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CON EDISON: THE CRISIS OF THE INVESTOR-OWNED UTILITY

I. Introduction

Consolidated Edison of New York, Inc. (Con Edison) is an investor-owned urban utility¹ which provides electricity to New York City and most of Westchester County.² It is representative of the older investor-owned utilities which are currently in the poorest financial condition.³ Although these utilities do not serve rapidly expanding service areas, the replacement of obsolete generating plants necessitates continued large capital expenditures.⁴ Present conditions raise the possibility that older investor-owned utilities cannot survive in their present form⁵ of "regulated private monopoly."⁶

The goal of utility regulation is to permit the utility such revenues that:

1. Meeks, *Concentration in the Electric Power Industry: The Impact of Anti Trust Policy*, 72 COLUM. L. REV. 64, 67-68 [hereinafter cited as *Concentration*]. "In 1969, these investor-owned utilities served approximately eighty percent of the retail customers [nationwide]. Thirteen percent of the ultimate customers were served by publicly-owned systems, predominately relatively small municipal systems. Eight percent were served by cooperatives, primarily rural consumers." *Id.*

2. Con Edison is a combination utility and it provides three services to its customers. It provides gas to the Bronx, Manhattan, a part of Queens, and most of Westchester county; steam to large commercial, government, and residential buildings in Manhattan; and electricity. 1973 CON EDISON ANN. REP. 8-11.

3. *Utilities: Weak Point in the Energy Future*, BUSINESS WEEK, Jan. 20, 1975, at 46, 47.

4. Jones, *An Example of a Regulatory Alternative to Antitrust: New York Utilities in the Early Seventies*, 73 COLUM. L. REV. 462, 525 [hereinafter cited as *Regulatory Alternative*]. Over 18 percent of Con Edison's generating capacity is made up of fossil fuel plants in operation long after they should have been retired. *Id.*

5. See text sections II, III, IV *infra* and accompanying notes.

6. *Regulatory Alternative* 467. See also *Concentration* 65. "Regulatory practices almost uniformly reflected the traditional view that the industry was a natural monopoly, ill-adapted to the application of antitrust principles." *Id.*

after deducting all legitimate operating expenses . . . the utility will have sufficient net earnings to provide a reasonable return on the net investment employed in providing utility service, or, in other terms, sufficient net earnings to maintain its financial integrity and attract additional capital on reasonable terms.⁷

Across the nation, public service commissions are finding it increasingly difficult to realize this goal.⁸

The failure of Con Edison to pay a quarterly dividend on April 23, 1974 focused attention on the deteriorating financial condition of the utility industry. Investor confidence in all utility securities plummeted and an unprecedented plunge in the value of such securities followed.⁹ The key to Con Edison's financial dilemma is that revenues have not increased sufficiently to compensate for higher operating and capital costs. While some of Con Edison's problems are unique, its financial crisis stems from forces buffeting the entire utility industry. This Comment will examine its problems and make suggestions for ameliorating them.

II. The Rise in Operating Costs

The spiraling increase in Con Edison's operating costs is primarily due to the sharply rising cost of fuel required for its generating facilities. Other factors, such as management errors, increases in wages, maintenance expenses, and taxes have contributed to the rise in operating costs. Each of these areas will be examined in the succeeding sections.

7. *Regulatory Alternative* 476.

8. See text section III *infra*.

9. Roseman, *Utility Financing Problems and National Energy Policy*, PUB. UTIL. FOR., Sept. 12, 1974, at 19, 25 [hereinafter cited as *Utility Financing Problems*]. "While market prices drifted down during most of 1973, . . . as late as October, 1973, there were still only 25 companies whose stocks were selling below book value. Then came the Arab oil embargo, and by December of 1973, the average company's stock market price was just below its book value, and more than half of the companies had market prices below book value." *Id.* Utility stock prices were depressed by "the passing of the dividend by Con Ed—an event which alerted many investors to the very real possibility that not all electric utilities could be counted on to be able to maintain, let alone increase, their dividend rates." *Id.*

A. Higher Fuel Costs

In contrast to utilities which produce their power through hydroelectric systems requiring little fuel,¹⁰ Con Edison relies on thermal generation which requires nuclear or fossil fuels.¹¹ In 1971, New York State and New York City anti-pollution regulations¹² compelled Con Edison to convert its generating plants to utilize low sulfur content oil,¹³ the bulk of which comes from the Middle East.¹⁴ Due to the 1973 oil embargo, the cost of residual oil for Con Edison increased from \$4.50 per barrel in the first 6 months of 1973 to \$15.50 per barrel in January, 1974.¹⁵ Combined with this increase in oil costs

10. *Concentration* 71. "The water from a stream or artificial lake flows through a turbine and the force of gravity turns the turbine, converting the energy into electricity." *Id.*

11. *Id.* at 71 n.39. "The basic technology of thermal generation involves using one of these heat sources [fossil or nuclear fuel] to create steam in a boiler. The steam is then released under pressure through a turbine, converting the energy into electricity." *Id.*

12. *The Energy Crisis—Long Range View*, 1973 NEW YORK PUBLIC SERVICE COMMISSION ANN. REP. 11 [hereinafter cited as 1973 P.S.C. ANN. REP.]. "The latest reduction in the allowable amounts of sulfur in fuel in the downstate area—to 0.2 percent in New York City and Nassau County and to 0.3 percent in other parts of the Metropolitan area—occurred September 30, just a few weeks before the Arab producing states . . . announced their embargo." *Id.*; see 6A NEW YORK, N.Y., CODE OF RULES & REGS. part 225 (1972).

13. 1973 P.S.C. ANN. REP. 11. "New York electric utilities have become increasingly dependent on oil—particularly No.6 residual fuel oil—since the late 1960's. As recently as 1968, the electric utilities used coal as the fuel for 52.39 percent of their generation, residual oil for 20.06 percent. By 1973, the ratio had been reversed: 53.89 percent for residual oil, only 20.77 percent for coal." *Id.*

14. *Fuel Supply*, 1973 CON EDISON ANN. REP. 4. The oil embargo had particularly severe consequences for Con Edison because at that time "Con Edison was generating about 70 percent of its electricity with low sulfur residual oil. About 60 percent of this residual oil was produced from Mid-east and North Africa crude. . . ." *Id.*

15. *Id.* at 5. "Altogether, fuel oil that would have cost \$141 million at 1969 prices cost \$292 million in 1973. If January [1974] prices prevail throughout the year, the same amount of oil would cost more than \$700 million in 1974." *Id.* Con Edison sought permission to burn coal and higher sulfur content oil during the embargo, but the permission, when granted, was too late to have an effect. *Id.*

was a shortage of generating capacity, forcing Con Edison to purchase approximately 20 percent of its total kilowatt hour production from other sources.¹⁶ This was almost four times the amount purchased in 1969.¹⁷ The cost of fuel and purchased power was approximately 30 percent of total operating revenues.¹⁸

In New York State, a fuel adjustment clause¹⁹ permits most gas and electric companies automatically to pass on to consumers increases in the cost of fuel.²⁰ The intended effect of this clause is to relieve the pressure placed on utilities by rising fuel costs. However, the company must finance these increasing costs from the time they are incurred until the time they can be charged to the consumers.²¹ Though this waiting period has been reduced to 40 days, such a lag can be a fiscal nightmare in a crisis situation similar to the 1973 oil embargo.²²

16. CON EDISON—FINANCIAL STATEMENTS AND OPERATING STATISTICS 1963-1973, at 8 [hereinafter cited as FINANCIAL STATEMENTS]. In 1973 Con Ed had to purchase 7,539,702,000 kilowatt hours (KWHs) out of a total net generated of 38,250,763,000 KWHs. *Id.*

17. *Id.* at 9. The amount of KWHs purchased in 1969 was 2,172,133,000. *Id.*

18. *Id.* at 2. Con Edison's total operating revenues for 1973 were \$1,736,239,129. *Id.*

19. *Regulatory Alternative* 491. "[T]he tariffs of most companies contain provisions for automatic rate adjustments to reflect changes in the cost of fuel or purchased gas." *Id.*; see 16 NEW YORK, N.Y., CODE OF RULES & REGS. §§ 136.55-.57, 270.55-.57 (1972), for the relevant statutory provisions.

20. *Regulatory Alternative* 491. "A cost of fuel or of purchased gas is ascertained for a 'base period', usually the same period employed in fixing the corresponding gas or electric rates. Each month the cost of fuel or purchased gas is computed and electric and gas rates are adjusted to reflect changes in fuel or purchased gas cost as compared to the base period." *Id.*

21. *Note B—Accounting Change*, 1973 CON EDISON ANN. REP. 23. "In December 1973 the New York Public Service Commission authorized the Company [Con Edison] to accelerate billings, commencing in January 1974, under the fuel rider provisions in its electric tariff to reduce from approximately 60 days to approximately 40 days the delay between the time the Company incurs increased fuel costs and the time the Company increases its charges to customers to recover such increased costs." *Id.*

22. *Id.* Con Edison had "to defer \$43,426,331 of increased fuel costs incurred during the last 40 days of 1973." Con Edison's ability to absorb

B. Increases in Wages and Salaries

Increasing wages and salaries are another factor in the upward surge of Con Edison's operating expenses. The average weekly earnings of Con Edison's employees rose from \$178.90 in 1969 to \$260.37 in 1973.²³ This expense represented about 15 percent of Con Edison's total operating revenues in 1973.²⁴ New contracts are due for negotiation in spring, 1975.

