA)

The most singularly significant event was the creation of additional competition in the generation of electricity which resulted from the passage in 1978 of the PURPA. PURPA was passed during the height of the oil crisis brought about by the Iraq/Iran war which had followed closely the Arab boycott of western oil markets during the early 1970's. Both events had created considerable consternation in this country about the security of our oil supplies in particular and our capacity to meet our future needs for energy in general. A good portion of the discussion focused upon the general question of achieving energy self-sufficiency, not just in the production of fuels, but in the generation of electricity as well.⁹⁹

Section 210 of PURPA allowed for a limited degree of competition in the generation of electric power. The purpose of allowing this competition was to increase efficiency in electrical generation through the use of new innovative technologies. A second and equally important objective was to achieve the better utilization of indigenous energy resources for the generation of electricity.¹⁰⁰

Among the underutilized indigenous energy resources many were associated with cogeneration and small power production. Cogeneration exists when electricity is sequentially produced as a by-product of the manufacturing of steam or other power to be used in an industrial process. Thus, the industrial steam plant serves two functions. It supplies process heat to the host, but it also generates electricity which is available to the grid to be marketed elsewhere. Cogeneration of steam and electricity had been declining in the 1970's. This decline was a result of the preference of industry to buy rather than to generate electricity during earlier periods of declining electricity prices. Generation of electricity from small power production was thought desirable not only because it would enhance energy independence, but because it would involve the use of fuels which were considered to be more environmentally desirable. Principal among these were small scale hydroplants, solar, wind, and biomass units. Because these plants are usually small scale and away from larger central-generating units, they are often referred to as dispersed renewable energy generators.

It was the purpose of PURPA to assure that nonutilities who either cogenerated or used dispersed

⁹⁸ R.R Geddes, "A Historical Perspective on Electric Utility Regulation," *Regulation*, Winter 1992, pp. 75-82.

⁹⁹ Daniel Yergin, *The Prize: The Epic Quest for Money and Power*, New York: Simon and Schuster, 1991, pp. 659-667.

¹⁰⁰ U.S. Department of Energy, *National Energy Strategy, Technical Annex 1, Analysis of Options to Amend the Public Utility Holding Company Act of 1935, 1991/1992*, p. 12.

renewable generation would be able to sell their product to utilities if the power could be produced at competitive prices. This was accomplished under section 210 by requiring that a utility offer to buy this power at a rate which would not exceed the cost to the utility of generating its own electricity or the utility's "avoided cost." By employing this concept of avoided cost the consumer was protected in that the electricity purchased would not be more expensive than the cost of power which the utility would have generated on its own.¹⁰¹

Administrative responsibility for the implementation of section 210 was given to the Federal Energy Regulatory Commission (FERC). FERC was to designate which cogeneration and small power production facilities met the criteria of the law and designate them as qualifying facilities (QF). While FERC would designate the facilities, it was up to each State's regulatory commission to determine how it would calculate avoided costs.

Because PUHCA would create major burdens for nonutilities who wished to develop qualifying facilities, PURPA specifically exempted in section 210 developers of QF facilities from PUHCA. If this had not been done, then nonutility companies wishing to develop QF's would have been forced to submit themselves to SEC regulation which in most instances would have forced them to divest themselves of their nonutility related business – which, at least for cogenerators, was their principal business activity. FERC's regulations also allowed a utility to participate as a partial owner of a QF so long as its ownership share did not exceed 50 percent. Many utilities responded to PURPA by creating subsidiaries through which they could invest in such projects. Registered holding companies were not allowed this option until 1986 when federal legislation amended PUHCA to permit holding companies the same rights as public utilities.¹⁰²

Under PURPA a significant amount of new generating capacity was developed during the 1980's. The Department of Energy estimated more than 20,000 megawatts of QF capacity or the equivalent of 20 large nuclear or coal-fired plants had been built in the 1980's.¹⁰³ Much of this new capacity was built in areas where there was a need for new generating capacity. In areas where new capacity was not needed, the price received by QF's for their power would have been equal only to the costs of operating the excess capacity of the utility as that would be the only expenses that could be avoided. In capacity-short areas the avoided cost could include both the operating costs as well as the cost of construction needed to bring the QF on line.

Advantages of Independent Generation Under PURPA

During the 1980's, utilities had strong reasons to consider acquiring their additional power from independent producers rather than building additional capacity on their own under State rate regulation. Under traditional utility regulation, when a utility built new generating capacity it would be allowed to place the cost of that new capacity into its rate base. The State regulatory commission would then apply a rate of return on that base which the utility was allowed to earn through its rates. During this period public utility commissions began to disallow all or part of the cost of new capacity when the utilities petitioned to have those costs added to their rate bases. This was the case when utilities had expected demand to grow faster than it did and not all of the new capacity which was built was needed at the time it was ready to come on line. The public utilities commissions would then disallow inclusion of the cost of excess capacity in the rate base, declaring it to have been an imprudent investment. The so-called "prudence reviews" made many utilities wary of building additional capacity which would be subject to State regulation.¹⁰⁴

¹⁰¹ Paul L. Joskow, "Expanding Competitive Opportunities in Electricity Generation," *Regulation*, Winter 1992, p. 27.

¹⁰² Public Law No. 99-553, Ownership of Cogeneration Facilities by Public Holding Companies, October 27, 1986.

¹⁰³ Technical Annex 1, p. 13.

¹⁰⁴ Benjamin Zycher, "Power to the People," *Regulation*, Winter 1992, p.14.

In addition, the utilities complained that there was no incentive in the system of State regulation which would encourage them to reduce costs because they would receive no reward for so doing. As a result, the utilities complained that they had very little incentive to take the risk of building new generating capacity on their own.¹⁰⁵ On the other hand, production of power by an unregulated independent producer would not only avoid the prudence reviews of State public utility commissions, but would grant to the developer the financial fruits from developing new technologies which resulted in more efficient and less costly generation.¹⁰⁶

As the 1980's drew to a close, much of the surplus generating capacity had been absorbed. This presented a challenge to State regulators as they sought to determine what avoided costs should be for QF's. Most of these regulatory commissions established administrative rules employing formulas to determine avoided costs. These formulas were designed to determine what the cost would have been to the utility had it not bought the power from the QF, but instead had built its own generating capacity. In essence QF's were competing against hypothetical plants which utilities might build. Recognizing the artificiality of this approach, States began to move toward competitive bidding as an alternate way of establishing what the appropriate price would be.¹⁰⁷ By allowing both QF's as well as other independent power producers (IPP's) to bid on the provision of additional power, a more appropriate method was employed for setting the prices which QF's and IPP's could receive.¹⁰⁸

As noted previously, because of the provisions of PURPA, only certain technologies employed in certain types of plants could qualify for QF status. Utilities and public utility holding companies, as

well as nonutility providers, could, to a limited degree participate in the QF market without running afoul of PUHCA but their options were severely limited. These limitations caused the Department of Energy to conclude that the competition in electrical generation created by PURPA had been beneficial because it:

rewards economically efficient innovations and generating technologies, facility siting, control of construction costs, and the use of waste resources as fuel. Elimination of PUHCA constraints on firms that would otherwise consider entry into generation markets could broaden that competition initiated under PURPA to include any firm using any fuel and any generating technology.¹⁰⁹

The Department concluded that both the producer and consumer would benefit due to the improved efficiency if the 1935 Act could be modified.

The Johnston Bill

In the fall of 1989, Senator J. Bennett Johnston introduced the Competitive Wholesale Electric Generation Act of 1989 as an amendment to Senate Bill 406. At the time of its introduction, the Senator explained the case for modifying PUHCA:

[t]he Holding Company Act effectively bars the development of independent power producers (IPP's). In so doing, it prevents most future opportunities for beneficial competition and wholesale power markets.¹¹⁰

The bill recognized that the two main dissatisfactions with PUHCA were the restraints that it placed upon diversification into independent power production by existing public utility holding compa-

¹⁰⁵ Statements of R.E. Disbrow and William Lee, DOE Public Hearings on the Development of the National Energy Strategy, August 1, 1989.

¹⁰⁶ Technical Annex 1, p. 14.

¹⁰⁷ Joskow, p. 29.

¹⁰⁸ Technical Annex 1, p. 14.

¹⁰⁹ Technical Annex 1, p.12.

¹¹⁰ Remarks of Senator J. Bennett Johnston, before the Kidder Peabody Legislative Update of the Power Generation Business, September 12, 1989, p.3.

nies, and the barriers erected to nonutilities wishing to enter the market but unwilling to do so because they would be brought under the provisions of PUHCA.¹¹¹ Thereby, PUHCA restricted interested parties from becoming part of the utility industry. It restricted competition and kept current utility companies from making acquisitions they felt would be beneficial to both their stockholders and consumers.

Unlike previous legislation, the Johnston Bill did not seek to repeal PUHCA. The primary change proposed was to allow for holding companies to acquire or invest in independent power producers. As Senator Johnston stated, "the bill was narrowly crafted to achieve this purpose."¹¹² This was to be done by creating a new class of producer called the exempt wholesale generator (EWG) which was defined as any corporate person engaged exclusively in the wholesale generating business. Senator Johnston used the term EWG in place of IPP, Independent Power Producer, to draw a legal distinction between the two, as there could be independent (nonutility) power producers who would not be exempted under the 1935 Act. Affiliates of existing regulated holding companies were not allowed to automatically be reclassified as EWG's. The bill made it clear that only EWG's were to be exempted from the provisions of PUHCA and exempted all EWG's from the provisions of the 1935 Act.

The legislation provided that any EWG which was also in a retail utility's rate base had to receive approval from the appropriate State regulatory commission before it could be exempted from PUHCA. The bill was more limited in scope and application than previous legislative attempts, but it did provide that nonutility companies could develop EWG's without coming under the provisions of PUHCA and exempt holding companies could also develop EWG's without losing their exemption from PUHCA. With modifications, the Johnston legislation became the basis for the PUHCA reform provisions which were included in EPACT.

The Debate Over Jurisdiction

Johnston's bill would have significantly opened competition in electrical generation as entities owning no utilities other than EWG's could avoid the substantial regulations which PUHCA requires of utility holding companies, and utility holding companies would also be permitted to acquire EWG's free from PUHCA regulations.¹¹³ The sharpest opposition to the Johnston Bill was over the question of jurisdiction. The economic issues raised by the Johnston Bill are discussed in the next chapter. The National Association of Regulatory Utility Commissioners (NARUC) led the campaign, seeing this legislation as a further move toward Federal preemption of State regulatory prerogatives.¹¹⁴ As one spokesman for NARUC put it:

¹¹¹ Lucien E. Smart, "The Public Utility Holding Company Act: Its Intent and Purpose," *Public Utilities Fortnightly*, April 27, 1989, pp. 6-8.

¹¹² J. Bennett Johnston, U.S. Senate Committee on Energy and Natural Resources, "Competitive Wholesale Electric Generation Act of 1980," 101 Cong., 1st Sess., November 9, 1989, p.1.

¹¹³ Mason Willrich, "PUHCA Reform: Since Qua Non of a Competitive Power Supply Industry," *The Electricity Journal*, January/February 1990, p.36.

¹¹⁴ Bruce Hagen, "A Centennial of Public Utilities Regulations," *Public Utilities Fortnightly*, October 27, 1988, p.27.

The notion of increasing utility wholesale transactions subject to Federal regulation, at the expense of traditional rate base generating facility construction pursuant to State review, raises deep concerns on the part of State regulatory commissions on their future authority to effectively oversee the utilities operating within their jurisdictions.¹¹⁵

The Executive Committee of NARUC passed a resolution expressing their strong opposition and calling for the addition of four provisions to the legislation:

- Allowing each State commission the right to review the prudence of wholesale purchases by any utility under its jurisdiction.
- Preserving State commission's is right to continue to:
 - conduct bidding programs
 - require least cost planning
 - determine the appropriate technology and fuel mix for generation
 - ensure system reliability
 - restrict or prohibit affiliate transactions
 - approve any transfer of utility assets.
- Granting each State commission the right to review the books and records not only of the operating utility but of the holding company and any of its nonutility affiliates as well.
- Authorizing regional compacts to regulate multi-State holding companies.¹¹⁶

The concern of the State regulatory commissions stems from certain Supreme Court cases which limited their ability to rule on issues which had

already been adjudicated before the Federal Energy Regulatory Commission. The principal case concerned *Mississippi Power and Light Co. v. Mississippi ex rel. Moore*, 108 S. Ct. 2428 (1988). In this case Mississippi Power and Light developed and operated the Grand Gulf nuclear generating facility and sold electricity to four operating companies which were part of the Middle South Holding Company. The Supreme Court decided that the State regulatory authorities could not review the allocation by FERC of the cost of Grand Gulf among the four operating companies. A similar case involved *Nantahala Power and Light Company*.¹¹⁷ In this case two subsidiaries of the Alcoa company purchased power from the Tennessee Valley Authority (TVA) and had entered into an agreement allocating the costs of the power among them. This agreement was accepted by FERC. When North Carolina attempted to reduce the cost that had been assigned to Nantahala by using a different allocation of the cost of the TVA power, the Supreme Court overruled the State commission on grounds that it could not alter allocations already made at the Federal level. These two decisions, in combination with an earlier one¹¹⁸ which established the "filed-rate doctrine" prohibiting States from challenging wholesale costs which were established as just and reasonable by FERC, led the States to conclude that utilities would be able to avoid State regulation by purchasing power from unregulated independent power producers selling power across State boundaries.¹¹⁹

It should be noted that the States were not bereft of the capacity to review cost and rate decisions established by FERC. State regulators were allowed to inquire into a regulated utility's wholesale purchasing practice to determine whether or not a decision to purchase power from a specific source was prudent or whether there was a less expensive source of power which should have been selected

¹¹⁵Clinton A. Vince, "PUHCA Amendment and Multi-State Holding Companies: A Regional Regulatory Approach," A report prepared for the National Association of Regulatory Utility Commissioners, 1989, p. 2.

