Some Legal Aspects of the Future Test Period in Utility Rate Regulation

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In April 1974, New York's Consolidated Edison Company failed to pay a common stock dividend for the first time in 89 years.[1] This incident, and the economic conditions that precipitated it, illustrate the current financial difficulties that the entire utilities industry is experiencing.[2] The present ratemaking practices[3] are ill-suited for a period of drastic economic fluctuation and are the cause of many of these problems. Although utilities need to demonstrate continued profitability to attract investors during a tight money market, they are unable to adjust

1. *Utility Stocks Aren't for Widows Anymore*, FORTUNE, June 1974, at 105. The utility attributed the failure to a shortage of cash. As a result of the inevitable loss of investor confidence, the utility's stock was withdrawn from the market and its bond ratings were removed. McDiarmid, *Public Utilities on the Ropes*, 94 PUB. UTIL. FORT., Sept. 12, 1974, at 31.

2. Previously, the regulated rates of return were sufficiently high to attract the investment capital necessary for rapid expansion, as is evidenced by the general success of utilities in selling bond and common stock issues in the past. *See* Lewis, *Emphasis and Misemphasis in Regulatory Policy*, in UTILITY REGULATION: NEW DIRECTIONS IN THEORY AND POLICY 238 (W. Sheperd & T. Gies eds. 1966); *Panel Discussion—Regulation Under Fire: Consumers, the Environment, the Economy and the Impact of Change*, 8 COLUM. J.L. & SOC. PROB. 33, 37 (1971). By mid-May of 1974, however, utility stocks were selling at their lowest level since 1958. *A Financing Crisis for the Utilities*, BUS. WEEK, Apr. 27, 1974, at 46. Many were selling below book value, at a price of only 7 or 8 times last year's earnings. *Utility Stocks Aren't for Widows Anymore, supra* note 1, at 105. While utility net profits were up 10 percent in 1973, per share earnings remained the same due to the issuance of new stock in an attempt to raise capital while maintaining low debt-equity ratios. *A Financing Crisis for the Utilities, supra* at 46. In the first quarter of 1974, earnings were down more than 15 percent and Standard and Poor's index downgraded utility bonds due to their weakness. *Utility Stocks Aren't for Widows Anymore, supra* note 1, at 105. Since then, utility bond offerings have met with mixed acceptance on the market, although some offerings which carried interest rates as high as 13 percent were well received. *Financial News and Comment*, 94 PUB. UTIL. FORT., Oct. 24, 1974, at 42.

3. This Note considers the effects of regulation only in the context of investor-owned, publicly-regulated utilities. For discussions on governmental versus private ownership of utilities, see R. FIRTH, PUBLIC POWER IN NEBRASKA (1962); C. PHILLIPS, THE ECONOMICS OF REGULATION 598-608 (1965); E. VENNARD, GOVERNMENT IN THE POWER BUSINESS (1968).

to rapidly rising costs since rate increases require regulatory approval.[4] The result has been a significant increase in the demands for rate increases, with annual requests for rate hearings becoming a common occurrence for many utilities. These repeated hearings and investigations have taxed the abilities of regulatory agencies designed to consider rate increases at intervals of several years.[5] The resultant increase of backlogged cases[6] at a time when the industry needs fast results has caused both the utilities and the agencies to reevaluate traditional methods of rate determination.[7]

Regulatory agencies traditionally have made rate decisions on the basis of data from a prior time period. Information on the utility's operations, typically during a 1-year test period, is used to determine the utility's future revenue needs. Although this necessarily entails setting prospective rates on the basis of antedated information, the method generally has been acceptable during noninflationary periods, since the data has been reasonably representative of actual costs during the time the rates are to be in effect. In a volatile economy, however, the consequence of relying on past data may be the determination of an actual rate of return which is lower than that anticipated by the agency and lower than that necessary for the utility's financial stability.[8]

One suggested alternative to the traditional method of determining utility rates is the future test period. Using this procedure, rate deci-

4. Because of economies of scale, it is less costly for a single firm to provide an important service to large groups of customers. *See* Demsetz, *Why Regulate Utilities?*, 11 J. LAW & ECON. 55, 56-57 (1968). Once the initial investment has been made, more customers can be served at little additional cost. Therefore, utilities are given a monopoly in the area they serve. Attempting to duplicate a competitive environment, regulatory agencies control prices, output, and profits. *See generally* Averch & Johnson, *Behavior of the Firm Under Regulatory Constraint*, 52 AM. ECON. REV. 1052 (1962); Bernstein, *Utility Rate Regulation: The Little Locomotive That Couldn't*, 1970 WASH. U.L.Q. 223; Demsetz, *supra;* Posner, *Natural Monopoly and Its Regulation*, 21 STAN. L. REV. 548 (1969); Stigler & Friedland, *What Can Regulators Regulate? The Case of Electricity*, 5 J. LAW & ECON. 1 (1962).