C. Maintenance

"The electric power industry performs three basic functions: generation, transmission, and distribution of electric energy to the ultimate consumer."²⁵ Con Edison bears additional expenses because most of its distribution and transmission system is underground.²⁶ The construction of these underground transmission facilities is up to 10 times as expensive as above ground facilities²⁷ and they are substantially more expensive to maintain.²⁸ Thus, maintenance

such a cost, even though it will later be reimbursed by consumers, is questionable when Con Edison is so short of cash that it is negotiating the sale of two generating plants. See note 71 *infra* and accompanying text.

23. FINANCIAL STATEMENTS 8-9. In 1969, Con Edison spent \$172,412,563 on salary and wages, not including construction costs. In 1973, salaries and wages cost \$235,343,054. In this same five year period, Con Edison's labor force had increased by a little over 1,000 employees. In 1969, Con Ed's labor force totaled 23,428. By 1973, the labor force numbered 24,541. *Id.*

24. See note 18 *supra*.

25. *Concentration* 67. "[L]arge, bulk plants have been used to generate energy, which is then sent . . . over a transmission grid to substations, where it is broken up into lower voltages and then fed into local distribution lines." *Id.*

26. FINANCIAL STATEMENTS 8. In its transmission and distribution network, Con Edison has 33,651 miles of overhead wire and 77,811 miles of underground cables. See 16 NEW YORK, N.Y., CODE OF RULES & REGS. §§100.1-11 (1972). Section 100.4 requires that all distribution facilities serving new apartment buildings or residential subdivisions of 5 or more houses be placed underground.

27. *Regulatory Alternative* 526. Underground transmission facilities are "about five to ten times as costly as overhead. . . ." *Id.*

28. *Id.* at 531. "Overhead lines are more exposed to weather and automobile accidents and are therefore more likely to be damaged. However, restoration of service, except in the case of major storms, can be made

costs in 1973 were about 9 percent of total operating revenues,²⁹ and consumed scarce financial resources needed elsewhere.

D. Taxes

Con Edison is New York City's largest taxpayer.³⁰ In 1973, Con Edison paid \$299,150,000 in local taxes as compared with \$189,892,000 in 1969.³¹ The total paid in general taxes³² was \$389,999,000.³³ General taxes represented about 22 percent of total operating revenues.³⁴

E. Management

Two policies of Con Edison's management have contributed to the company's financial troubles. The first is adherence to a traditional policy of providing power to large users for less than the standard price.³⁵ However, when Con Edison seeks to increase its rates, the state's Public Service Commission (PSC) includes in its current revenues the amount the company would have received from large users without this discount.³⁶ This conforms to the PSC

quickly. Underground lines are better protected against damaging incidents; but malfunctions require more time to diagnose and remedy when an outage occurs." *Id.*

29. FINANCIAL STATEMENTS 2-3. The cost of maintenance in 1973 was \$161,594,756 as compared with \$90,396,101 in 1969. *See* note 18 *supra*.

30. Kristol, *The Mugging of Con Ed*, *The Wall Street Journal*, May 17, 1974, at 10, col. 5. "[A]pproximately one-third of Con Ed's billings represent a tax on the consumer which the company surreptitiously collects for the city. (This is distinct from, and in addition to, the taxes Con Ed pays on its own property.)" *Id.*

31. 1973 CON EDISON ANN. REP. 30. This total did not include the federal income tax, state or other federal taxes. *Id.*

32. *Id.* General taxes do not include the federal income tax. They do include city, state, and federal taxes other than the federal income tax. *Id.*

33. 1973 CON EDISON ANN. REP. 30. The total of general taxes paid in 1969 was \$237,029,000. *Id.* at 31.

34. *See* note 18 *supra*.

35. This policy has been under attack and has been modified. *See* notes 178, 180, & 182 *infra* and accompanying text.

36. *Regulatory Alternative* 478. "Consolidated Edison typically is charged with such revenue deficiencies in electric rate cases, [forgone as a result of managerial discretion] because the revenues derived from special contracts between Consolidated Edison and various government agen-

policy that “[r]evenues forgone as a result of managerial discretion may be imputed to the utility.”³⁷ Thus, at a time when Con Edison is in desperate need of capital it is credited with revenues it will never receive.

The second managerial error is Con Edison’s unwarranted reliance on estimation of bills.³⁸ Inaccurate estimates have increased billing problems³⁹ and contributed to the company’s poor public image.⁴⁰ Investigations of complaints to Con Edison resulted in refunds and bill adjustments of almost \$1.5 million in 1973.⁴¹ Billing is a problem within Con Edison’s power to remedy⁴² and it requires immediate improvement.

cies provide less return than revenues derived from the generality of its customers. . . .” *Id.* The Public Service Commission (P.S.C.) in *In re Consolidated Edison Co. of New York Inc.*, 85 P.U.R.3d 276, 281 (1970), held that Con Edison’s revenues should be adjusted upward in rate proceeding to reflect the P.S.C.’s rejection of a special discount rate for large volume usage.

37. *Regulatory Alternative 478*. “[R]evenues sufficient to increase the return on the special contracts to reasonable levels are imputed to the company.” *Id.*

38. *Power Complaints*, 1973 P.S.C. ANN. REP. 59. “Since late 1970, the company has been reading residential meters only every other month, with interim month’s bills based on estimated consumption. When a meter cannot be read as scheduled, estimated bills are rendered for all the intervening months. When a meter is eventually read, the adjustment from estimated to actual consumption is made at one time and this often results in an unexpectedly high bill that leads to a complaint.” *Id.*

39. *Regulatory Alternative 532*. “Electric and gas service is metered, and billing problems sometimes develop as a result of inaccurate meters, improper meter readings, or inadequate estimating procedures.” *Id.*

40. “A chronic customer-relations problem is ‘seriously affecting the image of the company and influencing attitudes and actions of outside agencies.’” N.Y. Times, Apr. 11, 1975, at 37, col. 7.

41. *Power Complaints*, 1973 P.S.C. ANN. REP. 59. “Staff investigations of complaints in 1973 resulted in about 4,800 refunds and bill adjustments approaching an aggregate of \$1.4 million. The number and amount of refunds reflected upward trends. In 1972, there were about 3,000 refunds totalling about \$960,000.” *Id.*

42. N.Y. Times, Feb. 5, 1975, at 27, col. 2. “In discussing Con Edison’s customer service problems, the consultant’s [Arthur D. Little, Inc.] study said that many of the complaints were related to problems beyond the

III. The Crisis of the Money Market

Utilities' capital investment greatly exceeds annual revenues.⁴³ They depend on a huge inflow of outside capital to finance expansion, provide services, and meet financial obligations.⁴⁴ These fiscal needs must be satisfied in a capital market particularly unreceptive to new bond and common stock issues of utilities.⁴⁵ In light of the market's mood Con Edison's problem is especially acute. It must raise enough funds to retire previous obligations while financing its capital expansion program. Beginning in 1977 and continuing until 2002, Con Edison bonds will reach maturity and be refunded at an average rate of \$50 to \$100 million per year.⁴⁶ Construction expendi-

company's control. . . . But the study said much could be done to reduce errors, eliminate the complaint backlog and improve the treatment of dissatisfied customers." *Id.*

43. *Rates & the Economy—Rate Making*, 1973 P.S.C. ANN. REP. 23-24. "The total investment in utilities range from 2 times annual revenues (for natural gas) to 4.25 times (for water); in between are telephone, 2.95 times and electric, 3.92 times." *Id.* at 24.

44. McDiarmid, *Public Utilities on the Ropes*, PUB. UTIL. FORT., Sept. 12, 1974, at 31, 33 [hereinafter cited as *Public Utilities on the Ropes*]. The utility industry has always been dependent on external sources for capital. "It has been estimated that about 45 percent of all new securities sold in this country in the past five years have been marketed on behalf of public utilities." *Id.* Utilities depend on external sources because they can't generate sufficient funds internally. "The utility can generate internally funds equal to about 4 or 5 per cent of their net plant. . . . [W]hen capital expenditures rise to 12 or 15 per cent of existing net plant, as in the 1970's, there is no parallel rise in the internally generated funds, hence the latter will account for only 25 or 35 per cent of capital expenditures, while the rest must be raised externally." *Utility Financing Problems* 21.

45. *Financial News and Comment*, PUB. UTIL. FORT., Sept. 12, 1974, at 41. The unreceptive mood of the market is reflected in its reaction to Boston Edison's recent bond issue. "Boston Edison Company felt this impact [the flight of investors en masse into quality items and away from lower ranked merchandise] . . . when it attempted to sell \$60 million of triple-B five-year bonds with a 12 ½ per cent coupon rate to yield 12.13 per cent. Although the issue was totally placed during the day, it got off to a very slow reception. . . . Only 4 years ago, the Massachusetts utility was ranked triple-A by the rating agencies. . . ." *Id.*

46. 1973 CON EDISON ANN. REP. 27.

tures for the next four years will also be staggering.⁴⁷ The probable consequence of an inability to raise the necessary capital is a failure to meet future consumer needs.⁴⁸ The factors which have discouraged investor confidence are analyzed in the following sections.