¹¹⁶Executive Committee, National Association of Regulatory Utility Commissioners, Resolution of a Reform of the Public Utility Holding Company Act, July 27, 1989.

¹¹⁷*Nantahala Power and Light Company v. Thornburg*, 476 U.S. 953 (1986).

¹¹⁸*Arkansas, Louisiana Gas Company v. Hall*, 453 U.S. 571 (1981).

¹¹⁹Statement of Charles D. Gray, S. Hrg. 101-538, pp. 187-199.

instead. The Pike County doctrine had been established in a Pennsylvania State court.¹²⁰ Recognizing that the Pike County doctrine could be an effective tool, State regulators sought to have it codified in Federal law to prevent the Supreme Court from prohibiting State regulatory review of purchases made by an integrated, interstate holding company and approved by FERC.¹²¹ NARUC also felt that the holding companies would develop subsidiary companies to establish EWG's to sell across the State lines and thus be subject to FERC, rather than State regulations which NARUC felt "...in the past, to be less than aggressive from the point of view of the affected State regulators."¹²²

The likelihood that State authority would be eroded under PUHCA reform was challenged by the Department of Energy (DOE), which cited the continued authority of State public utility commissions to review the processes for competitive procurement of new capacity as would take place under the Johnston Bill. In addition, the States would have the capacity to review any restructuring plans involving utilities under their jurisdiction, which sold power at retail. If the State commissions needed additional authority, they would be able to petition their State legislatures for additional power. DOE concluded "it is by no means clear that PUHCA amendment would erode State authority over utilities in favor of regulation by FERC. Rather, it would enable—but not require—a rearrangement that would leave many critical functions in State hands. In particular, the basic choices of how best to meet long term electric supply needs for retail sales would remain in the hands of the State and the utilities under its jurisdiction."¹²³

Recognizing that the market for producing electricity had been fundamentally altered in recent years, NARUC proposed that the Johnston Bill be amended to authorize States to jointly regulate additions to generating capacity made by holding companies, which included EWG's. This proposal

recognized that utilities usually plan capacity additions using a system-wide approach, rather than on a State-by-State basis. Under PUHCA reform the systems would extend beyond State boundaries, including facilities located many jurisdictions away from the ultimate retail seller. The holding company would be able to decide to expand capacity without appropriate review by the State regulatory body where the retail customers of the operating utilities were located unless the State regulatory commissions could join together to review whether or not the decision to build new capacity was reasonable and prudent.

Recognizing this, the New Orleans City Council requested that the Johnston Bill be amended to allow the voluntary formation of regional compacts of State regulatory commissions. The compact would be granted the capacity to regulate the holding company's generation planning decisions, and to perform cost allocations among the wholesale subsidiaries to the operating companies. Further, the compact would be empowered to conduct prudence reviews of the construction and power purchasing decisions made by the holding companies and/or their subsidiaries.¹²⁴ The decision of the regional regulatory authority would be binding upon FERC, the respective State regulatory commissions, the holding company, and the operating subsidiaries. Legislation to establish these regional compacts was introduced in the 98th Congress¹²⁵ which provided that two or more States could enter into a multi-State regulatory company to approve power supply plans for the utilities which operated jointly in their States. The regional authority would be allowed to regulate the rates for all wholesale power transactions for utilities operating within their jurisdictions and to require that the authority order utilities to provide transmission services. While not supporting any PUHCA reform, the State legislative authorities sought inclusion of this rec-

¹²⁰ Pike County Light and Power Company v. Pennsylvania Public Utilities Commission, 465 A. 2d 735 (1983).

¹²¹ Vince, p. 6.

¹²² Vince, p. 9.

¹²³ Technical Annex 1, p. 30.

¹²⁴ Vince, pp. 16-17.

¹²⁵ H.R. 5766, 98th Congress, 2nd Session, May 31, 1984.

ommendation in any proposal to substantially amend PUHCA.

PUHCA Reform in the National Energy Strategy Public Hearings

On July 26, 1989, President Bush directed the Secretary of Energy to develop a comprehensive National Energy Strategy for the nation. Consistent with this charge, the Department held 15 public hearings at various locations throughout the country and heard from more than 375 witnesses. In addition, the Department received over 1,000 written submissions. The hearings represented a broad base of input from State and local officials, consumer organizations, as well as business and industry. The results of these hearings were summarized in an interim report.¹²⁶ Regarding reform of the Public Utility Holding Company Act, as could be anticipated, the Department received conflicting input. The supporters of reform felt that "...modification of the Public Utility Holding Company Act of 1935 (PUHCA) would accelerate the trend towards competition in wholesale markets...."¹²⁷ Other reform advocates noted that utilities were reluctant to build baseload plants because of the uncertain regulatory treatment of construction costs under the traditional forms of regulation. Various witnesses took the position that additional generating capacity should not be built by traditional utilities, but through an expansion of independent power production which would lead to a more competitive market.¹²⁸

Opponents of modification of PUHCA contended that reliance upon independent power producers

would lead to an electricity supply which was both untested and questionably financed. In addition, numerous witnesses asserted that increased reliance on non-traditional sources of electric supply would lead to an overall diminution of system reliability. Several contended that independent power producers had undue financial advantages because they could employ higher fractions of debt in their capital structures than could traditional utilities. And others felt that reform of PUHCA would lead to self-dealing between holding companies and their subsidiaries which would not be in the best interest of consumers.¹²⁹ These arguments are discussed in detail in the following chapter.

Conclusions

While the late 1980's saw a change in the primary reasons advanced for change in PUHCA reform, the debate intensified rather than subsided. The success of PURPA in creating a new group of electricity generators led to requests for modification in PUHCA which would allow traditional utilities to participate in this type of generation as well as other independent power projects without running afoul of the Act. Substantial opposition developed when Senator Johnston introduced legislation to create a new class of independent generators from the Act. Concern was particularly acute about the effect this law would have on the ability of States to continue to regulate companies with non-regulated affiliates which could be located in other States. The Johnston bill became the catalyst for the reform of PUHCA which followed as many of its provisions were ultimately included in EPACT.

¹²⁶ U.S. Department of Energy, Interim Report, National Energy Strategy, A Compilation of Public Comments, April 1990.

¹²⁷ Interim Report, p. 112.

¹²⁸ Interim Report, p. 113.

¹²⁹ Interim Report, p. 114.

6. Economic Issues and The Reform of PUHCA

The Johnston proposal for establishing exempt wholesale generators (EWG's) focused the debate. This proposal was more subtle than its predecessors. It left intact the 1935 Act but allowed for a new exempt class of generator to develop which were not constrained by the restrictions of PUHCA or PURPA. Support for this approach was part of President Bush's National Energy Strategy (NES).¹³⁰ Inclusion of this more modest proposal for altering PUHCA limited the scope of the debate to what problems would be created if this new type of Independent Power Producer (IPP) was able to develop free from the restrictions of the Act. This chapter focuses on the major issues in that discussion: operational and financial reliability, system reliability, transmission access, and bypass. It summarizes the openness and evidence marshalled by both sides in support of their positions.

Operational Reliability

Operational reliability is defined simply as the ability of an IPP to produce electric power when requested.¹³¹ Some operating utilities are worried that if they were forced to contract for power with IPP's, or if IPP's are part of a holding company, the IPP's will not be able to generate power on a consistent basis in order to ensure reliable service to the utilities' native load customers. Those who desired to amend PUHCA took exception to claims of unreliability. They presented data which included information which they claimed showed that IPP's are consistently reliable and, in some cases, more reliable than utilities themselves.¹³²

According to these sources nonutility generators showed first-rate performance, especially in times of emergency.

In support of this position certain examples were cited. In 1988, when Hurricane Gilbert struck the Texas Gulf Coast, all but one of Houston Lighting and Power's (HL&P) contracted cogenerators' stayed on line. In fact, a number of the cogenerators increased their output to HL&P. However, HL&P downgraded the cogenerators performance and stressed the fact that some cogenerators informed the utility that the Hurricane might force them to shut down, a contractual option which was allowed in cases of imminent danger to personnel. Yet many, in reporting the situation, inferred from HL&P's statements that all the cogenerators had actually gone off line, leaving them stranded without the much needed power.¹³³ During the unusually cold first week in February, as HL&P's generators approached capacity, seven cogenerators increased output by up to 25 percent more than the contracted level of output. Again, HL&P stated that the cogenerators did nothing "above the call of duty" but had done what was "expected of them."¹³⁴

There are other examples which are given by IPP advocates to bolster the case for the reliability of independent power sources. In February of 1989, Southern California Gas cut its delivery of natural gas to Southern California Edison (SCE). SCE called upon and received the support of its contracted QF's. The QF's were able to increase output, and SCE was able to meet its customers' electricity demand.¹³⁵ Pacific Gas and Electric (PG&E) praised its QF's after an earthquake struck Northern California in October 1989. Eight of eighteen QF's remained on line continuously throughout the quake. The remaining eleven were back on line within 1 to 48 hours.¹³⁶

There are cases where, in emergencies, some IPP's failed to supply power. However, failed generation was not the

¹³⁰ U.S. Department of Energy, National Energy Strategy: Powerful Ideas for America, 1st edition, 1991, Washington, DC, p.7.

¹³¹ Jan Hamrin, "Nonutility Power and the Reliability Issue," The Electricity Journal, June 1989, p. 14.

¹³² "Performance of Independent Plants Generally Reliable, Utilities Say," Electric Utility Week, Jan. 29, 1990, pp. 12-14.

¹³³ "Cogenerators Protest HL&P Claims of Unreliability During Hurricane," Electric Utility Week, Oct. 17, 1988, pp. 3-4.

¹³⁴ "Another Dispute Emerges on Output of Cogenerators in HL&P Emergency," Electric Utility Week, Mar. 27, 1989, pp. 10-11.

¹³⁵ "Nonutility Producers Help SOCAL ED During Curtailment By SOCAL Gas," Electric Utility Week, Feb. 27, 1989, pp. 16-17.

¹³⁶ "Earthquake Caused Few Problems For Cogenerators in California," Electric Utility Week, Nov. 6, 1989, pp. 4-5.

reason given in the trade press, but the failure of the utility-owned transmission lines.¹³⁷ Emergencies, however, are not the only time IPP's are reliable.¹³⁸ A comparison of availability—the percentage of total time a generating source is available to produce power—between utilities and IPP's shows that IPP's are more reliable. Data provided by the supporters of IPP's found that IPP wind generators in California have an availability of 95 percent and IPP's in Texas have availability of 96 percent.¹³⁹ Data from the industry claims that overall, IPP-owned coal units run at 90 percent or more availability. By comparison, utility-built coal plants run at 75 to 80 percent availability, nuclear plants at 55 to 60 percent, and natural gas or oil at 80 to 90 percent.¹⁴⁰

This data notwithstanding, utilities have legitimate concerns as to the reliability of IPP's as the data cited by IPP's are based only on a small number of nonutility generators and may not be representative of how reliable IPP's could perform in an expanded market. Utilities, therefore, expressed three major concerns about the operational reliability of IPP's.¹⁴¹ Each is discussed below.

Overreliance on Single Fuel

IPP's will be dependent on low-cost, single type fuel and thus will be vulnerable to shifts in price and/or supply, contend those who are concerned about reliability. One utility executive testified that IPP's would be “vulnerable” to fuel cost increases especially if fuel shortages of the 1970's were to again occur.¹⁴² Noting that many IPP's would probably be fueled by gas, he stated that natural gas prices increased by 1,200 percent from 1973 to 1983 and, in his opinion, IPP's would be financially burdened by such high fuel costs should they recur. Either an IPP would have to close or the increase in fuel prices would have to be passed on to the utility and ultimately to the ratepayer. The ratepayer, supposedly a main benefactor of IPP power, would become the chief loser in such a situation.

Critics of this view felt that legislation which increased the number of IPP's would lead to more diversity in IPP fuel choices. Another utility executive called this a fallacy.¹⁴³ He stated that, because IPP's generate only for profit, they would build low-cost, small plants which are inexpensive to operate, and natural gas-fired plants fit such a description. Increasing IPP generating capacity, therefore, would actually accentuate fuel vulnerability and thus compromise the reliability of the system.

¹³⁷ “Earthquake Caused Few Problems For Cogenerators in California,” *Electric Utility Week*, Nov. 6, 1989, p. 4, and “Cogenerators Protest HL&P Claims of Unreliability During Hurricane,” *Electric Utility Week*, Oct. 17, 1988, p. 4.

¹³⁸ Roger Naill and Barry Sharp, “Risky Business? The Case for Independents,” *The Electricity Journal*, April 1991, p. 57.

¹³⁹ Hamrin, p. 17.

¹⁴⁰ Hamrin, p. 26, n. 8; Naill and Sharp, p. 57.

¹⁴¹ Statement of Linda Stuntz, Public Utility Holding Company Act Reform, Hearings on Title XV of S. 341 Before the Senate Committee on Energy and Natural Resources, 101st Cong., 2nd Sess., March 14, 1991, p. 16; Statement of E. Richard Brooks, Competitive Wholesale Electric Generation Act of 1989: Hearings on Amend. No. 267 to S. 406 Before the Senate Committee on Energy and Natural Resources, 101st Cong., 1st Sess. (538), Nov. 9, 1989, pp. 56-57 (S. Hrg. 101-538).

¹⁴² Statement of E. Richard Brooks, p. 56.

¹⁴³ See remarks by Edward F. Mitchell, “PUHCA Reform: 1990 Electric Utility Executives’ Forum,” *Public Utilities Fortnightly*, Vol. 125, May 24, 1990, p. 69.