5. *See* Cudahy, *Crisis in Rate Regulation—The Disappearing Return on Equity*, 94 PUB. UTIL. FORT., Oct. 10, 1974, at 80; Hardies, *The Inflation Dilemma and Legal Possibilities*, 94 PUB. UTIL. FORT., Aug. 29, 1974, at 23; *Panel Discussion, supra* note 2, at 38; Interview with Charles Wahl, Staff Counsel, Ariz. Corp. Comm'n, in Tucson, Ariz., Oct. 13, 1974.

6. On March 31, 1970, there were 45 cases awaiting regulatory action in the United States with a total dollar value of 512 million. By March 31, 1974, there were 144 pending cases valued at approximately $2 billion. Weidenbaum, *Variation in Public Utility Regulation*, 94 PUB. UTIL. FORT., Oct. 24, 1974, at 29.

7. *See generally* THE ECONOMICS OF REGULATION OF PUBLIC UTILITIES (Conference on the Economics of Public Utilities) (1966) [hereinafter cited as REGULATION]; THE NEW ECONOMICS OF REGULATED INDUSTRIES: RATE MAKING IN A DYNAMIC ECONOMY (J. Haring ed. 1968) [hereinafter cited as NEW ECONOMICS]; UTILITY REGULATION DURING INFLATION (J. Haring & J. Humphrey eds. 1971) [hereinafter cited as INFLATION].

8. The problem does not arise as a consequence of the previous normal rise in price levels, but rather the current acceleration in the rate of inflation. Now, the cost of generating and transmitting power to new customers has outpaced any savings gained by spreading the total capital outlays. *See* Stelzer, *Utility Pricing During Inflation*, in INFLATION, *supra* note 7, at 187; Arizona Daily Star, Oct. 24, 1974, § B, at 1, cols. 4-6.

sions are based on data projected for the period in which the rates are to be in effect.[9] By placing the emphasis on the use of projected rather than historical data, a major conceptual defect in rate regulation is eliminated. The use of a projected test period within the current regulatory framework presents substantial problems, however. Due to restrictive case law interpretations and the reluctance of regulatory agencies to rely on projected data instead of empirically-proved facts, only a few jurisdictions have adopted the future test year.[10] More typically, many jurisdictions, including Arizona, have rejected the use of projected data.[11] This Note will examine the objections commonly raised to application of the future test period to utility rate determinations, as well as the specific obstacles presented by Arizona law. A brief summary of the experiences of those states which have adopted or considered projected data has been integrated into the general discussion for purposes of illustration. Conclusions will be drawn as to the legal and economic feasibility of using such data, with the recommendation that under appropriate circumstances Arizona should adopt a future test period as an alternative to the historic test period.

RATEMAKING AND THE ADVANTAGES OF THE FUTURE TEST PERIOD

The principal and most complex function of utility regulatory agencies is ratemaking,[12] which includes determining both the total revenue allowed a utility and the price structure to be applied to the various classes of consumers.[13] Within the context of a rate case,[14] the determination of allowed revenue is made by reviewing the utility's

9. In gathering evidence for a rate hearing, the utility and the commission staff both conduct investigations to determine the utility's and consumers' needs for the future. The difference between the historic and future test periods is that in the former the data is derived primarily from the utility's records, while in a future test period, this past information is projected to reflect the costs at the time the rates will be in effect. For a description of this procedure, see *Re* Hawaiian Elec. Co., 96 P.U.R.3d 80, 83-85 (Hawaii Pub. Util. Comm'n 1972).

10. For discussions of those states using projected data, see text & notes 96-115, 121-27, 160-70 *infra*.

11. The Arizona Corporation Commission's rejection of the future test period illustrates the legal obstacles which may preclude adoption of a future test period. See text & note 143 *infra*.

12. *See* Haring, Humphrey & Myers, *Regulatory Lag and the Need for Automated Procedures: The Role of Indexed Bonds*, in INFLATION, *supra* note 7, at 11, 15-19. Along with ratemaking, the agencies are charged with controlling the services provided. This includes determining not only which services are to be offered and to whom, but also ensuring the quality and efficiency of the services. *See generally* Stelzer, *supra* note 8.

13. *See* FPC v. Natural Gas Pipeline Co., 315 U.S. 575, 584 (1942); Stelzer, *Pricing in Regulated Industries: A Not-So-Marginal Problem*, in NEW ECONOMICS, *supra* note 7, at 118-20; Vickrey, *The Pricing of Tomorrow's Utility Services*, in NEW ECONOMICS, *supra* note 7, at 137. For a brief discussion of rate design, see note 52 *infra*.