A. Construction Costs and Environmental Litigation

It is technologically impossible to store electricity on a large scale.⁴⁹ Thus, utilities must have sufficient generating capacity to meet peaks in demand.⁵⁰ Due to a shortage in generating capacity, Con Edison purchases approximately 20 percent of its electric needs from other utilities.⁵¹ It is in Con Edison's best interests to expand and modernize its generating capacity to meet this demand. However, construction costs,⁵² environmental, and financial difficulties have contributed to the present situation in which Con Edison does not plan to build any new nuclear facilities.⁵³

In 1971, the United States Court of Appeals for the District of Columbia held, in *Calvert Cliffs' Coordinating Committee Inc. v.*

47. *Id.* at 26. "Construction expenditures for the years 1974 through 1978 are estimated to aggregate approximately \$3,461,000,000 *Id.*"

48. *Id.* "If the Company should be unable to obtain the necessary financing, its construction program would be delayed, or sharply curtailed, which in turn would impair the ability of the Company to meet the future needs of its customers. In some instances the Company would also incur financial penalties in the event of premature termination of construction projects." *Id.*

49. *Regulatory Alternative* 495.

50. *Id.* at 495. "Peak demand" is the period of highest customer demand during a specified period. "On-peak usage" occurs when the customer is using power at a time when customer demand for power is the greatest. On-peak usage "requires the incurrence of the largest part of the electric utility's cost." *Id.* at 496.

51. See note 16 *supra* and accompanying text.

52. FINANCIAL STATEMENTS 8-9. Construction expenditures in 1973 were \$685,622,690. In 1969 the total was \$304,953,416. *Id.*

53. *Note F—Commitments and Contingent Liabilities*, 1973 CON EDISON ANN. REP. 26. "In October 1972 the Company [Con Edison] withdrew its application for a license to construct a nuclear generating plant at Verplanck, New York [T]he Company presently estimates that the net unrecoverable cost resulting from termination of proposed construction of this unit at Verplanck is \$11,674,000." *Id.*

AEC,⁵⁴ that section 102(2)(c) of the National Environmental Policy Act (NEPA)⁵⁵ required:

responsible officials of all agencies [to] prepare a 'detailed statement' covering the impact of particular actions on the environment, the environmental costs which might be avoided, and alternative measures which might alter the cost-benefit equation.⁵⁶

The requirement of an environmental impact statement prior to construction of utility facilities was upheld in *Citizens for Clean Air, Inc. v. Corps of Engineers*.⁵⁷ Here the federal district court invalidated an Army Corps of Engineers⁵⁸ permit to Con Edison for the construction of a water intake and discharge facility for the cooling system of a proposed power plant because of a failure to evaluate the environmental effect of such construction.⁵⁹

New York State law requires that "[n]o gas corporation or electric corporation shall begin construction of a gas plant or electric plant without first having obtained the permission and approval of the Commission [PSC]".⁶⁰ In addition, state legislation also re-

54. 449 F.2d 1109 (D.C. Cir. 1971); see Davis, *Taming the Technological Tyger—The Regulation of the Environmental Effects of Nuclear Power Plants—A Survey of Some Controversial Issues—Part One*, 1 FORDHAM URBAN L.J. 19, 31-37 (1972) [hereinafter cited as Davis].

55. 42 U.S.C. §§4321-47 (1970).

56. 449 F.2d at 1114 (1971).

57. 349 F. Supp. 696 (S.D.N.Y. 1972).

58. See Davis 42-43 for a discussion of the role of the Army Corps of Engineers with regard to utilities.

59. The grounds for invalidation were failure to comply with the provisions of §102(2)(c) of NEPA (42 U.S.C. §4332(2)(c) (1970)), requiring an evaluation of the environmental effect of its permit for such construction. 349 F. Supp. at 697. All construction was not enjoined however. In *Citizens for Clean Air, Inc. v. Corps of Engineers*, 356 F. Supp. 14 (S.D.N.Y. 1973), they again tried to enjoin Con Edison from proceeding with construction of the Astoria No. 6 plant. *Citizens for Clean Air* claimed that since the Corps refused to hold a public meeting on the environmental impact statement being prepared, they had violated NEPA and hence the court's prior order. The court held that since, when a final impact statement was completed, the Secretary of the Army would decide whether to have public hearings, it would be premature for the court to order the Secretary to hold a public hearing. *Id.* at 21.

60. N.Y. PUB. SERV. LAW § 68 (McKinney 1955).

quires the approval of the State Board on Electric Generation Siting and the Environment⁶¹ with respect to the location and construction of proposed electric power plants.⁶²

The history of Con Edison's Cornwall "pumped storage" plant⁶³ provides an example of the gauntlet New York utilities must run to increase generating capacity. The Federal Power Commission⁶⁴ approved the proposal in 1965.⁶⁵ The United States Court of Appeals reversed the decision in 1966.⁶⁶ The Federal Power Commission approved a revised proposal in 1970⁶⁷ and the court of appeals affirmed.⁶⁸ Opponents of the project continued their battle in the state

61. Law of May 22, 1972, ch. 385, § 823, [1972] N.Y. Laws 1634 (adding article VIII, enacted as N.Y. PUB. SERV. LAW §§ 140-49b (McKinney Supp. 1974)).

62. N.Y. PUB. SERV. LAW § 141(1) (McKinney Supp. 1974) requires that "[n]o persons shall . . . commence the preparation of a site for, or begin the construction of, a major steam electric generating facility in the state without having first obtained a certificate of environmental compatibility and public need issued with respect to such facility by the board."

63. *Regulatory Alternative 523*. "Nuclear facilities function best at a constant base load; yet the demand for electricity varies widely. Thus, a nuclear plant built to meet the average load would produce a surplus during off-peak hours and run a deficit during peak periods. Pumped storage is designed to use the surplus power generated during off-peak hours to pump water into an upland reservoir and then to use the power generated by the downflow of the same water to supplement the capacity of the nuclear facility during peak periods. Pumped storage also may be used in conjunction with fossil fuel base load plants." *Id.*

64. Davis 40. "At the present time, the Federal Power Commission regulates the electrical industry in three ways: (1) by licensing the use of hydro power sites on navigable rivers under the federal jurisdiction; (2) by regulating the wholesale rates of power sold for resale in interstate commerce; and (3) by encouraging the inter-connection and co-ordination of power systems." *Id.* See Federal Power Act, 16 U.S.C. §§791a-828c (1970) (the statutory basis of the FPC); *id.* §§792-93 (the actual structural and functional guidelines of the Commission).

65. *Consolidated Edison Co.*, 33 F.P.C. 428 (1965).

66. *Scenic Hudson Preservation Conference v. FPC*, 354 F.2d 608, (2d Cir. 1965), *cert. denied*, 384 U.S. 941 (1966).

67. *Consolidated Edison Co.*, 44 F.P.C. 350 (1970).

68. *Scenic Hudson Preservation Conference v. FPC*, 453 F.2d 463 (2d Cir. 1971), *cert. denied*, 407 U.S. 926 (1972).

courts, contesting the validity of a water discharge permit granted by the New York State Department of Environmental Conservation.⁶⁹ The result is that the first contracts for the Cornwall project were let in 1973, with completion scheduled for 1978-80. The Cornwall project was first proposed in 1962.

Since construction of new generating facilities is subject to innumerable delays, Con Edison has increasingly relied on purchased power⁷⁰ and has been compelled to keep outdated fossil fuel stations in operation long after they should have been replaced.⁷¹ To compound the problem, Con Edison was so short of cash after the omission of its quarterly dividend in April, 1974 that it is negotiating the sale of two large uncompleted power plants—the Astoria No. 6 (fossil fuel) plant and the Indian Point No. 3 (nuclear) plant—to the Power Authority of the State of New York (PASNY).⁷²

B. Raising Capital Through Debt

To an extent, the hostility of the capital market to new utility bond issues can be traced to Con Edison's dividend omission.⁷³ The impact of this hostility has been reflected in massive downgrading of utility issues by rating agencies.⁷⁴ Experts foresee a continuation

69. *In re deRham*, 69 Misc. 2d 1, 330 N.Y.S.2d 71 (Sup. Ct.), *modified*, 39 App. Div. 2d 302, 333 N.Y.S.2d 771 (3d Dep't 1972).

70. See note 16 *supra* and accompanying text.

71. See note 4 *supra* and accompanying text. Even after overhauling, such stations "rank low in reliability, high in cost, high in environmental damage, and low in efficient fuel utilization." *Regulatory Alternative* 525.

72. *Public Utilities on the Ropes* 31. PASNY "will pay for them [the plants] and complete their construction through the sale of tax-exempt bonds." *Id.* N.Y. PUB. AUTH. LAW § 1001-a (McKinney Supp. 1974) grants the Power Authority of the State of New York (PASNY) the power to purchase these plants. "The authority should be authorized to acquire completed or partially completed generation, transmission and related facilities and fuel and fuel contracts." *Id.* § 1001-a(3). See *id.* § 1005 (the powers and duties of PASNY).