The argument that all IPP's will become reliant on a single fuel source, specifically natural gas, thus leaving the power industry vulnerable to shifts in supply or cost is open to debate. Utilities control the specifics of power contracts.¹⁴⁴ For example, they may determine the type of fuel used by the IPP. Utilities, also, can specify preference for certain types of fuels in their requests for bids, a policy already instigated by Virginia Power.¹⁴⁵ Utilities may use other methods as well, such as requiring an IPP to get a long-term fuel contract or develop fuel storage facilities in order to ensure fuel-cost stability.¹⁴⁶ Critics of these utilities respond by charging that utilities have been less fair in their criticism of IPP's choice of natural gas, considering that two-thirds of future utility-owned generators are projected to be gas-fired.¹⁴⁷

Energy Information Administration (EIA) data does not support the percentage of new units built by utilities which will be gas-fired. During the next 10-years, utilities have indicated that they will add 44,255 megawatts of new capacity of which 49 percent will be gas-fired. Gas turbine and combined cycle units will account for 61 percent of the new capacity additions.¹⁴⁸ Even so the utilities have made plans for substantial use of natural gas.

Senator Johnston acknowledged that "one of the chief criticisms is that the legislation will somehow result in a dangerous overreliance on natural gas-fired facilities."¹⁴⁹ Natural gas, he felt, would become a growing source of electric generation no matter who constructed the plants because of its cost, availability, and desirable environmental characteristics. Without PUHCA amendments developers of independent power were virtually forced to build gas-fired QF's under PURPA. The terms of most cogeneration plants do not exceed 10 years which favors the lower initial cost plants which use gas. After PUHCA reform EWG's could have longer term financing options which would open independent power

to the higher initial cost plants which would probably use coal.

Impairment of Obligation to Serve

Utilities are required by law to provide their base load customers with reliable service. IPP's have no obligation to serve and thus may discontinue generation at any time. Utilities still are obligated to serve their customers and "the obligation to serve", contend the utilities, means providing continual, reliable service.¹⁵⁰ Critics of IPP's feel that if IPP's no longer find it profitable to produce power, they will discontinue operations, leaving utilities and their customers in the dark. The argument that since IPP's have no requirement to serve they are unreliable is also considered questionable by their supporters. Besides the contractual obligation requiring IPP's to perform reliably, they also have financial incentives to be reliable. Today, power is usually purchased through a performance-based contract; IPP's, therefore, only profit when they produce, thus creating a definite incentive to perform.¹⁵¹ Furthermore, some contracts contain provisions for financial penalties if an IPP fails in its contractual obligation to provide power on time and maintain standards of operation and maintenance.¹⁵² IPP's which become EWG's under EPACT may be part of a holding company system which will further increase their incentive to be reliable as the company which controls the EWG's will also control the operating utilities.

Start-Up Reliability

Even at conception IPP's are not reliable, as they may not advance beyond the start-up or construction stage, contend those who question the reliability of IPP's.

IPP projects have to be constructed before they can generate. Start-up reliability has been a problem, and utili-

¹⁴⁴ Statement of William Berry, S. Hrg. 101-538, Nov. 16, 1989, p. 177.

¹⁴⁵ Hearings on the National Energy Strategy, Washington, DC, Statement of William Berry, Jan. 22, 1990, p. 6.

¹⁴⁶ Hamrin, p. 23.

¹⁴⁷ Reliability Subcommittee of the National Independent Energy Producers PUHCA Task Force, "The Reliability of Independent Power: Operating System Planning, Fuel and Financial," Sept. 1991, p. 6.

¹⁴⁸ Energy Information Administration, Inventory of Power Plants in the United States 1991, Oct. 1992.

¹⁴⁹ Johnston, pp. 8-10.

¹⁵⁰ Naill and Sharp, p. 56.

¹⁵¹ Statement of William W. Berry, S. Hrg. 101-538, Nov. 16, 1989, p. 171.

¹⁵² Statement of William T. McCormick, Jr., S. Hrg. 101-538, Nov. 9, 1989, p. 21.

ties and other critics are quick to point it out. For example, in 1987, Boston Edison contracted for power with nine IPP's. By the end of 1989, six of the projects had failed due to financial trouble and/or siting difficulties.¹⁵³ In 1988, four IPP's who had entered into contracts with Virginia Power were unable to come on line due to their inability to get access to the grid.¹⁵⁴

Supporters of PUHCA reform feel that despite the tribulations that Boston Edison faced, the problems of start-up reliability can be remedied. First, utilities, through close review of a project's financing, design, and past record, could at least eliminate those projects that are obviously going to be less reliable than others.¹⁵⁵ If, after an investigation, a utility wishes to enter into an agreement with an IPP, contractual arrangements can specify start-up reliability and operational reliability.¹⁵⁶ For example, many utilities and some States require the IPP to provide earnest money—i.e., an up front deposit to be paid to the utility in case of failure in order to reimburse it for the risk, proof that they (IPP's) have a secured location for the plant and have filed applications for all necessary permits. Furthermore, to quell utilities' fears concerning maintenance and equipment, utilities can specify in the contract the type of equipment used and the maintenance standards also. Even so, these contracts can only specify standards and provide penalties, but they cannot necessarily ensure performance.

Financial Reliability

Like operational reliability, the financial reliability of IPP's is a very divisive issue.¹⁵⁷ Utilities are confined by regulations and market forces to roughly a 50/50 debt-to-equity ratio due to the high risk involved with earnings that are reliant on unpredictable sales.¹⁵⁸ The logic be-

hind this regulation is that interest payments on debt must be paid when due no matter what the financial circumstances of the utility. During the 1930's, many utilities used debt financing almost exclusively, and as a result had fixed payments which they could not meet when the Great Depression hit, forcing down revenues. IPP's, however, are not regulated as to the amount of debt they may incur.¹⁵⁹ The commonly held belief is that IPP's will carry 90 percent or more of nonrecourse debt in order to take advantage of the tax deductibility of debt interest payments.¹⁶⁰ Because IPP's are likely to be so highly leveraged, those who opposed amendment to PUHCA felt that the IPP's, financially, would be unstable.

Proponents of PUHCA reform argued that one of the basic premises of the opposition—that IPP's will be relying on at least 90 percent of nonrecourse debts—is wrong. In a response to questions posed by the Senate Committee on Energy and Natural Resources, a statement was made that most IPP's have a 75/25 debt-equity ratio, and to finance a project with more than 80 percent debt “would require an extremely strong power contract....”¹⁶¹ When asked the same question, a Chief Executive Officer of a company which commonly uses IPP's said that IPPs carry between 70 and 85 percent debt.¹⁶² Furthermore, proponents argued, the opponents to amendment continually made the implicit assumption that the IPP will maintain high levels of debt “over the life of the project.”¹⁶³ As an IPP retires its debt, the equity in the project increases until the IPP is completely financed by 100 percent equity. Utilities, by contrast, maintain roughly 50 percent or more of debt throughout the entire life of the project.¹⁶⁴ IPP's could maintain a high debt ratio if they constructed new facilities out of cash flow rather than paying down debt.

¹⁵³“Small Power: Boston Ed Picks 9 Independent Power Projects to Supply a Total of 350 MW,Electric Utility Week, July 6, 1987, pp. 18-19; “Planning: Boston Edison Selects Two 100 MW Bids in its Second Solicitation,Electric Utility Week, Dec. 25, 1989, pp. 5-6.

¹⁵⁴U.S. Department of Energy, National Energy Strategy, Electricity Transmission Access, Technical Annex 3, p. 6.

¹⁵⁵Hamrin, p. 15.

¹⁵⁶Reliability Subcommittee of the National Independent Energy Producers PUHCA Task Force, p. 5.

¹⁵⁷ See generally S. Hrg. 101-538.

¹⁵⁸ William Conway and Karl Hausker, “Financial Issues in PUHCA Reform,” Memorandum to Members and Energy Legislative Assistants, Committee on Energy and Natural Resources, March 13, 1991, p. 1.

¹⁵⁹ Statement of Sherwood H. Smith, Jr., S. Hrg. 101-538, Nov. 16, 1989, p. 141.

¹⁶⁰ Smith Statement, Nov. 1989, p. 141.

¹⁶¹ Response of William T. McCormick, S. Hrg. 101-538, p. 350.

¹⁶² Responses to Mason Willrich, S. Hrg. 101-538, p. 366.

¹⁶³ Reliability Subcommittee of the National Independent Energy Producers Task Force, p. 11.

¹⁶⁴ Reliability Subcommittee of the National Independent Electric Producers Task Force, p. 11.

The argument over the exact amount of IPP debt that will be incurred aside, there remain three fundamental questions raised by the high leveraging of an IPP:¹⁶⁵

Does high debt lead IPP's to be unstable both financially and operationally?

The opponents of PUHCA reform answered “yes” to the question. The instability of IPP's due to financing needs no empirical evidence but only a knowledge of current events, said those opposed to amendment, to prove that PUHCA restrictions should remain.¹⁶⁶ The fear is that IPP's will put themselves into the same type of financial burden that Savings and Loans (S&L's) faced in the 1980's, so that eventually the whole system must crash if the IPP's are unable to repay their debt. Furthermore, the highly leveraged power industry of the 1920's and its eventual demise are what brought PUHCA into existence in the first place, so argue some. To repeal PUHCA would return the U.S. power industry to the early days of pending financial disaster, according to the critics of change.

The analogy between IPP's and other financially troubled industries is a questionable one which has no basis in fact said the proponents of reform.¹⁶⁷ S&L's had no financial responsibility because all the risk involved were shouldered by the Federal Savings and Loan Insurance Corporation. An IPP, on the other hand, has a financial responsibility to their shareholders, a responsibility which would increase if they were part of a holding company. When the same opponents criticized IPP leveraging as similar to that of the power industry before PUHCA, they failed to understand that the leveraging of the 1920's was on the holding company level which was based on paper and “not supported by underlying asset values.”¹⁶⁸ The value of an IPP will be asset based. If

there was a problem with leveraging it would be with the holding company. The existing rules for financial disclosure should reveal any problems of excessive leveraging.

Does leveraging create a cost-of-capital advantage over utilities for the IPP?

A cost-of-capital advantage is supposedly conferred on IPP's by Federal tax law due to the differential treatment of debt and equity.¹⁶⁹ Since utilities are regulated as to the amount of debt they may carry, the IPP's would be the recipient of lower cost-of-capital since they would use more debt and be able to deduct the interest payments. For example if an IPP and a utility were to build a \$100 million generator with the utility raising half of the capital cost from debt and half from equity while the IPP used 80 percent debt and 20 percent equity and the interest rate on the debt was 8 percent, then the value of the interest deduction (assuming a corporate tax rate of 28 percent) would be \$1.8 million to the IPP but only \$1.1 million to the utility. Therefore, utilities contend, IPP's will be at a substantial financial advantage. In fact, one utility executive stated before a Senate hearing on PUHCA that IPP's “could have a cost-of-capital advantage over utilities...of 20 to 30 percent.” Such an advantage would create a substantial pricing benefit for IPP's.¹⁷⁰

How do IPP's create such a cost-of-capital advantage and maintain such an enormous debt?

Basic finance theory states that as debt increases there is a greater risk in servicing the debt, thus the cost-of-capital should increase.¹⁷¹ Utilities argue, therefore, that the only way for the IPP to sustain such high debt is to shift the financial risk to the utilities.¹⁷² The IPP thus can

¹⁶⁵ See comments of Mason Willrich, “PUHCA Reform: 1990 Electric Utility Executives' Forum,” *Public Utilities Fortnightly*, May 24, 1990, p. 69; Conway and Hausker, p. 1.

¹⁶⁶ David G. Raboy, “Risk Shifting and Its Consequences in the Electric Power Industry: PUHCA Changes and Industry Power Development,” Prepared for the Electric Reliability Coalition, May 29, 1991, pp. 31-33; Karl Hausker, “PUHCA Reform and Debt Leveraging by IPP's,” Memorandum to Members and Legislative Assistants, Committee on Energy and Natural Resources, U.S. Senate, Nov. 15, 1989, p. 4.

¹⁶⁷ Conway and Hausker, pp. 4-5.

¹⁶⁸ Conway and Hausker, p. 5.

¹⁶⁹ Statement of A. Drue Jennings, S. Hrg. 101-538, p. 68; Statement of Sherwood H. Smith, Jr., S. Hrg. 101-538, p. 141.

¹⁷⁰ Statement of Sherwood H. Smith, S. Hrg. 101-538, p. 141.

¹⁷¹ Raboy, p. 1.

and the concomitant locking into a firm contract...represents the most significant drain on the utility's financial flexibility."¹⁷³ The "drain" is the fact that, as the utilities accept the demand risk, their debt ratings fall and their cost-of-capital goes up as they must pay higher interest rates when they borrow.¹⁷⁴ The increased benefits from efficiency and lower rates to consumers which are expected to occur with the use of IPP's may not materialize.

According to advocates of PUHCA reform utilities are able to avoid any financial risk associated with the purchase of the highly leveraged power. For IPP contracts to seriously affect the financial stability of utilities, the contract agreement must be viewed as a debt or liability—an "unconditional obligation" to pay—by the utility. To avoid the financial risk involving debt incurrence, which is assumed under a "take-or-pay" contract, utilities today sign performance-based contracts designating utility payment only for the power that is delivered. In fact, these contracts can be canceled by the utilities, assuming they have any alternate generating source, for poor performance by the IPP, thus reducing the liability.¹⁷⁵

If they do not involve take-or-pay, IPP purchases may be no different from interutility purchases, both of which are contractual arrangements. If firms rate corporate debt (Moody's or Standard and Poor's treat the contracts as debt or quasi-debt) utilities would simply assimilate that information into their determination of whether to build or buy.¹⁷⁶ Standard and Poor's does not seem convinced that contractual agreements with IPP's are debt: "...S&P does not simply treat them (power contracts) as debt equivalents."¹⁷⁷

PUHCA reform supporters contend utilities currently show no signs of financial weakness caused by purchases from IPP's or cogeneration.¹⁷⁸ According to those advo-

cates of reform, since the enactment of PURPA in 1978, the power contracts with QF's have not been considered debt or have they affected the cost-of-capital of a utility. Two supporters of purchasing power from IPP's reported that utilities which have pursued power contracts with IPP's have, since 1985, seen their bond rating exceed the industry average and may have actually been able to increase their credit rating.¹⁷⁹

Recent evidence casts doubt on this conclusion. In September of 1992, Moody's Investors Service lowered the debt ratings of Consumers Power Company, Virginia Power Company, Orange and Rockland Utilities, and Southern California Edison in part because of the risks associated with their purchase power contracts with the IPP's. This is primarily due to the failure of utility regulators to recognize that utilities will have to be allowed a higher profit margin on the total business or a higher return on rate-based assets if they are to be adequately compensated for the risks of purchase power.¹⁸⁰

There are financial risks associated with purchased power depending on the terms of each contract. While these agreements will not appear as debt under the Generally Accepted Accounting Practices (GAAP), many analysis will consider them to have very similar impacts to debt on the financial viability of the company.