73. *Financial News and Comment, Bond Market Stabilizes, but Utility Offerings Meet Resistance*, PUB. UTIL. FORT., July 4, 1974, at 39. "[M]ost new issues [utility corporate bonds] still seem to suffer from the emotional overflow by investors following the April Con Ed dividend omission. . . . [T]he majority of utility offerings were greeted warily by investors." *Id.*

74. *Financial News and Comment, Rating Agencies Continue Massive*

of this trend.⁷⁵ This downgrading has caused a corresponding rise in interest rates,⁷⁶ which has a detrimental effect on the interest coverage ratio—"the ratio of income (before payment of interest and taxes) to interest-bearing obligations."⁷⁷

The indentures of previously issued bonds prohibit utilities from issuing additional bonds when the coverage ratio falls below a given level.⁷⁸ Many utilities are approaching or have reached the point where they are legally prohibited from selling additional bonds.⁷⁹ Although Con Edison has an unusually low coverage ratio in its bond indentures,⁸⁰ a continued rise in interest rates could force it to rely heavily on new issues of common stock rather than debt.⁸¹

Downgrading of Utility Issues, PUB. UTIL. FORT., Aug. 15, 1974, at 38. "Thus far, in 1974 Standard & Poor's has downrated 15 utility bond issues, bringing the total downrated since 1970 to 67 operating companies." *Id.*

75. *Id.* "The marked decline in the financial condition of the electric utility industry in recent months led officials . . . to predict a continuation of this trend." *Id.*

76. *Public Utilities on the Ropes* 33. "Electric utility bonds of a given rating now sell to yield at least one per cent more than industrial bonds carrying the same rating." *Id.*

77. *Utility Financing Problems* 21. "Utility indentures typically require that earnings available for purposes of paying interest (net earnings before taxes) must be a designated multiple (typically two) of the interest requirements of both existing and proposed bonds before any new bonds may be issued." *Regulatory Alternative* 485.

78. *Utility Financing Problems* 21. The coverage ratio is usually two times income to interest obligations. *Id.*

79. *Id.* "Moreover, as utilities continue to sell some new bonds at today's very high interest rates, the coverage ratios will tend to decline even more rapidly . . ." *Id.*

80. 1973 CON EDISON ANN. REP. 27. "Under the Company's Mortgage Trust Indenture, additional bonds can only be issued, subject to minor exceptions, if the ratio of the Company's 'net earnings as available for interest' . . . for a period of twelve consecutive calendar months within the immediately preceding fifteen calendar months to its 'annual interest charges' . . . is equal to at least 1.75." *Id.*

81. *Utility Financing Problems* 21. The relationship of higher interest rates to lower coverage ratio to lower ratings and in turn to higher interest rates is circular in nature. "Higher interest rates automatically reduce the coverage of fixed charges. Lower bond coverage ratios can lead to lower ratings on bonds and this increases the company's interest costs which

Another trend in the utility bond market is for shorter terms to maturity. Utilities traditionally have a preference for long-term debt.⁸² During a period of inflation, the market is not willing to commit itself to such debt⁸³ since borrowers' credit ratings change and interest rates fluctuate. Utilities must now contend with the continuing pressure caused by short-term bonds.

Con Edison has had to wrestle with the effects of short-term borrowing for years because of its use of "arrearage financing."⁸⁴ Under arrearage financing, the utility is statutorily required⁸⁵ to use short-term loans from banks unless the PSC permits it to do otherwise. When it reaches the end of its short-term credit line, it can then

further reduces the bond coverage ratio." Leason, *Capitalism's Greatest Test: The Electric Utilities*, PUB. UTIL. FORT., Aug. 15, 1974, at 31 [hereinafter cited as *Capitalism's Greatest Test*].

82. Lerner, *Impact of Competition on Rate of Return*, PUB. UTIL. FORT., Dec. 5, 1974, at 28, 30. "[F]irms have a preference for long-term as opposed to short-term debt because it places less continuing pressure on the firm's daily cash position. Unfortunately, during a period of inflation, it is extremely difficult for any firm to reduce its financial risk exposure by lengthening the maturity of its debt; rather, all of the pressures on both lenders and borrowers are to shorten the maturity." *Id.*

83. *Id.* "As interest rates rise, capital losses are incurred on outstanding instruments. Lenders therefore become reluctant to commit new funds on a long-term basis at any rate that is less than an acceptable real rate, plus the expected rate of inflation." *Id.*

84. *Regulatory Alternative* 473. "All external financing by New York utilities, other than short-term borrowing, must be approved by the Public Service Commission." *Id.*

85. N.Y. PUB. SERV. LAW § 69 (McKinney Supp. 1974) provides: "A gas corporation or electric corporation organized or existing . . . under or by virtue of the laws of the State of New York, may issue stocks, bonds, notes or other evidences of indebtedness payable at periods of more than twelve months after the date thereof . . . provided and not otherwise that there shall have been secured from the commission an order authorizing such issue, and the amount thereof, and stating the purposes to which the issue or proceeds thereof are to be applied. . . . Such gas corporation or electric corporation may issue notes . . . payable at periods of not more than twelve months without such consent; but no such notes shall . . . be refunded by any issue of stock or bonds or by any evidences of indebtedness running for more than twelve months without the consent of the commission."

float long-term bonds. This restricts management's flexibility in responding to favorable market conditions for long-term bonds; by the time the PSC grants approval, market conditions may have drastically changed.

Another obstacle which Con Edison faces in seeking external financing is the PSC's preference for competitive bidding in the sale of utility securities.⁸⁶

The purpose of competitive bidding is to obtain purchasers for utility issues at the lowest possible interest rates. However, negotiated sales of bonds which often yield a higher rate of return, may be the only method of attracting sufficient financing. The PSC has allowed some negotiated sales in the past,⁸⁷ and may have to allow increasing sales in the future.

Sale of preferred stock is another means by which some utilities attempt to meet their financial requirements. However, salability of preferred stock is limited by the coverage requirements of old issues, and by the capitalization ratio of the utility offering it.⁸⁸ Thus, it can offer only limited financial relief.

C. Raising Capital Through Equity

Electric utilities will not be able to finance their projected capital expenditures without heavy reliance upon new issues of common stock.⁸⁹ The basic problem confronting utilities is the sheer quantity

86. *Regulatory Alternative* 473. Generally the PSC prefers securities sold at competitive biddings. Sometimes negotiated transactions are permitted. *Id.*

87. *Id.*

88. *Public Utilities on the Ropes* 33. "[T]his (sale of preferred stock) is also a strictly limited possibility, as investors look askance at any utility with a capital structure consisting of more than about 15 per cent of preferred stock. Also there are usually earnings coverage requirements limiting the issuance of more preferred." *Id.* The main problem area with preferred stock issues in New York would be the earnings coverage requirements, since N.Y. combination utilities have a capitalization ratio of 52.4 percent debt, 13.6 percent preferred stock, and 34.0 percent common equity. 1973 P.S.C. ANN. REP. 24.

89. *Utility Financing Problems* 21. "Over the next decade the utility industry will have to raise about \$100 billion in the form of common equity capital. Retained earnings may account for perhaps \$25 billion, so that the remainder will have to be raised by selling new shares of common stock.

of stock that will have to be sold annually and the fact that the prices of utility common stocks have been depressed below their book values⁹⁰ since Con Edison's dividend omission.⁹¹

When market price is below book value, "dilution" must be considered. "Dilution" refers to the immediate impact the sale of new stock has on a company's earnings per share.⁹² It is inevitable when a company sells stock at below book value.⁹³

The chief fear of prospective purchasers of utility stock is that "there will be large additional sales of stock in the future, diluting the value of the stock [they are] considering buying today."⁹⁴ Companies and regulatory commissions must realize that if senior securities are now requiring yields in excess of 10 percent, the return on more risky equity must be appreciably higher to attract new investors.⁹⁵

This means that the industry will have to sell roughly \$7.5 billion a year in new common stock over the next decade, more than 10 times as much as it sold during the 1960's." *Id.*

90. *Id.* at 24-25. "In January, 1973, virtually every company in the industry had a market price equal to or above book value . . . ; the leading exception, Consolidated Edison, had a market-to-book ratio of 0.83 (which is slightly above the *average* market-to-book ratio for the industry today)." *Id.* (emphasis in original).

91. See note 9 *supra* and accompanying text.

92. *Utility Financing Problems* 22.

93. *Id.* The following illustration of the relationship between dilution and below book value market prices was provided: Suppose that an electric utility has \$100 million in common equity capital and sells \$20 million worth of common stock. If its allowed rate of return is 12 percent, then its earnings will rise from \$12 million to \$14.4 million, that is, by 20 percent. But whether the number of shares rises by 20 percent is dependent upon how many shares the company had to issue to raise \$20 million. This is determined by the price of the stock. Assume that the company prior to selling the stock had 5 million shares outstanding so that book value was \$20 per share. Now assume that the market value per share is \$10. If the company wants to raise \$20 million it must sell 2 million shares of stock. These 2 million shares raise the number of shares outstanding by 40 percent. Total earnings are raised by only 20 percent. Thus there is a decline in earnings per share and a decline in the book value of the stock. *Id.*

94. *Id.* at 29.