System Reliability

Whereas operational reliability is concerned with how dependable a single IPP or generating source is, system reliability deals with total integration of all generating sources in conjunction with transmission and distribution.¹⁸¹ Thus the question of system reliability is whether the entry of numerous IPP's into the power market will impact the power system's ability to provide consistent, dependable service to native load customers

¹⁷² Raboy, p. 1.

¹⁷³ Moody's Investor Service, "Moody's Special Comments," Aug. 1990, p.5.

¹⁷⁴ Raboy, pp. 24-25; Glenn P. McIsaac, "IPP Financing Advantage: Separating Fact from Fiction," Energy Management Associates, p. 12.

¹⁷⁵ Naill and Sharp, pp. 59-61

¹⁷⁶ Hausker, pp. 3-4.

¹⁷⁷ Standard and Poor's, Utilities Credit Comment," March 26, 1990, p. 2.

¹⁷⁸ Hausker, pp. 1,4.

¹⁷⁹ Naill and Sharp, pp. 55-56, Fig. 1.

¹⁸⁰ Thomas J. Marshella, et. al., "Moody's Continues to Weigh the Credit Risks of Purchased Power on Electric Utility Credit Quality,"

Moody's Investors Service, September 1992, p. 1.

¹⁸¹ General Accounting Office, Electricity Supply: Potential Effects of Amending the Public Utility Holding Company Act, Report to the Chairman, Subcommittee on Energy and Power, Committee on Energy and Commerce, House of Representatives, Jan. 1992, p. 18.

(those customers living in a utility's service area that it is required to service).

The issue of system reliability hinges on a single word: coordination. Most concerns pertaining to this debate center on how coordination, or lack thereof, of a larger number of grid participants will affect the reliability of the system. As stated in an Office of Technology Assessment report:

The greatest challenge...is maintaining the high degree of coordinated planning and operation among...system components. If coordination is not addressed with appropriate care, the system may experience increasing costs and decreasing reliability.¹⁸²

To understand why coordination is so important, one must first understand the nature of electricity and the transmission grid. Since electricity cannot be stored, at all times the supply of electricity must match demand. Generators are constantly changing output in order to maintain equilibrium. Power produced by each individual generator affects the whole transmission system because electricity follows the path of least resistance. Since the transmission grid connects hundreds of utilities, electricity produced by one utility could easily travel over another utility's lines, an occurrence called "loop flow." Loop flow has the effect of forcing the utility upon whom the flow has been imposed to reduce the use of its own lines. Finally, the transmission lines themselves have limits. If a line is at capacity and additional electricity is forced on, the line will overload and protective devices will shut it down and prevent physical damage. When the line goes down, there are fewer lines to handle the same amount of electricity which may, in turn, cause other lines to overload. This creates a downward spiral or "cascading outages" which might lead to system failure. The whole power industry is a "slave to the laws of physics." Each part of the system is, in itself, a keystone. The breakdown of a single component can cause failure of the system or at least cause rapid adjust-

ment in order to compensate for the failure. Coordination among power plant transmission system operators is paramount in order to maintain system reliability.¹⁸³

The nature of electricity and transmissions lines are what concern the utilities most about system reliability and the increasing number of IPP's. Will the IPP's, in order to maintain the equilibrium of electricity, be "dispatchable" or willing to go off and on line as demand dictates? Can IPP's be coordinated into the system in order to mitigate these problems?

Assuming increased bulk power sales with more IPP's in the market, utilities would have a perverse incentive to contract for power knowing that they will receive "free flow" over other's lines. Transmission lines are limited in their capacity. If loop flow does occur over some utility's lines, then its only option is to decrease the usage of its lines or risk overload and the failure of its lines. However, if the utility decreases its usage, obviously, it decreases reliability to its native load customers. Utilities' fears that loop flows will cause instability in the system are not totally unfounded.¹⁸⁴ Loop flows occur often in the U.S. grids, especially in the Western Interconnected System. With more IPP's the problem of loop flows could only exacerbate the claim of the critics.

Loop flows undeniably do exist and are a problem. However, they can be mitigated according to those who wish to see more independent production. Again, through very stringent contractual obligations which specify the exact amount of capacity that the IPP is to generate, when that power is to be generated, and "transmission access rights," all of which have to be in strict coordination with the whole industry, reliability can be maintained. If coordination is properly undertaken, compensation based on the opportunity cost of line usage, can be awarded to those utilities which will bear part of the cost of transmission use by the IPP.¹⁸⁵ Besides contractually maintained reliability, technology can help to curb the problem of loop flow.¹⁸⁶ For example, a phase shifting transformer can actually direct the flow of electricity on the transmission lines. Increased use of ad-

¹⁸² U.S. Congress, Office of Technology Assessment Electric Power Wheeling and Dealing: Technological Considerations for Increasing Competition, May 1989, p. 15.e

¹⁸³ Office of Technology Assessment, pp. 12-14, 105, S. Hrg. 101-538, pp. 702, 703, 707.

¹⁸⁴ Office of Technology Assessment, pp. 111, 114.

¹⁸⁵ S. Hrg. 101-538, pp. 462, 707, 712.

¹⁸⁶ Office of Technology Assessment, pp. 14, 42.

vanced communications technology has helped to limit loop flow even while bulk sales have increased. Finally, high-power semiconductors, still in the development stage, can be used as “switches” to control the amount of flow on a line. A similar system is being used on high voltage direct current lines to allow “complete control of network flow.”¹⁸⁷

A second major concern of utilities is whether IPP’s will be dispatchable. To maintain reliability, supply must always equal demand, and the dispatchability of generating sources is critical to that maintenance. For purchased power to be easily integrated into the system, the IPP must be as dispatchable as any utility generator. However, since IPP’s garner income only as long as they generate, utilities feel that they will have a negative incentive to remain on line, thus compromising the system.

Dispatchability is also essential in order to maintain the proper fuel mix which leads to least-cost power production for the system. Utilities are constantly changing the fuel mix in order to minimize total production costs. If an IPP does not reduce its output, however, a utility may be forced into using higher priced power. Finally, if IPP’s are not dispatchable, then an overload of the grid could occur which might cause the system to fail. Utilities’ fear of non-dispatchability stems from their experience with PURPA which, at times, forced them to buy power even if it was not least-cost. Also, PURPA made no provisions for “economic dispatch.”¹⁸⁸ Economic dispatch is based on the incremental cost of generation operation and allows continual maintenance of least-cost power generation.¹⁸⁹

IPP’s argue that provisions in the PUHCA reform legislation do not force any utility to buy power and, if power is bought, dispatchability is an option utilities have. The Department of Energy Secretary testified that today

“emphasis [on dispatchability in power purchase contracts] is common.”¹⁹⁰ IPP’s also point to the fact that dispatchability has become a requirement in most power contracts.¹⁹¹ For example, all power contracts entered into by Virginia Power include provisions for complete dispatchability.¹⁹² Furthermore, according to a report by the Office of Technology Assessment, some IPP’s operate almost completely like any other utility generator as far as dispatchability is concerned.¹⁹³

Lastly, IPP’s try to counter the utilities’ fears of non-coordination and system non-reliability by professing other methods to maintain reliability. First, as in most arguments, IPP’s strongly believe in the power of the contract. A properly structured contract can provide for “smooth integration” and coordination of an IPP into the system.¹⁹⁴ To increase reliability, utilities should try to diversify their power contracts as far as size and fuel mix of generators are concerned. By contracting with numerous IPP’s, utilities decrease the “statistical probability” of all the generators’ combined megawatts being unavailable in comparison to a single IPP of same size of output. To compensate for the failure of one small IPP would be easier than to try and do the same with one large generator. Reliability is thus increased with the greater number of IPP’s with which a utility has contracts.¹⁹⁵ By diversifying fuel mix, utilities would decrease the probability that fuel price fluctuations or availability would significantly affect reliability. IPP’s feel that utilities have the power to maintain reliable systems even with purchased power.¹⁹⁶

Throughout the whole argument over system reliability both sides have one thing in common: neither truly knows how opening up the market for power will affect reliability. There is very little hard information to support a strong case for either side. Competition for power has only been a small percentage of power procurement, and most experiences under PURPA were not free mar-

¹⁸⁷ Office of Technology Assessment, pp. 14, 42.

¹⁸⁸ Statement of Linda Stuntz, p. 17.

¹⁸⁹ S. Hrg. 101-538, p. 712.

¹⁹⁰ S. Hrg. 101-538, p. 17.

¹⁹¹ U.S. Department of Energy, Technical Annex 3, p. 18.

¹⁹² S. Hrg., 101-538, p. 174.

¹⁹³ Office of Technology Assessment, p. 133.

¹⁹⁴ S. Hrg. 101-538, p. 174.

¹⁹⁵ Hamrin, p. 27, n. 14.

¹⁹⁶ Reliability Subcommittee of the NIEP PUHCA Task Force, p. 5.

ket procurements of power, providing little previous experience as to the effects of competitive procurements on system reliability. The Office of Technology Assessment has concluded that system reliability in a more open market is “uncertain.”¹⁹⁷

Self-Dealing and Cross-Subsidization

Self-dealing and cross-subsidization are issues that elicit concerns from a strange group of bedfellows—IPP’s, utilities, and consumer groups. They fear that utilities under PUHCA reform will participate in questionable practices with IPP or EWG affiliates that will hinder competition and burden the ratepayers with increased costs. Their fears are forged in the historical fact that such misdealings were rampant in pre-PUHCA days and were a contributing factor in the instigation of PUHCA. Critics contend that under a reformed PUHCA, a return to those deviant days is possible because utilities might not be precluded from building and owning EWG’s and their activities could fall outside either effective Federal or State regulation.

Abusive self-dealing involves preferential treatment that a utility confers on its affiliates. Such deals could include not only paying higher prices for contracted power but also giving lenient non price contract terms such as providing the affiliated EWG with the details of bid solicitations or using a bidding system that is weighted toward the affiliate.¹⁹⁸ In one situation a utility was found by the State PUC to have acted imprudently by giving “more liberal terms and conditions” in regard to the type of capacity delivered by an affiliated QF.¹⁹⁹ The terms of the contract were viewed as leading to the assumption by the utility of undue risk, with the consumers having to bear that risk in rates.²⁰⁰ Some of the non price preferences included the termination of the 20-year contract by the QF after 12 years without penalty, and the allowance of

the QF to unilaterally increase capacity without consulting the utility.²⁰¹

Cross-subsidization is the shifting of risks or costs from the utility’s affiliate to its ratepayers. For example, the affiliate could purchase the services of the utility’s design or engineering team at a rate much cheaper than what they would have cost if procured in the market. In such a scheme, the affiliate gains unfair competitive advantage. Granting such a cost advantage could maintain operations of an inefficient affiliate or make the affiliate more profitable. Thus the whole purpose of PUHCA reform, to bring least-cost, competitive power generation to market, could be subverted.

Shareholders rather than ratepayers could benefit if the utility shifts the risk involved in investment to the ratepayers.²⁰² This occurs when the charges collected by the utility from its customers are then used by the holding company to finance the EWG. The customers pay but the shareholders of the holding company receive the benefit. Cross-subsidization can also work in reverse if shareholders are made to give up part of their return to subsidize certain classes of customers. For example, gains accrued to the shareholder through increased profits by the affiliate could be awarded to the ratepayers, especially large customers like manufacturers, in order to induce them to remain with the utility.²⁰³

The continuation of strict regulatory oversight by both FERC and State regulators was seen as key to the prevention of these abuses. Utility executives felt that regulators have the authority to prevent self-dealing and cross-subsidies²⁰⁴. The CEO of Virginia Power stated that his company’s affiliates are precluded by Virginia State regulators from responding to solicitations for bids by Virginia Power unless authorized to do so. Protective measures should not be so strict as to prevent the ratepayer from receiving the maximum benefits from contracted power regardless of whether the contracting IPP

¹⁹⁷ Office of Technology Assessment, pp. 7-8.

¹⁹⁸ S. Hrg. 101-538, p. 786.

¹⁹⁹ U.S. Department of Energy, National Energy Strategy: Analysis of Options To Amend The Public Utility Holding Company Act of 1935, Technical Annex 1, First Edition 1991/1992, pp. 30-31.

²⁰⁰ “SOCAL Edison Disallowed \$48 Million From Power Pact Involving Affiliate,” Electric Utility Week, Oct. 1, 1990, p. 15.

²⁰¹ “ALJ Proposes Limits on SOCAL ED Dealings with Mission Affiliates,” Electric Utility Week, pp. 6-7.

²⁰² S. Hrg. 101-538, p. 786.

²⁰³ U.S. Department of Energy, Technical Annex 1, p. 34.

²⁰⁴ Statement of Mason Willrich, S. Hrg. 101-538, pp. 42-43, pp. 177-178.

is an affiliate or not.²⁰⁵ Furthermore, the power of FERC in approving rates could help to control risk shifting to the ratepayers, and the full access by State regulators to utilities' books as provided in PUHCA reform legislation should control cross-subsidies. Dealings involving an interstate transaction could hinder the effectiveness of State regulators. A State, therefore, could be allowed access to the books if it can prove to a "Federal court that such access is needed to perform a State regulatory function."²⁰⁶

Those who do not see a problem with self-dealing and collusion see competition helping to control unfair practices. In an open market, competitors have the most to lose from these practices. It is to their advantage to inform regulators of possible abuses by their competitors and to assist them in their investigation. Such cooperation should lead to a self-policing market.²⁰⁷

Transmission Access

Transmission access was one of the most complicated issues in the debate over PUHCA reform. Early in the debate the issue of transmission access was considered a distinctly separate issue apart from PUHCA reform. Such a view, however, seemed paradoxical considering how intertwined the issues of system reliability and bypass are with transmission access. The issue causes numerous shifts in positions with respect to PUHCA reform. For example, some who supported PUHCA reform opposed such reform if it included open transmission access. Some opposed reform because the Johnston amendment to PUHCA did not include transmission access. Others believe access should be dealt with as a separate legislative issue, while others believe it should not be dealt with at all.²⁰⁸

Despite developing competition in electric generation and retail markets for electricity, transmission remains as a natural monopoly. In most instances the building of competing transmission lines to bring service to an area

would be redundant as well as costly to consumers. The issue was, "Will the competition sought by the PUHCA reformers occur if access to transmission lines is not open to all"? Should the lines now owned and controlled by utilities become common carriers providing nondiscriminatory service not only to their owner but also to all others wishing to use them? The Department of Energy provides this synopsis:

Advocates of increased transmission access argue that local utilities, through their control of transmission lines, may reduce competition and increase their own profits at the Nation's economic expense. Many utilities disagree, suggesting that they are already allowing considerable transmission access and that to do more could harm the reliability of the system and increase the likelihood of blackouts. They also argue that because competitive bidding has been vigorous, and because wholesale buyers have locally available alternatives to purchases from distant utilities (such as self-generation, conservation, or continued purchase from the local utility), more transmission access is not needed. They point out that, in conjunction with the traditional obligation of the utility to serve, transmission access could cause inequities such as 'stranded investment'—that is, investment in generating equipment that was built in part to serve customers that now seek other suppliers.²⁰⁹

The two positions in the debate are (1) that access should remain a voluntary action as is currently practiced by the utilities, and (2) that transmission access should be completely mandatory and open for all to use. Both the positions will be discussed as well as three alternate proposals.

Many utilities feel that the only way to maintain efficiency and reliability is for access to remain voluntary.²¹⁰ The physical properties of electricity and transmission lines require that at any given time output equal

²⁰⁵ S. Hrg. 101-538, p. 364.

²⁰⁶ U.S. Department of Energy, Technical Annex 1, p. 34.

²⁰⁷ U.S. Department of Energy, Technical Annex 1, p. 31.

²⁰⁸ See generally S. Hrg. 101-538; Marshall Yates, "Transmission Access is Focus of Attention, Public Utilities Fortnightly, November 9, 1989, p. 6; Leonard S. Greenberger, "PUHCA Reform Debate Grows—and Spreads, Public Utilities Fortnightly, April 15, 1991, pp. 36-37.

²⁰⁹ U.S. Department of Energy, Technical Annex 3, p. 2.

²¹⁰ Testimony of John Ellis before the Public Hearings on the National Energy Strategy, Round II, January 22, 1990, p. 9.

demand or the system will run an increased risk of failure. From the utilities' perspective, a compromise on transmission access will negatively affect system reliability. With a voluntary system of access, utilities contend that they will be able to maintain the balance needed to insure reliable service. Furthermore, a voluntary system provides a financial incentive to utilities to maintain system efficiency because excess transmission capacity becomes a potential source of revenue generation for them.²¹¹

Utilities opposed to open access were concerned with how their obligation to serve native load customers would be affected²¹². A voluntary system, utilities believed, was the only way to maintain the rights of native load customers, because the system was based on the sale of excess transmission capacity which is above what is needed to maintain native load reliability. These utilities observed that there has been substantial growth in the independent generating sector with the voluntary system in place. For example, from 1980 to 1987, notification to FERC of IPP production increased nearly 13,000 percent.²¹³ And since the enactment of PURPA, nonutility generators have come to represent 5 percent of total generating capacity.²¹⁴ Furthermore, from 1971 to 1985, voluntary access to the grid given by the utilities "increased 192 percent."²¹⁵

Conversely, IPP's and public power producers were antagonistic to the voluntary access system. In their view, voluntary access was just a method that propagated the monopolistic control that the utilities had on the transmission system.²¹⁶ They feared that utilities would unfairly use their monopoly power to hinder competition in bids for power.²¹⁷ In 1988, for example, four IPP's were unable to obtain transmission access in order to fulfill

bids won from Virginia Power.²¹⁸ Utilities, in fact, are not immune to changes of monopolistic abuses. In 1991, Public Service of Indiana (PSI) complained to FERC that it had unfairly been discriminated against by American Electric Power (AEP). According to PSI, AEP only contracted to provide transmission capacity for a 12 month period, positioning itself to be the only short term supplier of energy.²¹⁹

Finally, these groups are quick to point out that utilities are using the fact of the enormous increase in IPP production notification as a smoke screen. Notification does not mean that an IPP has actually gone on line as they can be hindered by lack of deferred transmission access. In fact, only about 40 percent of the capacity filed with FERC between 1980 and 1986 came on line.²²⁰ Lack of transmission access was not the only reason why a huge percentage of power never came on line; siting and financial difficulties were others.

Because IPP's questioned whether power generation can truly be competitive in a market where the transmission system is owned by a few, they opted for open or mandatory access to the grid for all. Utilities were adamantly opposed to such access. They claim that open access would lead to inefficiency.²²¹ Their argument for inefficiency basically rested on the same concerns that they had about system reliability bypass and, especially, loop flow.²²² Open access, which will only increase the number of grid participants, would increase the problem of loop flow causing increased grid failure with the higher probability of blackouts.²²³ Recall that system reliability requires extensive coordination on the part of all generating sources. Open access, utilities feared, would severely erode coordination, not only due to the increased number of participants, but also due to a great

²¹¹ S. Hrg. 101-538, p. 23.

²¹² S. Hrg. 101-538, Appendix A, pp. 469-475.

²¹³ Office of Technology Assessment, pp. 46-47.

²¹⁴ General Accounting Office, p. 23.

²¹⁵ Testimony of John Ellis on the National Energy Strategy, Jan. 22, 1990, p. 9.

²¹⁶ American Public Power Association, Power Flow: Electric Transmission Access and Public Policy, p. 1.

²¹⁷ Greenberger, p. 37.

²¹⁸ U.S. Department of Energy, Technical Annex 3, p. 6.

²¹⁹ "AEP Blasts PSI for Allegations to FERC on Transmission Access," Electric Utility Week, July 22, 1991, pp. 1-2; "DOE, PSI Urge FERC to set Rule on Transmission," Electric Utility Week, June 17, 1991, p. 1.

²²⁰ Office of Technology Assessment, p. 47.

²²¹ S. Hrg. 101-538, Appendix A.

²²² S. Hrg. 101-538, pp. 25-26.

²²³ U.S. Department of Energy, Technical Annex 3, p. 2.

number of the new participants being non-dispatchable, thus further exacerbating the problem of loop flow.²²⁴ Even if the grid were opened, utilities still would own the transmission lines and would have the obligation to maintain those lines. Two problems arose from this. First, the open use of the lines by IPP's would be, in effect, subsidized by a utility's ratepayers, since it is these customers who would pay through increased rates to maintain and develop the lines.²²⁵ Second, open access would be a disincentive to a utility to further develop its grid.²²⁶ Why build more transmission lines when utilities would receive only limited use of the increased capacity while IPP's would reap gains through free-riding? This situation, however, was truly a dilemma for the utilities. In some cases, if the utility had not build extra lines, then the ratepayers will suffer decreased reliability due to loop flow. The utility's obligation to serve was in direct conflict with the disincentive to build. To add to a utility's problem, should a utility decide to make additions to the grid, it would be hindered by not knowing where future IPP's would be located, making it difficult to know where to site the lines.²²⁷

Unlike these utilities, those favoring access saw gains by the opening up of the grid. In their opinion, increased access would increase competition which would decrease costs and increase efficiency in the power generating market.²²⁸ The ratepayers, as the recipients of lower rates, would be a major benefactor in a open access system.²²⁹ Bypass, also, would lead to higher efficiency.²³⁰ According to IPP's, open access would allow more wholesale buyers in the market. In order for a utility to retain its market share, it would have to become more cost-efficient.

Reliability would not suffer, according to open access advocates, if control mechanisms remain ahead of ac-

cess.²³¹ For example, increased computer technology has permitted expanding access in recent years.²³² According to the Office of Technology Assessment, there is "no insurmountable problem of technical feasibility" in increasing competition as long as a system of coordination could be devised.²³³ Whether IPP's would be willing to submit to a central control including economic dispatch is unclear. However, IPP's definitely believed that technology would maintain reliability. Flexible AC Transmission Systems (FACTS), a technology currently under development, would allow one to control the flow of power "along the contracted path", thus preventing the loop flow problem, and allow the "loading of transmission lines to their full...capacity."²³⁴ FACTS is an estimated 10 years away from commercial availability.

In response to utilities' claims that open access would be unfair and costly to native load customers, IPP's basically took the position "Everybody is somebody's native load customer."²³⁵ IPP's felt that gains and losses to customers should not be measured by individual utility loads, but should be measured in the aggregate. If a power sale resulted in a net benefit to the whole power industry, then it should be allowed even if some are disadvantaged.

Other experts suggested alternate ways of solving the access problem. For example, one has proposed a system of user-ownership of the grid.²³⁶ To instigate such a system, current utility-owned lines would have to be "spun off" and all government lines would have to be privatized. The grid would then be formed into regional franchises owned by the users. Ownership would not be of the physical lines but would be designated in capacity shares which gives the owner the right to "place demands on the overall system capacity."²³⁷ Generators wishing entrance into the system could either purchase or lease

²²⁴ Office of Technology Assessment, p. 19.

²²⁵ S. Hrg. 101-538, p. 129.

²²⁶ S. Hrg. 101-538, Appendix A. p. 468.

²²⁷ Office of Technology Assessment, p. 19.

²²⁸ General Accounting Office, p. 26.

²²⁹ U.S. Department of Energy, National Energy Strategy, First Edition, February 1991, p. 35.

²³⁰ Robert J. Michaels, "Deregulating Electricity, What Stands in the Way, Regulation, Winter 1992, p. 46.

²³¹ U.S. Department of Energy, Technical Annex 3, p. v.

²³² American Public Power Association, p. 17.

²³³ Office of Technology Assessment, p. 15.

²³⁴ "Regulator Quietly Pushes 'Technical Fix' For Transmission Quandary, Inside FERC, August 5, 1991, p. 16.

²³⁵ Michaels, p. 46.

²³⁶ Douglas Houston, "User-Ownership of Transmission Grids: Resolving the Access Issue, Regulation, Winter 1992, pp. 48-57.

around for the best price and in effect bypass the utility. If the customer were a major user or if numerous large customers chose to bypass the utility, then the utility would have excess capacity. The unused capacity, called “stranded investment,” would have to be maintained because the utility would be required to service the bypasser if it returned to the system. Unused generating capacity, however, does not negate any obligation the utility has to pay interest to its bondholders. The utilities contended that the captive customers, households, and smaller business, would have to pay higher rates for their electricity. These “captive customers cannot leave the utility even if they so desire because each one’s demand is so small, they possess no bargaining power. Utilities argued it would cost the retail customer more if bypass were to occur.”²³⁸

Solutions to the problems of bypass effects were proposed. First to alleviate captive customers, they should be allowed to form packs or cooperatives in order to participate in the bypass process as a single large entity.²³⁹ Requiring advanced notification would be another option, because if the utility knew that a customer plans to leave the system, it would be able to incorporate the information into its predictions for future demand. This option seems flawed in that utilities make plans to meet future demand years in advance. A bypasser would have to give notification possibly years in advance in order to affect a utility’s plans.

Open transmission access and the requirement to serve could promote risk-taking, because the bypasser knows it has a “safety net” as long as the utility must serve a returning bypasser. Therefore, the utilities’ predictions for future demand become much more uncertain. Critics of this argument claim that if transmission access were open enough to promote broad competition, then the by-

passer would have plenty of other suppliers from which to choose, and the utility would be under no obligation to serve the returning bypasser.²⁴⁰

Entrance and exit fees were also proposed. In a July 1992 case, FERC ruled that Entergy Corp. could collect the amount of the stranded investment that a bypassing customer would impose if Entergy could prove that part of the stranded investment was, at the time of construction, built with the assumption that the bypassing “customer’s power contract would be renewed.”²⁴¹

Trends in competition and demand could also alleviate the costs of stranded investment. As competition increases in the power market, “price differentials” between IPP’s and utilities should decrease, and customers would have less motivation to shop for power. Also, as demand for power continues to increase, any stranded investment will, over time, be used²⁴². This argument does not address the costs of maintaining the capacity until it is needed.

Conclusion

The debate over modifying PUHCA raised several issues which divided the electric utility industry. The issues raised were not trivial. Senator Johnston laid down the fundamental criteria for evaluating change when he introduced S. 267. “Above all we must keep in mind that an ample, economical, and dependable supply of electricity is fundamental to every aspect of the Nation’s well being.”²⁴³ In the following chapter the passage and provision of the PUHCA reform legislation which are part of EPACT are detailed.

²³⁷ Houston, p. 54.

²³⁸ Robert H. Michaels, “Deregulating Electricity: What Stands in the Way, Regulation, Winter 1992, pp. 43-44.

²³⁹ Michaels, p. 44.

²⁴⁰ U.S. Department of Energy, Technical Annex 3, p. 26.

²⁴¹ “FERC Offers Entergy Parties Guidance on Stranded Investment Costs, Inside FERC, August 3, 1992, p. 5.

²⁴² U.S. Department of Energy, Technical Annex 3, p. 26; Office of Technology Assessment, Table 2-2, p. 40.

²⁴³ Johnston Statement, p. 4.