95. *Public Utilities on the Ropes* 34. "Under present conditions, with interest rates on highest-grade, long-term utility bonds close to 10 per cent

IV. Regulatory Commissions

A. Background

Any solution to Con Edison's financial problems requires the involvement of the PSC. The powers given such regulatory commissions have been upheld by the courts. In *Munn v. Illinois*,⁹⁶ the United States Supreme Court held that states could, as a valid exercise of their police power, regulate industries "affected with a public interest."⁹⁷ *Smyth v. Ames*⁹⁸ affirmed the constitutionality of this regulatory power with the caveat that a state must allow the utility a "fair return" on property devoted to the public service.⁹⁹ The need for regulatory commissions composed of financial and industrial experts was recognized by the Court when, plagued with the complexities of determining a "fair return," it observed that an evaluation of the utilities' profits:

could be more easily determined by a commission composed of persons whose special skill, observation and experience qualifies them to so handle great problems of transportation as to do justice both to the public and to those whose money has been used to construct and maintain highways for the convenience and benefit of the people.¹⁰⁰

In 1907 New York and Wisconsin created the first commissions with comprehensive jurisdiction over utilities.¹⁰¹ Similar regulatory commissions presently exist in every state.¹⁰² These commissions often share concurrent jurisdiction with federal agencies.¹⁰³

with those on medium-grade electric utility bonds at 11 per cent or more, and with electric utility stock selling on average at around 7 times earnings, it is difficult to see how a return on equity of much under 15 per cent will enable them to raise equity capital without badly damaging the position of present stockholders and ultimately drying up the sources of such capital." *Id.*

96. 94 U.S. 113 (1877).

97. *Id.* at 126.

98. 169 U.S. 466 (1898).

99. *Id.* at 547.

100. *Id.* at 527.

101. 1 A. PRIEST, PRINCIPLES OF PUBLIC UTILITY REGULATION 25 (1969) [hereinafter cited as PRIEST].

102. *Id.*

103. "[T]he major federal agencies concerned with interstate aspects of utility operations . . . are (1) the Interstate Commerce Commission

B. Rate Base

To determine the amount of revenues a utility can receive from customers, regulatory commissions generally use the following formula: Revenues = Operating Expenses + (Rate Base x Rate of Return).¹⁰⁴ A utility's rate base is determined by a valuation of its assets less accrued depreciation¹⁰⁵ plus an allotment for working capital, materials, and supplies.¹⁰⁶ The *Smyth* Court directed that utility property be accorded "fair value"¹⁰⁷ and promulgated six factors which could be considered in arriving at this goal.¹⁰⁸ Dispute has historically centered on which particular method of valuation, if any, the Court endorsed.¹⁰⁹ Two factors, original cost and reproduction cost, have become the critical standards by which rate bases are determined and around which regulators and the regulated have

(ICC); (2) the Federal Power Commission (FPC); (3) the Civil Aeronautics Board (CAB); (4) the Federal Communications Commission (FCC); and (5) the Securities and Exchange Commission (SEC)." *Id.* at 33.

104. Pontz & Sheller, *The Consumer Interest—Is it Being Protected by the Public Utility Commission?*, 45 *TEMPLE L.Q.* 315, 316 (1972).

105. C. PHILLIPS, JR., *THE ECONOMICS OF REGULATION* 216-17 (rev. ed. 1969) [hereinafter cited as PHILLIPS]. The four categories of assets included in the rate base are tangible assets, incidentals during construction, working capital, and intangible assets. Tangible assets include "used and useful" land, buildings, and equipment (plant). Incidentals during construction are administration, brokerage, legal and promotional fees, interest, insurance, taxes, and contingencies. Working capital includes money needed to meet current obligations. Intangibles include good will, franchise value, water rights, leaseholds, and going concern value. *Id.* at 217.

106. *PRIEST* 191.

107. 169 U.S. at 546.

108. "[T]he original cost of construction, the amount expended in permanent improvements, the amount and market value of its bonds and stock, the present as compared with the original cost of construction, the probable earning capacity of the property under particular rates prescribed by statute, and the sum required to meet operating expenses, are all matters for consideration, and are to be given such weight as may be just and right in each case." *Id.* at 546-47. *See also* PHILLIPS 220-21 & nn.10-13 for discussion of the merits, application, and court treatment of each standard.

109. Of these six tests four were ultimately rejected and as a result original cost and reproduction cost have become the surviving standards. PHILLIPS 220-21 & nn.10-13.

remained in juxtaposition.¹¹⁰ The original cost method allows the investors the amount spent upon the asset at the time it was acquired.¹¹¹ The fair value method allows consideration of factors other than the original cost of the asset, including inflation, changing economic conditions, and the cost of duplicating the exact same plant in the year of valuation.¹¹² As a result, this method of valuing utility assets has been criticized as being subjective and speculative.¹¹³

Decisions following *Smyth* have interpreted the "fair value" test to require reproduction cost consideration.¹¹⁴ There is serious question, however, whether the *Smyth* Court intended to require reproduction cost as one of the elements in arriving at "fair value" or was merely giving an example of a possible consideration in a reason-

110. *Id.*

111. *Missouri ex rel. Southwestern Bell Tel. Co. v. PSC*, 262 U.S. 276 (1923). "The thing devoted by the investor to the public use is not specific property . . . but capital embarked in the enterprise. Upon the capital so invested the Federal Constitution guarantees to the utility the opportunity to earn a fair return." *Id.* at 290.

112. *McCardle v. Indianapolis Water Co.*, 272 U.S. 400, 408-10 (1926); *PRIEST* 156-166. The Supreme Court of Delaware has held that fair value in that state means "'present' fair value, that its commission must give to 'each element of value such weight as may be necessary and proper under the facts presented . . .'" *Id.* at 157.

113. *West v. Chesapeake & Potomac Tel. Co.*, 295 U.S. 662 (1935). "In assuming the task of determining judicially the present fair replacement value of the vast properties of public utilities, courts have been projected into the most speculative undertaking imposed upon them in the entire history of English jurisprudence. . . . When we arrive at a theoretical value based upon such uncertain and fugitive data we gain at best only an illusory certainty." *Id.* at 689 (Stone, J., dissenting).

114. *McCardle v. Indianapolis Water Co.*, 272 U.S. 400, 408-10 (1926); *Galveston Elec. Co. v. Galveston*, 258 U.S. 388 (1922). In a concurring opinion in *FPC v. Natural Gas Pipeline Co.*, 315 U.S. 575 (1942), Justice Douglas interpreted *Smyth*, stating: "We think this is an appropriate occasion to lay the ghost of *Smyth v. Ames* [to rest]. . . ." *Id.* at 602. "As we read the opinion of the Court, the Commission is now freed from the compulsion of admitting evidence on reproduction cost or of giving any weight to that element of fair value. The Commission may now adopt, if it chooses, prudent investment as a rate base—the base long advocated by Mr. Justice Brandeis." *Id.* at 606.

ableness test.¹¹⁵ In *FPC v. Hope Natural Gas Co.*,¹¹⁶ the Court held that the Federal Power Commission (FPC) was not bound by *Smyth* to consider reproduction cost in arriving at the "fair value" of a utility's assets.¹¹⁷ The Court upheld the FPC's endorsement of original cost. Currently, state jurisdictions are split almost equally between "fair value" and original cost.¹¹⁸ "New York has a foot in either camp."¹¹⁹ Legislation requires the PSC to value electric companies at original cost; however, reproduction cost may be considered in appraising other utilities.¹²⁰

Property, to be included in the rate base, must be "used and useful,"¹²¹ or older property used irregularly;¹²² newer property not yet operative will generally be excluded.¹²³ Property acquired by contribution is not usually included in the rate base¹²⁴ and property purchased second hand from another public utility is not generally valued in excess of the cost of the property when first acquired by the original owner.¹²⁵

115. PHILLIPS 221. See also Priest, *Major Public Utility Decisions in Perspective*, 46 VA. L. REV. 1327 (1960).

116. 320 U.S. 591 (1944).

117. *Id.* at 605.

118. PRIEST 166.

119. *Id.* at 153.

120. N.Y. PUB. SERV. LAW § 97(1) (McKinney 1955) (fair value); cf. *id.* §§ 72, 89-j (return upon capital actually expended).

121. PRIEST 174-75.

122. Long Island Lighting Co., 18 P.U.R. (n.s.) 65, 77-78 (N.Y. Dep't Pub. Serv. 1935).

123. Duke Power Co., 99 P.U.R.3d 321, 354, (N.C. Util. Comm'n 1973); cf. Remarks of Joseph C. Swidler, Chairman, New York State Public Service Commission, New York Society of Security Analysts Annual Banquet, Jan. 31, 1973, at 10. In a recent case, Rochester Gas & Elec. Co., ___ P.S.C. Rep. ___ (1972) the P.S.C. allowed a non-revenue producing environmental research plant which was constructed during the test year but which wasn't yet operative into the rate base. The P.S.C. also permitted the inclusion of a plant under similar circumstances where the plant was inoperative because of a natural gas shortage and the burden on the utility's finances consumed revenue needed for further capital expansion.

124. PRIEST 177.

125. *Id.* at 188-89; see *Utilities & Indus. Corp.*, 43 P.U.R.3d 330, 332-33 (N.Y. Pub. Serv. Comm'n 1962).