7. PUHCA Reform: The Energy Policy Act (EPACT) Of 1992

When President Bush sent his National Energy Strategy (NES) to Congress in February 1991 one of its principal focuses was the modification of PUHCA to allow both utilities and nonutilities to build, own, and operate power plants for wholesaling electricity in more than one geographic area. (The current registry of exempt holding companies is given in Appendix B.) The Department of Energy concluded that PUHCA reform “will help develop electric supplies and stimulate competitive market efficiencies which are not available under the traditional single supplier approach. Over the long term, the modification of PUHCA is expected to have a powerful effect on the efficiency of the Nation’s energy markets.”²⁵⁷

Following the precedent of the Johnston Bill, the National Energy Strategy approach was not to force utilities to turn to independent power producers for new generating capacity. Utilities were free to choose, on the basis of cost, whether they would build plants and add those plants to their rate bases, or go into the marketplace and purchase power competitively from independent power producers, including those who might be exempt wholesale generators (EWG’s). The EWG’s might or might not be part of the holding company in which the purchasing utility was structured. The Administration’s approach strove to interfere as little as possible with the traditional regulatory powers of the States hoping that a balanced approach of market forces and “watchdog” regulation by Federal and State authorities would best protect consumers’ interests.

The Administration supported the inclusion of provisions for consumer protection which were missing in Johnston’s draft bill. As discussed later, these provisions allowed for both Federal and State oversight which ensured that the public interest was served and that anti-competitive practices did not result. The Administra-

tion’s advocacy of these provisions led to inclusion of them in the legislation which finally passed. The addition of these safeguards answered many of the criticisms of the original Johnston legislation. By agreeing to these changes, sponsors of PUHCA reform were able to capture additional support which was probably critical to passage.

Benefits Claimed for the Administration’s Proposal

The keystone of the Administration’s proposal was the belief of tremendous “potential for reducing electric production costs through competition.”²⁵⁸ Underlying this assumption were two phenomena. The first was the experience with PURPA independents where the builders of QF’s had demonstrated a high level of technical innovation in the development of new generating capacity. The Administration also pointed to the deregulation of the airlines and long distance telephone services as examples of how consumers benefitted when markets were less regulated and relied more upon competition.²⁵⁹

Citing five economic risks which utility customers might face under the then existing regulatory structure, the Administration concluded that all five would be reduced under PUHCA reformation.²⁶⁰ The five risks are as follows:

- The demand for electricity might not grow as fast as projected.
- The construction of power plants might take longer than had been forecast.

²⁵⁷National Energy Strategy, U.S. Department of Energy, p. 34.

²⁵⁸U.S. Department of Energy, Technical Annex 1, p. 24.

²⁵⁹Interim Report, p. 25.

²⁶⁰Interim Report, p. 26.

- The construction costs might exceed the original estimates for a variety of reasons including regulation, management problems, delays in delivery of material, as well as cost increases of labor and materials.
- The power plants might run less efficiently than engineering studies had projected.
- Fuel prices might in the long run rise more quickly than had been anticipated at the time the utility decided to build.

Under traditional regulation, utility excess capacity, cost overruns, and increases in fuel prices were all risks passed on to the customer until the 1970's. In their more recent prudence reviews State regulatory authorities were less and less willing to place these risks upon ratepayers, and instead shifted them back to the utilities and their stockholders. At least one analyst has concluded that these prudence reviews made it increasingly risky for utilities to build power plants subject to traditional regulatory authority, and that the risk in the utility industry would be better served if utilities purchase power in a competitive market.²⁶¹ In defense of its proposal, the Department of Energy indicated that all five of these risks would be assigned to those who develop the EWG's under a competitive bidding system. It would be the developers of the EWG's who would make the judgments about the most effective way to limit or control these risks. To an extent, these risks would be included in the risk premiums which would be part of the cost to the purchasing utility, but competition among alternate providers would tend to drive these risk premiums down. The builders of the EWG's would have powerful incentives to reduce these risks as much as possible, but the utility customer would be protected from having to bear the costs of the risks.

The result of this was to be lower overall electric prices to consumers, a reduced possibility that insufficient generating capacity would be built to meet future needs, and an improved environment. The Department prepared a cost-benefit analysis of PUHCA reform.²⁶² The analy-

sis assumed an amendment under which both affiliates and nonaffiliates could establish EWG's. Benefits related to the efficiency gains from a wider range of generating technologies being used, more efficient construction practices, and the scale of economics being freed from the small power producer restriction of PURPA. Based on the experience of QF's it was estimated that an average efficiency gain of \$30 per kilowatt-year as a minimum could be achieved. If between 10-60 gigawatts of new capacity was procured competitively then the annual benefit was between \$300 million to \$1.8 billion between 1991-2000. Discounted at 10 percent the present value was between \$871 million and 5.2 billion.

Additional costs were mostly related to increased regulatory activity and were seen to be around \$50 million annually. Also discounting at 10 percent the present value of costs is \$307 million assuming that the estimates are correct and encompass the appropriate costs and benefits. The cost/benefit ratio of PUHCA reform ranged from 1.8 to 17.02.

House and Senate Action in the 102nd Congress

The Administration's proposal was introduced in the Senate.²⁶³ Senator Johnston conducted hearings on the bill as well as on a very similar one of his own (S. 341) which included drilling for oil in the Arctic National Wildlife Refuge (ANWR). At the same time, 12 energy bills were introduced in the Senate and 68 in the House which dealt with specific energy issues including ANWR, Corporate Average Fuel Efficiency Standards (CAFE) for automobiles, conservation, renewable energy, building efficiency, gasoline taxes, and expansion of the Strategic Petroleum Reserve (SPR).²⁶⁴ In the House, jurisdiction over energy legislation was divided among several committees which conducted separate hearings.

²⁶¹Daniel Scotto, "Build Versus Buy: You Can Run, But You Can't Hide," *Public Utilities Fortnightly*, September 15, 1992, pp. 14-17.

²⁶²Technical Annex I, pp. 45-46.

²⁶³S. 570 and in the House H.R. 1301.

²⁶⁴Keith Schneider, "A Flurry of Rival Bills Chase the Energy Problem," *New York Times*, March 28, 1991, p. D3.

The omnibus bill supported by the Administration was dropped in favor of the Johnston proposal which ultimately failed to gain sufficient support to head off a filibuster. While most observers cite the inclusion of drilling in ANWR and the failure of the Senate bill to include CAFE as the reasons for the defeat, one nose count found that those interests opposing PUHCA reform had been successful in gathering enough Senators, who otherwise supported the bill, to cast their votes against the

filibuster override and these votes made the difference.²⁶⁵ Senator Johnston and Senator Wallop introduced another comprehensive energy package which was similar to the President's but did not include ANWR (S. 2166). At the same time a comprehensive bill was being debated in the House which dealt with most of the same topics covered by the National Energy Strategy (H.R. 776). While both bills provided for PUHCA reform, they differed in many significant aspects. A more detailed breakdown is provided below:

Comparative Analysis of NES Legislation: Public Utility Holding Company Act (PUHCA) Reform

NES Legislation	Title XV of S. 2166	Title VII of H.R. 776 and related provisions in House Bill
Exempt Wholesale Generators	Allows for the creation of exempt wholesale generators (EWG's) and permits entities currently subject to PUHCA (or not) to own EWG's without limitation (secs. 15101-2).	Conceptually similar to S. 2166 except that the term "independent power producer" (IPP) is used instead of "exempt wholesale generator" (Title VII, sec. 711). However, requires FERC to determine whether an entity qualifies for IPP status.
Eligibility of Portions of Facilities	Portions of facilities are eligible for exempt status (sec. 15101(a)(2)).	No provision.
Conversion of Facilities Now in Rate Base	Facilities in rate base may be converted to eligible facilities if affected State regulatory commissions consent (sec. 15101(c)).	Excludes facilities included in the rate base of a State regulated electric utility from being treated as an eligible facility (Title VII, sec. 711).

²⁶⁵Jerry Taylor, "Energy Bill's Nemesis?" Washington Times, December 24, 1991, p. F1.

NES Legislation	Title XV of S. 2166	Title VII of H.R. 776 and related provisions in House Bill
Ownership by Registered Holding Companies of EWG's	Directs that a registered holding company's interest in the business of one or more EWG's shall be allowed if it is considered consistent with and reasonably incidental, economically necessary, or appropriate to the operation of an integrated public utility system (sec. 15101(g)(1)(2)).	Similar provision to S. 2166 (Title VII, sec. 711).
Limitations on Securities and Exchange Commission Regulation of Relationships between Registered Holding Companies and EWG's	Limits conditions under which SEC may disapprove financing of EWG's by a registered utility holding company or disapprove service, sales, and construction contracts between a registered holding company and an EWG (sec. 15101(g)(3),(4)).	Provision similar to S. 2166, but goes further to specify that SEC cannot issue findings on EWG financing until it has issued regulations defining "substantial adverse impact on financial integrity of a registered holding company system"(Title VII, sec. 711).
Elimination of Option of SEC "No Action Letter"	No provision.	Stipulates that advisory letters from SEC staff concerning an entity's exempt/nonexempt status under PUHCA are to have no effect (Title VII, sec. 711).
Prevention of Stranded Investment	Prohibits a rate or charge for the sale of electricity at wholesale by EWG's in cases where a State commission would not permit a purchaser to recover in retail rates and charges any portion of its capital investment in an electric generation facility that was under construction on the date of enactment or if a portion of the facility is included already in the rate base. (sec. 15103).	No provision.
Prevention of Sham Wholesale Transactions	Prohibits sale of electricity by EWG's where the purchaser is merely a broker for an indirect sale to an industrial customer or other desirable retail load (sec.1 5104).	No provision in PUHCA section. However, H.R. 776 has a similar provision in transmission portion of bill (Title VII, sec. 723(j)).
Protection Against Abuse of Affiliate Relationships	(1) Prohibits utilities from purchasing wholesale electricity from an affiliate EWG unless such purchase has the specific and advance approval of affected State commissions (sec. 15105(a)(b)).	Wholly prohibits an IPP from selling electricity to a public utility if the IPP is an affiliate, associate company, or subsidiary company of the public utility (Title VII, sec. 713(a)).

NES Legislation	Title XV of S. 2166	Title VII of H.R. 776 and related provisions in House Bill
Lawfulness of Sales Resulting from Competitive Process	(2) Prohibits unaffiliated utilities or their affiliates from entering reciprocal arrangements for the purposes of avoiding the other provisions of this section (sec. 15105(d)). (3) Prohibits the FERC from approving a rate for a sale by an EWG if the seller obtains “unfair advantage” from an affiliate relationship with the utility purchaser (sec. 15105(c)).	No provision. Prohibits FERC approval of a sale by an IPP if it would result in “undue prejudice or disadvantage” (Title VII, sec. 725).
State and Local Authorities (1) Prudence of Utility Purchases	No provision.	Provides that any sale of electric energy by an IPP which results from a competitive process established by a State and which satisfies all FERC requirements ensuring competition will be deemed lawful unless the aggrieved person can prove the agreement causes undue prejudice or disadvantage (Title VII, sec. 725).
(2) Utility Right to Request Binding Decisions	Except in certain instances involving allocation of power costs within registered utility holding company systems, affirms that State commissions have the general right to review the prudence of wholesale purchases by their jurisdictional utilities. In instances involving purchase of power from EWG’s, the right to review prudence is conferred even within a registered holding company system.	Stipulates that nothing in Section 215 of Federal Power Act as amended shall be construed to eliminate or reduce any existing State jurisdiction to define or regulate electric utilities (Title VII, sec. 725).
(3) Savings Clause for State and Local Authorities for Environmental Protection and Siting of Facilities	Utilities may request binding decisions by State commissions on the prudence of proposed power purchase decisions, but commissions are not bound if new information is presented (sec. 15106).	No provision.
(3) Savings Clause for State and Local Authorities for Environmental Protection and Siting of Facilities	No provision.	Provides that nothing in this title or any amendment made by it is to be construed as affecting or interfering with State and local authority relating to environmental protection or the siting of facilities (Title VII, sec. 731).

NES Legislation	Title XV of S. 2166	Title VII of H.R. 776 and related provisions in House Bill
(4) Tax-Exempt Status of Certain Facilities not Affected	No provision.	Title XIX, sec. 1921 modifies Internal Revenue Code to preserve facilities' tax status despite an order by FERC to the utility owner to provide wheeling service. Use of tax-exempt bonds would continue to be limited to facilities needed for provision of local service (Title XIX, sec. 1921).
State Consideration of Capital Structure and Fuel Adequacy Issues	Requires State commissions to analyze the effects on reliability and utility purchasers of the use of leveraged capital structures by wholesale sellers of power (including EWG's) and the adequacy of fuel supplies employed by such sellers, and to consider the results of such analysis in approving or disapproving wholesale power purchases (sec. 15107).	No provision.
State Commission Access to EWG Books and Records	Allows affected State commissions to obtain access to EWG books and records for purposes of preventing potential EWG/utility cross-subsidy problems and to assess the financial stability of EWG's (sec. 15108).	Allows a State commission access upon its own order to the books and records of: (1) electric utilities subject to its jurisdiction, (2) any IPP selling to such utility, (3) any subsidiary, associate, or affiliate company of the electric utility, and (4) subsidiary, associate, or affiliate of an IPP selling electricity to a jurisdictional utility, as needed to effectively discharge the Commission's regulatory responsibilities with regard to the provision of electric service (Title VII, sec. 713).
Ownership by Utility Holding Companies of Cogeneration Facilities:	Allows registered holding companies or their affiliates to own interest in cogeneration facilities as defined pursuant to sec. 210 of PURPA (sec. 15109).	No provision.
Transmission Provisions:		
Right to Petition for Interconnection	No provision.	Expands sec. 210 of the Federal Power Act to include any person generating electric energy for sale or resale (Title VII, sec. 721).