A controversy exists as to whether interest on money raised during construction of a new plant should be included in the new plant's rate base.¹²⁶ Some jurisdictions question the legitimacy of this cost¹²⁷ while in other jurisdictions, such as New York, under set conditions, the cost is included.¹²⁸

Working capital, included in the rate base,¹²⁹ is the money needed to discharge the corporation's normal daily expense.¹³⁰ The amount of working capital is finally determined by the commissions. In the 1950s and 1960s there were occasions when commissions, wary of excess utility profits, discounted working capital in order to insure an accurate valuation of the companies' assets.¹³¹

Materials and supplies are tangible assets expended regularly in the operation of the business. This stockpile is essential in the daily course of business and is universally recognized as a legitimate part of the rate base.¹³²

Accelerated or liberalized depreciation methods permit utilities to defer tax payments.¹³³ When the utilities devoted this money to

126. See, e.g., PRIEST 178-80.

127. *Id.*

128. Consolidated Edison Co., 96 P.U.R. (n.s.) 194, 380-81 (N.Y. Pub. Serv. Comm'n 1952). "With minor deviations, the general rule followed by regulatory authorities in treating plant under construction, to which interest has been added as an element of cost, is that such property should not be included in a rate determination unless the operating income of the utility is adjusted to reflect the resultant effect of the property involved, or unless the interest charges are included as an operating revenue. The principal reasons stated in support of this standard are: (1) the property involved is not presently used and useful in the rendition of public service, (2) neither the company nor the customer derives any benefit until the property becomes productive, (3) the inclusion of interest as an element of property costs avoids burdening a utility's net income with the cost of construction funds, with the result that a utility is compensated for the use of such funds during the construction period of new facilities." *Id.* at 380-81.

129. PRIEST 183-87.

130. *Id.*

131. *Id.* at 184-85 contains an extreme example of discounting working capital allowance by the California Public Service Commission.

132. *Id.* at 183.

133. INT. REV. CODE OF 1954, § 167(b).

capital expenditures an immediate controversy arose as to whether the investors or the consumers should enjoy the benefit of these savings.¹³⁴ The FPC "flowed through" the benefits to consumers in a landmark decision in 1966.¹³⁵ This decision and the cases which followed have become the standard which has guided many state commissions.¹³⁶ New York adheres to the flow through policy.¹³⁷ Critics of this policy have asserted that greater savings to both the investor and the consumers would be derived by allowing utilities the use of this money to provide needed additional plant and equipment.¹³⁸

C. Rates of Return

The rate of return is a percentage figure¹³⁹ which, when multiplied by the rate base¹⁴⁰ and added thereafter to operating costs should produce a "fair return" to the utility.¹⁴¹

The Supreme Court has promulgated two criteria by which regulators may determine a fair rate of return.¹⁴² The investor-owned utility should be allowed to earn a return similar to unregulated industry with "corresponding risks and uncertainties."¹⁴³ Furthermore, "[t]he return should be . . . sufficient to assure confidence in the financial soundness of the utility . . . maintain . . . [its] credit and enable it to raise the money necessary [to attract capi-

134. PRIEST 124-38. See also 66 HARV. L. REV. 1274 (1953).

135. *Alabama-Tennessee Natural Gas Co. v. FPC*, 359 F.2d 318, 344 (5th Cir. 1966), cert. denied, 385 U.S. 847 (1967). The Court has noted several factors which indicate that the *Alabama-Tennessee* case was an extremely inappropriate set of circumstances upon which to formulate such a major regulatory decision.

136. PRIEST 130-34.

137. *Niagara Mohawk Power Corp.*, 28 P.U.R.3d 171, 193 (N.Y. Pub. Serv. Comm'n 1959).

138. *In re Accounting and Rate Case Treatment of Liberalized Depreciation*, 49 P.U.R.3d 1, 34 (Mich. Pub. Serv. Comm'n 1963).

139. PRIEST 139.

140. See text accompanying notes 104-05 *supra*.

141. *Willcox v. Consol. Gas Co.*, 212 U.S. 19, 48-50 (1909).

142. *Bluefield Waterworks & Improvement Co. v. PSC*, 262 U.S. 679, 692-93, (1923).

143. *Id.* at 692.

tal]. . . ."¹⁴⁴ The latter criteria must be the primary consideration of the commissions if investor-owned utilities are to be viable enterprises.¹⁴⁵

Prior to the present high interest rates, the utilities had no major problems borrowing.¹⁴⁶ Because electric utilities are capital intensive,¹⁴⁷ their continuation depends upon being able to retire present debt and reissue new debt. Con Edison requires \$3.92 worth of capital to produce \$1 worth of revenue.¹⁴⁸

When setting the maximum rate of return that utilities will have the opportunity to earn, the commissions have not adequately considered the effect of new construction.¹⁴⁹ If a new plant is brought "on line" the utility's rate base will increase, but revenues will remain relatively static because the new plant is serving the same customers and has been constructed to replace older and obsolete facilities. The resulting effect is called attrition and refers to the erosion of the rate of return.¹⁵⁰ The effect of attrition can be illustrated by the following example:

Suppose the commission sets a company's rate base at \$10 million and allows a 6 percent rate of return, resulting in annual earnings of \$600,000. If, however, the company completes construction of a \$1 million new plant and puts it into operation during the next year, and . . . total earnings increase to \$627,000, the rate of return will be 5.70 percent.¹⁵¹

Typically, the problem is precipitated by rising construction costs and a rate of return fixed prior to the year the plant is included in

144. *Id.* at 693.

145. PRIEST 194-95, 210.

146. *Id.* at 218. "The fabulous 1940's and the early 1950's, when utilities sliced multi-millions from their interest requirements by calling five per cent bonds and issuing three per cent bonds to replace them, have been turned upside down." *Id.* at 219-20.

147. See note 43 *supra* and accompanying text.

148. 1973 P.S.C. ANN. REP. 24.

149. See text sections II & III *supra*.

150. PHILLIPS 243. "[Attrition is] the tendency of the rate of return to diminish in a period of comparatively high construction costs, since new plant is being added which . . . is relatively expensive. . . . As the high cost plant comes into service, it tends to increase the applicable rate base at a more rapid pace than the resultant earnings, and the rate of return decreases accordingly.'" *Id.*

151. *Id.*

the rate base. Possible solutions to attrition are to permit a special allowance for "start-up" costs or to allow other increases in rates to offset the added costs.

D. Regulatory Lag

Regulatory lag is a word of art in utility regulation. It is the period between a utility's request for higher rates and the commission's decision whether such increases are justified.¹⁵² Hearings must be held in nearly every instance that a utility requests an increase.¹⁵³ In New York this review period is limited by law to ten months.¹⁵⁴ If a determination by the PSC is not made within the statutory period, the utility's proposed rates go into effect unless the commission sets interim rates.¹⁵⁵ Rather than allow a utility to achieve a rate increase by default, the commission will invariably post interim rates.¹⁵⁶ Interim rates will otherwise be granted only in special circumstances¹⁵⁷ and are invariably lower than the permanent rates which will probably be granted.¹⁵⁸ Before interim rates may be levied, there must be a limited hearing for customers who may be adversely affected.¹⁵⁹

152. *Regulatory Alternative* 492. Regulatory lag and attrition are of the same genus, attrition being that type of regulatory lag attributable to attempted capital expenditure during a period of static rate of return.

153. *Regulatory Alternative* 489. "[W]hen a proposed rate change exceeds both \$100,000 . . . and 2½% of the utility's annual revenues, the rate change cannot be permitted to become final without a public hearing." *Id.*; see N.Y. PUB. SERV. LAW §§ 66(12), 92(2) (McKinney Supp. 1974). New York requires that hearings must be held before temporary or interim rates can be posted. *Id.* § 114 (McKinney 1955).

154. N.Y. PUB. SERV. LAW § 113 (McKinney Supp. 1974).

155. *Id.* §§ 66(12) (gas and electric utilities), 92 (telephone and telegraph companies).

156. *Regulatory Alternative* 490.

157. *Id.* The special circumstances are: (1) the utility's earnings are so low that it is losing the ability to attract capital; (2) the investors aren't getting a fair return guaranteed by law; (3) it is generally conceded by all parties concerned and affected that the utility needs an increase or deserves it. *Id.*

158. *Id.* at 491.

159. N.Y. PUB. SERV. LAW § 114 (McKinney 1955) (temporary rates and hearing requirements). See also *Regulatory Alternative* 491.

The actual time expended for implementation of a rate increase can be as much as a year.¹⁶⁰ In rate cases, the hearing process permits concerned parties to file briefs, cross-examine company experts, and submit reply briefs.¹⁶¹ The PSC, plagued with staff shortages and greater caseloads, has become a victim of regulatory lag as much as utilities.¹⁶² Currently, a utility waits up to twelve months to get an increase which, when finally awarded, is insufficient. Thus, the utility must immediately apply for another increase.¹⁶³ This nationwide dilemma has prompted President Ford to propose the Public Utility Act of 1975, which requires, *inter alia*, that state regulatory commissions complete all rate increases within five months.¹⁶⁴ The new chairman of the New York State Public Service Commission, Alfred E. Kahn, has also proposed a modified five month implementation plan.¹⁶⁵

160. *Regulatory Alternative* 489. See also N.Y. PUB. SERV. LAW § 66(12) (McKinney Supp. 1974) (utility must give at least 30 days notice of any proposed change in its filed rates, and must publicize its proposal); 16 NEW YORK, N.Y., CODE OF RULES & REGS. § 89.1 (1972) (to expedite hearings, the utility must file its complete direct case in support of its proposed change). It can logically be surmised from the statutory requirements that it might take longer than the statutory 10 month period to implement a rate change. Cf. *Regulatory Alternatives* 491.

161. *Regulatory Alternative* 489.

162. N.Y. Times, Feb. 17, 1975, at 44, cols. 1, 4.

163. *Capitalism's Greatest Test* 31.