NES Legislation	Title XV of S. 2166	Title VII of H.R. 776 and related provisions in House Bill
Right to Petition for Transmission Services	No provision.	Provides that any electric utility, Federal power marketing agency, or any other person generating electric energy for sale or resale may apply to FERC for an order requiring a transmitting utility to provide transmission services to the applicant (Title VII, sec. 722).
Preconditions for FERC Order	No provision.	Requires FERC to issue such an order if the order meets the requirements of section 212, maintains the reliability of any electric utility system to which it applies, would otherwise be in the public interest, and would do the following: (1) conserve a significant amount of energy, (2) promote the efficient use of facilities and resources, (3) promote competition in the wholesale power market, (4) enhance environmental protection, or (5) prevent, arrest, or abate discriminatory practices that are subject to the jurisdiction of the Commission (Title VII, sec. 722).
Limitations on FERC Order	No provision.	Provides that FERC may not issue an order that would: (1) unduly impair the reliability of the involved utilities, (2) unduly impair the ability of affected utilities to render adequate services to their customers, or (3) unduly economically disadvantage the customers of the transmitting utility subject to the order. The order may require the transmitting utility to provide as much of the proposed wholesale transmission as would not cause these effects (Title VII, sec. 723).
Rates for Transmission	No provision.	Directs that the transmitting utility subject to the order shall provide services at a rate which allows the recovery of "all prudent costs incurred in connection with the transmission services," including a reasonable share of expansion costs where necessary and a reasonable rate of return where appropriate. Rates are to be designed to compensate native load customers for all legitimate and verifiable costs associated with the provision of transmission services to third parties (Title VII, sec. 723).

NES Legislation

Title XV of S. 2166

Title VII of H.R. 776 and related provisions in House Bill

Retail Wheeling	No provision.	Prohibits mandatory orders requiring transmission of electricity directly to an ultimate consumer (Title VII,sec. 723).
Applicability of FPA to Federal Columbia River Power System	No provision.	Extends application of FERC authority to Bonneville Power Administration (BPA) under sections 210, 211, 213, and 214 of the Federal Power Act as amended. Specific procedural requirements for BPA are established with respect to the provision of transmission services. Otherwise, other Federal laws pertaining to the Federal Columbia River System are to remain applicable (Title VII,sec. 723).
Applicability of FERC Transmission Orders to TVA	No provision.	Provides that no transmission order may require an electric utility which is prohibited by Federal law from being a direct or indirect source of power supply outside area set forth in such law to provide transmission services for the supply of electric energy that shall be consumed within the area served by a distributor of such an electric utility (Title VII, sec. 723).
Preconditions for FERC Order: No provision.		Requires FERC to issue such an order if the order meets the requirements of section 212, maintains the reliability of any electric utility system to which it applies, would otherwise be in the public interest, and would do the following: (1) conserve a significant amount of energy, (2) promote the efficient use of facilities and resources,(3) promote competition in the wholesale power market, (4) enhance environmental protection, or (5) prevent, arrest, or abate discriminatory practices that are subject to the jurisdiction of the Commission (Title VII, sec. 722).

NES Legislation	Title XV of S. 2166	Title VII of H.R. 776 and related provisions in House Bill
Prohibition of Sham Transmission Transactions	No transmission provision; however, S. 2166 contains a ban on sham wholesale transactions in its PUHCA provisions.	Prohibits sham transmission transactions, e.g., the issuance of an order to any applicant if the applicant does not have a contractual right to purchase or sell such electric energy, without ownership or a contractual right to a generation facility, or would not utilize its facilities to distribute to retail consumers, or is not a political subdivision, instrumentality or agency of a State (Title VII, sec. 723).
Requirement for FERC to Order Access as Condition of Merger or Covered Sale	No provision.	Directs FERC to order each transmitting facility in the service area affected by a covered sale, merger, or consolidation to provide wholesale transmission services whenever: (1) an order is issued permitting any transmitting utility or affiliate thereof to make a covered sale of electric energy; or (2) an order is issued allowing a transmitting utility to merge or consolidate with any other public utilities. Defines covered sales of electric energy as those subject to FERC jurisdiction and pursuant to rates and charges not based on the costs of providing such energy but not economy sales resulting from economic dispatch performed by a regional power pool arrangement; and not electric energy sales by a qualifying small power production facility or cogenerator (Title VII, sec. 723).
Requirement for Transmitting Utilities to Explain Denials of Request for Service within 30 Days	No provision.	Directs a transmitting utility, which has received and denied a request for wholesale transmission services at specific rates and charges and under certain terms and conditions, to provide a written explanation of the reasons for denying the request within 30 days of receipt (Title VII, sec. 724).

NES Legislation

Title XV of S. 2166

Title VII of H.R. 776 and related provisions in House Bill

Reporting Requirements for Transmitting Utilities

No provision.

Requires FERC to promulgate a rule requiring transmitting utilities to submit the following information annually: (1) existing and planned transmission facilities, (2) forecasts of load growth, (3) existing and planned arrangements, (4) actual line losses, (5) reliability assessments, and (6) any other matters related to electric power transmission that FERC deems appropriate (Title VII, sec. 724).

Denial of Transmission Access to Competing Sellers

No provision.

Directs FERC to disapprove the sale of electric energy from an IPP to a transmitting utility if the utility unreasonably denies or restricts the access of competing sellers to transmission facilities (Title VII, sec. 725).

Penalties:
No provision.

Provides that existing penalties are not applicable to the transmission provisions established here (Title IV, sec. 410). Establishes a civil penalty of up to \$25,000 per violation for a person who knowingly violates any of the transmission provisions of the Federal Power Act. Each day of violation is to be deemed a separate violation (Title VII, sec. 726).

The Senate bill contained no specific provision for transmission access, while the House bill authorized the FERC to order owners of transmission lines to provide transmission services to wholesale electric producers and buyers. The House bill also would allow both utility and nonutility companies to build, own, and operate power plants which were located in geographically dispersed areas without becoming subject to PUHCA. The Senate version followed the earlier Johnston Bill by creating a new class of exempt wholesale generators who would entirely escape regulation under PUHCA. The House version used the term “independent power producers” (IPP’s) and did not provide for an automatic exemption from SEC oversight. However, the bill required that the Federal Energy Regulatory Commission (FERC) decide on a case-by-case basis as to whether or not the IPP transaction would produce any undue preference or advantage.²⁶⁶

The Senate bill prohibited the sale by any of the exempt generators to a holding company affiliate of electricity unless affected State regulators found that it would be in the public interest, that consumers would benefit, and that there had been no violation of State law regarding self-dealing. The House proposal banned any transactions between affiliates. One final difference was that the Senate proposal codified the Pike County doctrine under which State regulatory commissions had the authority to review the cost of purchased power by utilities when they dealt with an IPP.

Of the differences, the one on transmission access was clearly the most controversial. Representatives Edward Markey and Carlos Moorhead introduced the Electric Power Fair Access Act of 1991 (H.R. 2224) which explicitly granted transmission access on utility lines to independent power producers. Some utilities which had previously supported PUHCA reform without transmission access became alarmed as they saw their major industrial customers using transmission access as a means to bypass their own generating capacity. These critics again raised the issue of stranded investment running up the costs to the remaining captive customers of the utili-

ties.²⁶⁷ On the other hand, consumer groups and large industrial users viewed mandatory access as absolutely necessary before they would support PUHCA reform. They feared that utilities would be able to maintain their monopoly power through control of the transmission grid.²⁶⁸

The Senate passed the Johnston Omnibus Energy Bill without a transmission access provision. As the House worked on its own bill an amendment was proposed by Representatives Billy Tauzin, Thomas Bliley, and Rick Boucher to require transmission access. While the bill was similar to the Markey and Moorhead provision, the proposed amendment required a utility to open its transmission system to independent power producers only if it had operating affiliates within its service territory.²⁶⁹ When the House passed its version of a comprehensive energy bill, this amendment was included.

Final Provisions

Following a long and complicated conference committee and despite prognostications that the comprehensive energy bill would fail in part because of the disagreement over transmission access and reform, both the Senate and House agreed by wide margins to a comprehensive energy bill based on the House version.²⁷⁰ Title VII dealt with electricity with Subtitle A establishing the exempt wholesale generators. In Section 711 of subtitle A the bill added a new section 32 to PUHCA and defined an exempt wholesale generator as:

any person determined by the Federal Energy Regulatory Commission to be engaged directly through one or more affiliates...and exclusively in the business of owning or operating...all or part of one or more eligible facilities and selling electric energy at wholesale.

The law required that those seeking to be EWG’s must make application to the FERC, which would grant such an exemption. FERC would make its decisions on a case-

²⁶⁶Lori A. Burkhart, “Energy Bill Conferees are Chosen—Must Write Final Draft,” *Public Utilities Fortnightly*, September 15, 1992, p. 25.

²⁶⁷Leonard S. Greenberger, “Access Ascends in the House, PUHCA Passes in Senate,” *Public Utilities Fortnightly*, July 1, 1991, p. 33.

²⁶⁸Thomas W. Lippman, “Senate Nears Agreement on Independent Power Plants,” *The Washington Post*, February 7, 1992, p. F-2.

²⁶⁹Kimberly Dozier, “New House Bill Joins PUHCA and Transmission Access,” *The Energy Daily*, July 1, 1991, p.1.

²⁷⁰Energy Policy Act of 1992 Conference Report to accompany H.R. 776, 102nd Congress, 2nd Session, Report 102-1018, October 5, 1992.

by-case basis within 60 days. In that period the applicant would attain the EWG status on a good faith basis.

Facilities were deemed to be eligible only if they were used for generation of electric energy at wholesale as defined in the Federal Power Act.²⁷¹ However, facilities producing and selling retail power in foreign countries would not be denied the exemption if none of the electricity generated by that facility was sold at retail in the United States. For facilities that were already included in the rate base of an operating utility, the State regulatory commissions having jurisdiction would have to specifically determine whether that facility was to be allowed exempt status. Such determination was to be made after a finding that it was in the public interest, that consumers would benefit, and that there was no violation of State law. Section 711 specifically allowed both registered and exempt holding companies to own, acquire, and operate EWG's. The law also allows for so-called "hybrid plants" which have ownership divided between utility companies which include their portion in their rate base, and EWG's whose portion is exempt. A single utility company that is an affiliate or associated company of the EWG may not hold an ownership share in the facility.

Section 711 did not end SEC oversight of the issuance of securities by holding companies in order to acquire EWG's. The SEC was still to make a determination that the issuance of such securities did not create an "improper risk" or "have a substantial adverse impact on the financial integrity of the registered holding company system."²⁷² The Act sought to limit the abuse of affiliate transactions by prohibiting an electric utility company from purchasing wholesale energy from an EWG which was one of its affiliates. State regulatory commissions were given the authority to grant an exemption from this prohibition if they found that they had sufficient regulatory authority, resources and access to the books and records of the utility, and its affiliate companies, and that the transaction would benefit consumers, was consistent with State law, and did not provide the EWG with an unfair competitive advantage because of its affiliation with the electric utility company.²⁷³

²⁷¹16 U.S.C. 824(d).

²⁷²Section 711 amending PUHCA section 32(h)(3).

²⁷³Section 711 adding a new PUHCA section 32(k).

Section 712 requires State regulatory commissions to consider the purchase of long term wholesale electric power by utilities to meet demands for electrical generating capacity, and to evaluate the effects of such purchases on the cost of capital for the utilities and the effects on the retail rates paid by consumers which would result from the purchase of power rather than the building of new capacity by the utility.

Section 713 allows public utility holding companies to acquire interest in cogeneration facilities without being constrained under PURPA.

Section 714 grants to the State commissions regulatory responsibility over any electric company operating within its jurisdiction, any EWG which sold electricity wholesale such a utility, and any holding company which was an associate or affiliate of the EWG selling power to the regulated utility. The purpose of this provision was to ensure that States would have access to all materials they needed to make the determinations provided in Section 712.

Section 715 adds a new section 33 to PUHCA and allows foreign utility companies an exemption from all provisions of the 1935 Act, even if the utility company was a subsidiary company or an affiliate of a holding company or an operating public utility. The SEC is responsible for regulating these investments for the protection of ratepayers. Before such an exemption is granted to a holding company, each State commission having jurisdiction has to certify that it has both the authority and the resources to protect ratepayers, but these are not required to approve the deal. State commissions can regulate foreign investments by utilities which are not owned by registered holding companies. This provision basically allows the EWG's to own and operate plants located outside the United States and enter into the retail markets of other companies. Holding companies and their subsidiaries are also allowed to own in whole or in part interest in foreign utility companies.

This provision is not without its critics, who felt that this reform was not necessary to achieve the objectives of increased domestic competition at the wholesale level.

The Future of Independent Power Production Under PUHCA Reform

Others felt that the provision was necessary to allow American companies to participate in potentially lucrative foreign markets.²⁷⁴ The law does prohibit encumbering any operating utility assets for the benefit of an affiliated foreign utility company.

Subtitle B of the Electricity Title VII deals with interstate commerce in electricity, the question of access, and the Federal Power Act (FPA). Section 721 provides that anyone may petition FERC for access to the transmission grid. FERC is not allowed to order such access if it finds that it would “unreasonably impair the continued reliability of the effect of the electric systems affected.”²⁷⁵

Utilities which are required to provide these transmission services are allowed in section 722 to recover all of the costs incurred in connection with providing transmission services, including any expansion of transmission facilities, to the requesting wholesale generator. The charges by the transmitting utility must be just and reasonable, and not unduly discriminatory or preferential. Transmission may not be ordered if it is inconsistent with State law or if the order would allow for retail as opposed to wholesale transmission. Special provisions are also included for rates for utilities which are part of the Electrical Reliability Council of Texas (ERCOT). Under this section FERC is prohibited from issuing a transmission order which would unreasonably impair the continued reliability of the electric system. FERC is not to order transmission access if that would allow a wholesale generator to sell directly to final consumers. Banned also are “sham transactions” which involve a third party in an effort to disguise a retail transaction.