164. N.Y. Times, Feb. 3, 1975, at 37, col. 4.

165. Remarks of Alfred E. Kahn, Chairman, New York State Public Service Commission, New York Society of Security Analysts Annual Banquet, Dec. 13, 1974, at 9: "Our statute requires that we act on requests for rate increases within 11 months after filing, and we always do so. But an 11 month delay, which generally worked to the advantage of the companies during the '1950's' and '1960's,' can work intolerably to their disadvantage in a period of rapid inflation; and to the extent this threatens continuity of service, it works to the disadvantage to [sic] consumers as well. I recognize, therefore, that we must be willing to consider various possible ways of accommodating to the new inflation without totally destroying incentives to efficiency. Speaking only for myself, I am prepared to consider the use of such devices as permitting rate filings automatically to go into effect on a temporary basis, after a five month period, upon a showing that the return on equity has fallen below some predetermined zone of reasonableness."

Regulatory lag is also evident in the evaluation methods utilized by the commission in determining utility rates. Utility revenues are determined by culling figures compiled from any previous consecutive twelve months, called the test year.¹⁶⁶ This "test year" method analyzes the expenses incurred and the revenues accrued in the test year.¹⁶⁷ Only revenues which are typical and recurring are allowed in the test year data, and expenses suffered at the end of the year which are not proven to be recurring are disregarded.¹⁶⁸

New York employs the "test year" method.¹⁶⁹ The PSC allows all operating expenses actually incurred in the test year, including recurring year end expenses, to be included in the twelve month test year.¹⁷⁰ The "test year" approach assimilates the pitfalls of regulatory lag into the valuation method because it examines only figures which are frozen at the beginning of the commission's review¹⁷¹ and which will probably be outdated by the time that review is completed.

To mitigate the squeeze that high inflation has put on the utilities the PSC has postulated reforms in the prescribed valuation formula. This new approach is a combination test year of six months for proven or frozen data, and six months for forecast data or informed estimates.¹⁷² Thus, when hearings started, half the data would be

166. 1973 P.S.C. ANN. REP. 23; *Regulatory Alternative* 476-77.

167. PRIEST 181.

168. *Regulatory Alternative* 478.

169. *Regulatory Alternative* 477.

170. 1973 P.S.C. ANN. REP. 23. "The test year costs are adjusted for changes that have since occurred or that are certain to occur after the test year. The costs include a just and reasonable rate of return in each case." *Id.* See also Remarks of Joseph C. Swidler, *supra* note 123, at 9. "The historic test year is modified in New York practice by the allowance of adjustments for known changes in costs such as wage rate increases, and tax rate increases. For cost of money we have looked ahead to incorporate planned issues of securities, and in some cases, we have used capital structures for which we think the utility should aim. We have also allowed—sometimes even required—the inclusion of costs for new programs, such as research and gas safety, if it could be determined that such expenditures would or should be made and were not included in the test year costs." *Id.*

171. *Regulatory Alternative* 478.

172. Remarks of Joseph C. Swidler, *supra* note 123, at 8.

actual, and by the time that the PSC received the hearing examiner's recommendations the remainder of the data would be actual.¹⁷³ If the data proved inaccurate, it could be rejected or altered. This method permits certain contingent or imminent future expenses to be included as "forecast."¹⁷⁴ However, the use of the test year principle, even when modified, roots the conclusions of the PSC in the past. Chairman Kahn, appointed in 1974, has espoused an even more innovative method of valuation, the fully-forecast year.¹⁷⁵ He has asserted:

[W]hen we use a totally historic test year, whose every statistic is engraved in granite, we are nevertheless engaging in projections: we are projecting those historic conditions into the future period. . . . The virtue of moving toward serious consideration of a fully projected test year . . . is that it puts the focus of attention where it belongs [in the future].¹⁷⁶

This view is extremely ambitious. If implemented, it would make serious inroads on the ills of regulatory lag.

F. Rate Structures and Rate Design

The electric utility industry and regulators have developed pat-

173. *Id.*

174. *Id.* at 9.

175. In contrast to the historic test year, the fully forecast year would use past performance of the utility, *e.g.*, gross sales, revenues, rate base, etc., to project or extrapolate future allowances for revenues, expenses, and rate base. The historic test year generally allows for future changes for inflation only through the rate of return. A. Kahn, Chairman of the New York State Public Service Commission, has maintained that the fully forecast year would vitiate regulatory lag without subjecting regulators and the consumer to the danger of paying higher unjustified rates. "[R]egulatory commissions have always been in the business of projecting, whether they knew it or not. When they use historic test-year statistics . . . they were in fact projecting. They were assuming that the future would be similar to the past. It is no more speculative . . . to make the best possible estimates of future costs when setting future rates; and honesty compels it. Kahn, *Between Theory and Practice: Reflection of a Neophyte Public Utility Regulator*, PUB. UTIL. FORT., Jan. 2, 1975, at 30. Another proponent of the fully forecast year has asserted: "Utilities can project their rate base and available earnings for a two or three-year period with considerable accuracy." Truslow, *Overcoming Regulatory Lag The High Cost of a Low Rate of Return*, PUB. UTIL. FORT., Feb. 27, 1975, at 35.

176. *Id.* at 7.

terns in the prices charged to different classes of customers.¹⁷⁷ Each classification has a different rate structure.¹⁷⁸ The classifications are typically described as “[r]esidential . . . small commercial . . . general (for industrial, large commercial and government customers, and multi-residence consumption not separately metered), and . . . specialized services (street lighting, electric transit . . . and the like).”¹⁷⁹ Controversy has developed over these patterns, and rate design has become a possible key to enabling utilities to realize their proper rate of return.¹⁸⁰

Historically, New York rates have one charge for the use of the service and another charge based upon actual consumption.¹⁸¹ Utilities have employed a decreasing block structure which encourages high consumption with a decreasing charge for each additional kilowatt consumed.¹⁸² While vestiges of this policy still exist, it has been suspended in residential and small commercial classes.¹⁸³ For large industrial users, the declining blocks have been decreased or flattened so that the charge per kilowatt is made more equal.¹⁸⁴ The need to conserve fuel and the consequential failure of economies of scale mandate that the declining charges be abandoned.¹⁸⁵ Some economists have suggested practices which are more drastic than flattening the rates. The “inverted block” theory would have in-

177. *Regulatory Alternative* 494.

178. *Id.*

179. *Id.* Rate design concepts are influenced by administrative cost, historical rate patterns, and social welfare considerations. A recent policy consideration in rate design is the environment and natural resources. *Id.* at 497-504. The rate structure tries to distribute costs to the customer responsible for the expense, but some costs are not assignable. These are called incremental costs and they are allocated to all the utility's customers and provide a floor below which prices should not drop. *Id.* at 496-97.

180. Remarks of Joseph C. Swidler, *supra* note 123, at 11.

181. *Regulatory Alternative* 494.

182. *Id.*

183. 1973 P.S.C. ANN. REP. 25.

184. *Id.* See generally *Regulatory Alternatives* 493 n.8 for a list of relevant cases.

185. Cichetti, *Electricity Price Regulation: Critical Crossroads or New Group Participation Sport*, PUB. UTIL. FORT., Aug. 29, 1974, at 13, 15 [hereinafter cited as *Electricity Price Regulation*].

creasing costs as the consumer required more blocks of electricity.¹⁸⁶ Another theory, based upon flattening of rates, would offer any price reductions made possible by excess revenues to the class of consumer that is least likely to increase consumption when offered the reduction. This has been called the "inverse price elasticity rule."¹⁸⁷

Peak load demand costs require the incurrence of the largest part of the electric utility's costs.¹⁸⁸ Electricity cannot be stored under current technology. Thus, to meet peak demands on the system, companies are required to maintain obsolete and inefficient equipment at a great cost.¹⁸⁹ In the alternative, the utility must purchase power from an outside source.¹⁹⁰ Because of the difficulties in determining how much each consumer contributes to the peak load and the lack of adequate metering,¹⁹¹ New York has not as yet instituted any widespread pricing policy which would increase the consumer's charge in proportion to the demand he placed on the system at the time of the system's peak load. However, peak load pricing would be effected, if the above mentioned problems were solved, by charging substantially higher rates on peak consumption. This would have the concurrent benefit of improving the system's load factor.¹⁹²

The PSC has recently shifted costs to the large commercial users and has held that in the future unit price discounts for increased usage will not be approved unless the discount price can be justified by lower costs.¹⁹³ These reforms are a significant step in demanding that those who consume the most energy and create the greatest expense for the utility pay for it. The consumer attitudes of the 1960s, accustomed to decreasing blocks and even occasional rate reductions, must give way to the economic realities of tight money and expensive energy sources.

186. *Id.* at 15.

187. *Id.*

188. See note 50 *supra* and accompanying text.

189. See note 4 *supra*.

190. See notes 4 & 17 *supra*.

191. *Regulatory Alternative* 496.

192. *Electricity Price Regulation* 16.

193. 1973 P.S.C. ANN. REP. 25.

V. Proposed Reforms

A. Tax Reforms

The high cost of fuels requires that some alternate method of generating electricity be developed. New York regulators allow electric utilities to devote up to one percent of their revenues for research and development and include this in operating expenses.¹⁹⁴ A tax credit for research and development expenditures would further stimulate this vital activity and ultimately benefit the public as well as the utility industry in the form of greater efficiency and a possible lessening of deleterious environmental effects. For example, if tax incentives were to stimulate an accelerated development of scrubbers, more high sulfur fuel could be burned in New York City without fear of adverse environmental effects.¹⁹⁵

Prior to the Tax Reduction Act of 1975 (Act),¹⁹⁶ utilities were limited to a four percent investment tax credit¹⁹⁷ while most American industries were granted a seven percent credit.¹⁹⁸ The Act permits utilities a ten percent tax credit for the acquisition of qualified capital equipment.¹⁹⁹ Faced with huge construction requirements,

194. 1973 P.S.C. ANN. REP. 19. "This Commission, foreseeing these changes in events, expressed its belief that all utilities in the State should expend at least 1 percent of their revenues for research and development as a near term goal." In Consolidated Edison Co., Inc., summarized at 99 P.U.R.3d 538, (N.Y. Pub. Serv. Comm'n 1973), the Commission said: "In determining the operating expenses of an electric company for rate-making purposes, an allowance for research and development should be equal to one per cent of the company's annual revenues." *Id.*

195. *The Energy Crisis*, 1973 P.S.C. ANN. REP. 11-12. "Rather than force the utilities to invest billions of dollars in untried technologies now, Mr. Swidler said, they should be permitted to build coal-fired generation where ambient standards can be met, with a deadline for installing scrubbers as soon as perfected." *Id.* at 12.

196. Tax Reduction Act of 1975, §§ 301(b)(1), (2), (3), INT. REV. CODE OF 1954, §§ 46(a)(6), (c)(3)(A), (f)(8).

197. INT. REV. CODE OF 1954, § 46(c)(3). In the case of section 38 property which is public utility property, the amount of the qualified investment shall be 4/7 of the amount determined under paragraph (1).

198. *Id.* § 46(a)(1). The amount of credit shall be equal to 7 percent of the qualified investment (as defined in subsection (c)).

199. N.Y. Times, Mar. 30, 1975, § 3, at 1, col. 3: "Utilities would also get a special advantage. Congress has attached a provision which virtually

the monetary savings engendered by a ten percent credit should significantly increase Con Edison's cash flow and improve the financial integrity of the company.²⁰⁰

Con Edison, already paying approximately three hundred million dollars annually in local taxes,²⁰¹ would be hard pressed if the recently proposed ten percent increase in the New York City real estate taxes were enacted.²⁰² Such an increase should be immediately recognized in the form of an automatic adjustment clause for taxes.²⁰³

B. Valuation Reform

While New York is a "fair value" jurisdiction for certain purposes, electric utilities are valued at original cost.²⁰⁴ A "fair value" valuation would permit the utility to earn a rate of return based on the reproduction cost of the old fossil-fuel plant,²⁰⁵ but not the cost of the nuclear plant that will replace it. That cost must be borne by

assures that all utilities can take the full 10 per cent credit without being forced by the state regulatory agencies to pass savings on to consumers. And there is another benefit for utilities. For all other corporations the tax credit could not exceed \$25,000 plus 50 per cent of any profit above that each year. But utilities would be allowed to deduct up to 100 per cent of taxable profits in both 1975 and 1976. The maximum credit would be reduced gradually to 50 per cent in 1981."

200. *Utilities: Weak Point in the Energy Future*, BUSINESS WEEK, Jan. 20, 1975, at 46, 49. "Bigger write-offs on new equipment would provide greater cash flow and an incentive to invest in new plant."

201. See note 31 *supra* and accompanying text.

202. N.Y. Times, Feb. 18, 1975, at 1, col.4.

203. The Citizens Water-Supply Co., 3 P.U.R.4th 82, 98 (N.Y. Pub. Serv. Comm'n 1973). This water utility was allowed to utilize an automatic adjustment clause for local tax charges. See also Jones, *Crisis in Rate Regulation—The Disappearing Return on Equity*, PUB. UTIL. FORT. Oct. 10, 1974, at 76, 79. "During the past year, local governments have received windfalls because of the substantial increases in the cost of fuel and gas to the utilities. Revenues from these clauses are meant solely to cover the increased purchase cost of gas and fuel. There is no reason why the government should receive additional tax revenues just because the cost of oil skyrockets." *Id.* See note 20 *supra* for an explanation of how the fuel adjustment clause operates.

204. See text accompanying note 120 *supra*.

205. See text accompanying note 112 *supra*.

the investor. Nevertheless, "fair value" would ease the transition from fossil-fuel to new energy sources and ameliorate the costs of technology.

Another reform which would ease the financial strain of building new plants is the inclusion of plants under construction in the rate base. New York recently adopted this reform if certain conditions are met.²⁰⁶ Such a policy recognizes that the heavy burden of construction costs should be shared, to some extent, by the utility customer.

C. Financial Reforms

The abolition of arrearage financing, the method by which the utility exhausts its short-term credit line before it can resort to long-term debt, would allow utilities the freedom to issue long-term debt when market conditions appear most favorable.²⁰⁷ Presently, arrearage financing places the utility in a constant state of peril because the need for capital in the company is greater when credit is less available. Arrearage financing should be reconsidered and modified in accord with current economic conditions.

Alfred E. Kahn, Chairman of the PSC, has expressed the belief that a full forecast year is as accurate and sound in determining rate base as the "historical test year."²⁰⁸ The full forecast year is essential if the PSC is to keep utilities abreast of rapidly increasing costs. Modern accounting techniques and careful review by the PSC can insure that the estimated costs embodied in a full forecast test year will be accurate. The PSC policy of not including estimated rises in costs until actually incurred, should be modified.²⁰⁹

206. Consolidated Edison Co., Inc., summarized at 99 P.U.R.3d 562 (N.Y. Pub. Serv. Comm'n 1973). "Non revenue-producing projects which included safety and environmentally related expenditures were allowed in an electric company's rate base." *Id.*

207. See text section III *supra* for expanded discussion of arrearage financing.

208. See quotation accompanying note 176 *supra*.

209. Remarks of Joseph C. Swidler, *supra* note 123, at 10. "There are other differences between the forecast approach and our approach. Forecasts may take account of general trends, which in frankness we do not reflect. Nor do we include predicted changes in wage rates not based on contract or on changes which have not occurred at the time of our decision. Partly this is due to their speculative character, and partly to the fact that

Because of the high cost of equity financing,²¹⁰ the PSC should increase the rate of return permitted to utilities. With a prime interest rate of approximately 7 percent, a rate of return on equity financing of less than 15 percent is insufficient to attract investors.²¹¹

D. Conservation Reforms

Since the utility industry is hard pressed by the rising demand for electricity, it is desirable that new techniques be implemented to slow this ever increasing demand. The PSC has recently set certain minimum standards for insulation which must be met before any residence may receive gas heating service.²¹² Such insulation standards should be applied to other newly constructed buildings.

Large electric appliances now account for twenty-five percent of the total residential electric consumption in New York State. Improving their efficiency would significantly reduce energy consumption without causing a severe hardship on the public.²¹³ Minimal appliance efficiency standards should be established and enforced to improve energy conservation.

VI. Conclusion

The inability of utilities to attract needed capital will affect the entire economy. The consequences which flow from an inability to attract capital can be camouflaged for a short period by use of obsolete equipment and purchased power. However, the final result—a breakdown of the utility and the services it performs—is inevitable without regulatory reform.

Management is ultimately responsible for making the necessary decisions to insure economic soundness of the utility, but the PSC, which is obligated to review various managerial decisions, is also

to allow such increases, however disguised, is an invitation to impose them. . . . [This modified forecast] is simpler to prepare, review and try, and decisions based on it are less subject to challenge and judicial reversal.”

210. See text section III *supra* and accompanying notes.

211. See note 95 *supra*.

212. 1973 P.S.C. ANN. REP. 17.

213. *Id.* at 18. “The panel [Ad Hoc Committee on Appliance and Apparatus Efficiency] pointed out that refrigerators, freezers, and refrigerator-freezers now account for 25 percent of the total residential electric consumption in the State. . . .” *Id.*

partially responsible for any collapse of investor-owned utilities such as Con Edison.

The alternative to investor-owned utilities is government-operated utilities. The Power Authority of the State of New York (PASNY) has continued its steady growth, acquiring the Astoria No. 6 and Indian Point No. 3 plants from Con Edison. It has also acquired customers for that energy by becoming the exclusive supplier for various state agencies—including the Metropolitan Transit Authority and the Port of New York-New Jersey Authority, both former customers of Con Edison. Such growth suggests that another segment of private industry will abdicate its function to the government.

The role of the PSC becomes critical in these circumstances. If the PSC continues to regard itself as primarily a consumer advocate whose only obligation to the utilities is to provide them the opportunity to earn a rate of return, it ultimately disserves the public as well as the investors. The PSC must either relinquish many of its policies that limit management's options to respond to changing conditions or take an even more active involvement in the daily affairs of the utilities. Halfway measures only serve to perpetuate a deteriorating condition.

Con Edison bought cash and time with the sale of two power plants to the state. Both the cash and time are finite and changes are needed if Con Edison is to survive. The implementation of a full forecast year and the ability to pass on escalating costs to the rate payers are a necessity. Other reforms such as using a modified reproduction valuation, a liberalized tax investment credit and research and development incentives will enable utilities to develop the technology necessary to harness new energy sources. If investor-owned utilities cannot put their house in order with these reforms, government utilities will replace them by default.

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