The resulting legislation was summarized by one commentator in this fashion:

In the long run, H.R. 776 is destined to stand, not as an energy development measure, but as a landmark of change for the structure and regulation of the electric utility industry.²⁷⁶

Even before the passage of PUHCA reform in EPACT, nonutility generation of electricity in the United States had seen exceptional expansion in the last 15 years. According to the National Independent Energy Producers, in 1992 there were 3,111 independent power producers with \$10 billion in sales, accounting for 6 percent of all power sales. Total IPP investment was over \$40 billion.²⁷⁷ The passage of PUHCA reform and the consequent further opening of the market to EWG's will probably accelerate that trend. As noted in the previous chapter, it was not until the passage of the Public Utilities Regulatory Policies Act (PURPA) in 1978 that cogeneration of electricity for sale to the grid became a major source of energy supply in the United States. PURPA encouraged not only cogeneration, but small power producers using non-traditional fuels such as biomass, solar, wind, and geothermal by guaranteeing them a market for their power. PUHCA reform does not provide such a guarantee for the EWG's, so the QF's will continue to retain their preferential status.

By the early 1980's nonutility sales to the grid were expanding at the rate of 30 percent a year, and by 1991 the amount of electricity generated by industrial users for their own consumption was only slightly higher than the amount of electricity which they were placing in the grid.²⁷⁹ For the period 1980 through 1985, nonutility generators added six gigawatts of new capacity compared to 77 new gigawatts from traditional utilities. In the next five years the increases were 20 gigawatts from QF's and independent power producers, which compared to 33 gigawatts of additional capacity from the traditional utilities.

²⁷⁴Lori A. Burkhardt, “Congress Passes Wide-Ranging Energy Bill,” *Public Utilities Fortnightly*, November 1, 1992, p.72.

²⁷⁵Section 721 amending FPA section 211.

²⁷⁶Burkhardt, p. 72.

²⁷⁷Thomas W. Lippman, “Utility Industry Overhaul: Surprisingly Static Free,” *The Washington Post*, June 11, 1992, p. A25.

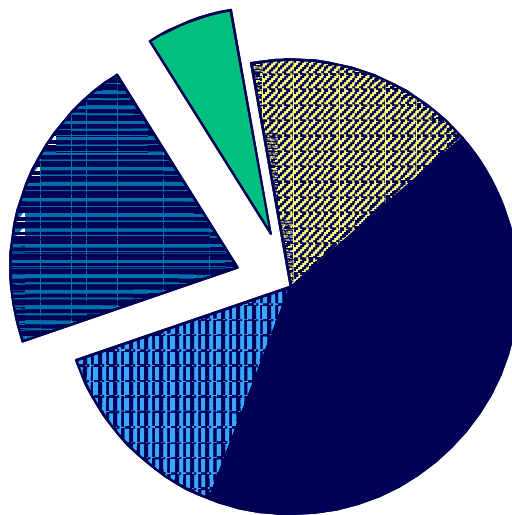
EIA's projections show an expected requirement of between 83 and 103 new gigawatts of electricity generating capacity by the year 2000. The amount of new capacity needed will depend primarily on the growth rate of the economy. Nonutilities, including QF's, IPP's, and EWG's, are expected to provide 33 to 41 percent of that additional capacity.

Gas will be the principal fuel used and will be used in about 50 percent of the new additions which will be either combined cycle or combustion turbines designed to meet intermediate and peak needs. For the rest of the decade natural gas may turn out to be a major beneficiary of PUHCA reform.²⁸⁰ Figure 1 shows the current status of generating capacity in the United States by type of ownership. Nonutility generators control about 6 percent of the market, a figure which undoubtedly will grow as PUHCA reform is utilized.

It is less clear what role the EWG's will play after the turn of the century. In the first decade of the new century between 70 and 146 gigawatts of increased capacity will be needed in addition to what must be built by the year 2000.

Much of this will be coal-fired baseload capacity as the excess capacity built during the 1970's will be fully utilized. According to EIA's projections, because of the rising cost of natural gas and the comparative cost advantage of coal-fired baseload plants, coal will become the single dominant fuel used in these capacity expansions, but gas and other fuels will still account for 50 to 60 percent of the new additions to capacity. The Energy Information Administration has not projected how much of this new baseload market the EWG's are going to serve, but the potential market for continued growth in independent power production into the next century will be significant.

Figure 1. Generating Capacity in the United States by Type of Ownership, 1991



*Investor-Owned.

Source: Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels from Form EIA-860 and Securities and Exchange Commission data.

²⁷⁹Energy Information Administration, Annual Energy Outlook 1993, Washington, DC, January 13, 1993, p. 50.

²⁸⁰"Energy Bill Fallout: Changes Will Come Quickly," Wall Street Journal, October 15, 1992, p. A1.

Appendix

Registered and Exempt Electric Utility Holding Companies and Their Electric Subsidiaries

The table in this appendix shows registered electric utility holding companies as of December 31, 1990, and exempt utility holding companies as of September 1, 1991.

Registered Utility Holding Companies (12/31/90)

Holding Company	Subsidiary
Allegheny Power System, Inc.	Allegheny Generating Company Indiana-Kentucky Electric Corporation Monongahela Power Company Ohio Valley Electric Corporation Potomac Edison Company West Penn Power Company
American Electric Power Co.	AEP Generating Co. Appalachian Power Co. Cardinal Operating Co. Central Operating Co. Columbus Southern Power Co. Indiana Michigan Power Co. Indiana-Kentucky Electric Corp. Kanawha Valley Power Co. Kentucky Power Co. Kingsport Power Co. Michigan Power Co. Ohio Power Co. Ohio Valley Electric Corp. Wheeling Power Co.
Central and South West Corp.	Central Power & Light Co. Public Service Co. of Oklahoma Southwestern Electric Power Co. West Texas Utilities Co.
Eastern Utilities Associates	Blackstone Valley Electric Co. Eastern Edison Co. EUA Ocean State Electric Corp. Montaup Electric Co. Newport Electric Corp.

Holding Company	Subsidiary
Entergy Corporation	Arkansas Power & Light Co. Entergy Operations, Inc. Entergy Power Inc. Louisiana Power & Light Co. Mississippi Power & Light Co. New Orleans Public Service, Inc. System Energy Resources, Inc.
General Public Utilities Corp.	GPU Nuclear Corp. Jersey Central Power & Light Co. Metropolitan Edison Co. Pennsylvania Electric Co. Waverly Electric Light & Power Co. York Haven Power Co.
New England Electric System	Granite State Electric Co. Massachusetts Electric Co. New England Electric Transmission Corp. New England Hydro-Transmission Corp. New England Hydro-Transmission Electric Co., Inc. New England Power Co. Narragansett Electric Co. Narragansett Energy Resources Co. Ocean State Power Ocean State Power II
Northeast Utilities	Connecticut Light & Power Co. Holyoke Power & Electric Co. Holyoke Water Power Co. Northeast Nuclear Energy Co. Western Massachusetts Electric Co.
Southern Company	Alabama Power Co. Georgia Power Co. Gulf Power Co. Mississippi Power Co. Savannah Electric & Power Co. Southern Electric Generating Co.

Exempt Electric Utility Holding Companies (9/1/91)

Holding Company	Subsidiary
Alaska Electric Light & Power Co.	Haines Light & Power Co.
Alaska Energy & Resources Co.	Alaska Electric Light & Power Co.
Atlantic Energy, Inc.	Atlantic City Electric Co.
Atlantic City Electric Co.	Deepwater Operating Co.
Bricker, Richard L. Voting Trust	Century Power Corp.
Baltimore Gas & Electric Co.	Safe Harbor Water Power Corp.
Bangor Hydro-Electric Co.	Maine Electric Power Co., Inc.
Boone Electric Cooperative	Boone Electric Service Co.
Catalyst Energy Corp.	Catalyst Vidalia Corp.
Catalyst Vidalia Corp.	Catalyst Old River Hydroelectric Limited Partnership
Centerior Energy Corp.	Cleveland Electric Illuminating Co. Toledo Edison Co.
Central Illinois Public Service Co.	Electric Energy, Inc.
Central Maine Power Co.	Maine Electric Power Co., Inc. Maine Yankee Atomic Power Co.
Central Vermont Public Service Corp.	Central Vermont Public Service Corp. Connecticut Valley Electric Co., Inc. Vermont Electric Power Co., Inc. Vermont Electric Transmission Co., Inc. Vermont Yankee Nuclear Power Corp.
CILCORP, Inc.	Central Illinois Light Co.
Cincinnati Gas & Electric Co.	Union Light Heat & Power Co. West Harrison Gas & Electric Co. Miami Power Corp.
Cliffs Electric Service Co.	Upper Peninsula Generating Co.
CMS Energy Corp.	Consumers Power Co.
Commonwealth Edison Co.	Commonwealth Edison of Indiana, Inc.
Commonwealth Energy Systems	Cambridge Electric Light Co. Canal Electric Co. Commonwealth Electric Co.

Consolidated Electric Coop. Assoc., Inc.	Consolidated Electric Service Co.
Consolidated Papers, Inc.	Consolidated Water Power Co. Wisconsin River Power Co.
Crawford Electric Cooperative, Inc.	Gascosage Electric Corp. Howell-Oregon Electric Cooperative, Inc. Intercounty Electric Cooperative Laclede Electric Cooperative Se-Ma-No Electric Cooperative Southwest Electric Cooperative Webster Electric Cooperative White River Valley Electric Cooperative
Cuivre River Electric Cooperative	Cuivre River Electric Service Co.
Dominion Resources, Inc.	Virginia Electric & Power Co.
DPL, Inc.	Dayton Power & Light Co.
Duke Power Co.	Nantahala Power & Light Co.
Edgewater Development Co.	Glen Park Associates Ltd. Partnership
ESELCO, Inc.	Edison Sault Electric Co.
Farmer's Electric Cooperative	Farmer's Electric Service Co.
Fisher's Island Utility Co., Inc.	Fisher's Island Electric Corp.
Florida Progress Corp.	Florida Power Corp.
FPL Group, Inc.	Florida Power & Light Co.
Green Mountain Power Corp.	Vermont Electric Power Company, Inc. Vermont Electric Transmission Co., Inc. Vermont Yankee Nuclear Power Co. Vermont Energy Resources, Inc.
Gulf States Utilities Co.	GSG&T, Inc.
Hawaiin Electric Industries, Inc.	Hawaiian Electric Co., Inc. Hawaiian Renewable Systems, Inc.
Hawaiian Electric Co., Inc.	Hawaiian Electric Light Co. Maui Electric Co.
Hawaiian Electric Renewable Systems, Inc.	Lalamilo Ventures, Inc.
Houston Industries, Inc.	Houston Lighting & Power Co.
Howard Electric Cooperative	Howard Electric Service Co.
HYDRA-CO Enterprises, Inc.	Curtis-Palmer Hydroelectric Co.
IE Industries, Inc.	Iowa Electric Light & Power Co.

	Iowa Southern Utilities Co. Terra Comfort Corp.
Illinois Power Co.	Electric Energy, Inc.
International Paper Co.	Saratoga Development Corp.
Ipalco Enterprises, Inc.	Indianapolis Power & Light Co.
Kansas City Power and Light Co.	Wolf Creek Nuclear Operating Corp.
Kansas Gas & Electric Co.	Wolf Creek Nuclear Operating Corp.
Kentucky Utilities Co.	Electric Energy, Inc. Old Dominion Power Co.
Laclede Electric Cooperative	Laclede Electric Service Co.
Louisville Gas & Electric Co.	Ohio Valley Transmission Corp.
Maine Public Service Co.	Maine & New Brunswick Electric Power Co., Ltd.
Midwest Resources, Inc.	Iowa Power, Inc. Iowa Public Service Co.
Minnesota Power & Light Co.	Superior Water Light & Power Co.
Niagara Mohawk Power Corp.	HYDRA-CO Enterprises, Inc.
NIPSCO Industries, Inc.	Northern Indiana Public Service Co.
North Central Missouri Electric Cooperative, Inc.	North Electric Service Co.
Northern States Power Co. (MN)	Northern States Power Co. (WI) Lake Superior District Power Co.
N.W. Electric Cooperative	N.W. Electric Service Co.
Ohio Edison Co.	Pennsylvania Power Co. Ohio Valley Electric Corp.
Orange & Rockland Utilities, Inc.	Rockland Electric Co. Pike County Light & Power Co.
Ozark Electric Cooperative	Ozark Electric Service Co.
Pennsylvania Power & Light Co.	Safe Harbor Water Power Co. Hershey Electric Co.
Peoples Energy Co.	Peoples Gas Light & Coke Co.
Philadelphia Electric Co.	Susquehanna Electric Co. Conowingo Power Co. Philadelphia Electric Power Co.
Pinnacle West Capital Corp.	Arizona Public Service Co.
Platte-Clay Electric Cooperative, Inc.	Platte-Clay Service Co.

Portland General Corp.	Portland General Electric Co.
PSI Resources, Inc.	PSI Energy, Inc.
Public Service Co. of Colorado	Cheyenne Light, Fuel & Power Co.
Public Service Enterprise Group, Inc.	Public Service Electric & Gas Co.
Rolls County Electric Cooperative	Rolls Electric Service Co.
Saratoga Development Corp.	Curtis-Palmer Hydroelectric Co.
SCANA Corp.	South Carolina Electric & Gas Co. South Carolina Generating Co., Inc.
SCEcorp	Southern California Edison Co.
Sierra Pacific Resources	
Southern Indiana Gas & Electric Co.	Southern Indiana Group, Inc.
Southwest Electric Cooperative	Southwest Electric Service Co.
TECO Energy, Inc.	Tampa Electric Co.
Texas Utilities Co.	Texas Utilities Electric Co.
TNP Enterprises, Inc.	Texas Generating Co. Texas - New Mexico Power Co.
United Illuminating Co.	Bridgeport Electric Co.
Union Electric Co.	Electric Energy, Inc.
UNITIL Corp.	Concord Electric Co. Exeter & Hampton Electric Co. UNITIL Power Corp.
Upper Peninsula Energy Corp.	Upper Peninsula Power Corp.
Wisconsin Energy Corp.	Wisconsin Electric Power Co.
Wisconsin Power & Light Co.	South Beloit Water, Gas & Electric Co.
Wisconsin River Power Co.	Wisconsin Public Service Corp.
WPL Holdings, Inc.	Wisconsin Power & Light Co.