14. For a summary of a rate hearing procedure, see Cunningham, *The Anatomy of a Utility Rate Case*, in NEW ECONOMICS, *supra* note 7, at 21.

prior profits and allowing price increases only when necessary to maintain the level of service and to permit the utility a fair return on its capital.[15] Stated simply, the formula[16] for setting rates requires multiplying the utility's rate base[17] by a desired rate of return[18] in order to determine the company's profit. This amount is then combined with the operating expenses, resulting in a total equal to the necessary gross revenue. The required revenue is then divided among the different classes of users.[19]

The revenue received by a utility may be adjusted by quantitatively changing or redefining any of the three basic components of the ratemaking formula: rate of return, operating expenses, or rate base. Rate base composition, however, has been the major source of controversy between agencies and regulated industries.[20] Rate base determination is essentially a two-step process. The initial step is to identify the includable property; the second step is valuation of that property.[21] The tangible property[22] that may be considered for inclu-

15. The regulatory agency should attempt to accurately predict the rate of return necessary in order to ensure confidence in the financial soundness of the utility and to enable it to raise the capital necessary for the proper discharge of its duties. *See* FPC v. Hope Natural Gas Co., 320 U.S. 591, 603 (1944); Missouri *ex rel.* Southwestern Bell Tel. Co. v. Public Serv. Comm'n, 262 U.S. 276, 291 (1923) (Brandeis, J., concurring).

16. $R = O + (V-D)r$ where: R = the total revenue required; O = operating expenses; V = gross value of tangible and intangible property; D = accrued depreciation of tangible and reproducible property; and, r = allowed rate of return. C. PHILLIPS, *supra* note 3, at 131; Lerner & Moag, *Information Requirements for Regulatory Decisions*, in RATE OF RETURN UNDER REGULATION: NEW DIRECTIONS AND PERSPECTIVES 195, 197-98 (H. Trebing & R. Howard eds. 1969).

17. There are numerous interpretations of rate base, but a generally accepted definition is: "the value of acceptable capital stock—the buildings, equipment, and related items—with which the management of the public utility must work in providing services for its customers." Haring, *Introduction: Towards a Dynamic Approach to Rate-Making for Public Utilities*, in NEW ECONOMICS, *supra* note 7, at 2. Although all commissions do not include the same items in the rate base, related items which may be considered are value of land and property rights, construction costs, working capital allowances, and intangibles such as good will, franchise value, water rights, and leasehold and going concern values. *See* C. PHILLIPS, *supra* note 3, at 251-58. *See generally* Priest, *The Public Utility Rate Base*, 51 IA. L. REV. 283 (1966). This Note, however, deals only with the valuation of tangible property in determining rate base.

18. The rate of return, which is expressed as a percentage, determines the net profit allowed a utility. These profits must be sufficient to cover capital costs of the business including "service on the debt and dividends on the stock." FPC v. Hope Natural Gas Co., 320 U.S. 591, 603 (1944); New Eng. Tel. & Tel. Co. v. Massachusetts Dep't of Pub. Util., 331 Mass. 604, 617, 121 N.E.2d 896, 902 (1954); *see* de Grandpre, *Fair Return for Utilities—Concept or Reality?*, 16 MCGILL L.J. 19, 24-26 (1970).

19. See discussion note 52 *infra*.

20. C. PHILLIPS, *supra* note 3, at 132. This is especially true in states like Arizona where the valuation of the rate base must be the initial step and is, therefore, a primary determinative of the company's profits. *See* Simms v. Round Valley Light & Power Co., 80 Ariz. 145, 155, 294 P.2d 378, 385 (1956).

21. Several techniques are used to value rate base. The term original cost encompasses several of these methods. For example, book cost, the most frequently used form of original cost, is the actual dollar cost of the property to the utility. This figure may be determined by examining the company's books and records. Historical cost is a method used to estimate the original costs when records are not available. The prudent investment method resembles original cost, but is adjusted to reflect any difference between the actual cost and what the property should have cost had there been a prudent investment.

sion in the rate base falls into three classes: property presently in use, construction work in progress, and property held for future use. Irrespective of classification, the utility will not earn a return on invested capital until the property is included in the rate base. Therefore, inclusion or exclusion of property is an important duty of agencies and is an issue which relates tangentially to the use of a future test period.

The test for inclusion or exclusion of property in the rate base was developed in an early utilities case, *Smyth v. Ames*,[23] where the United States Supreme Court held that: "The basis of all calculations as to the reasonableness of rates to be charged . . . [by regulated industries] must be the fair value of the property *being used by it for the convenience of the public.*"[24] This brief sentence introduced the "used and useful" theory of property inclusion, a theory that has governed agency determinations for almost 80 years. Traditionally, used and useful property has been limited to capital equipment in existence and actually being employed or capable of being employed in providing utility service at the time of the rate hearings.[25] The theory underlying exclusion of property not within this definition has been that neither the company nor the customer derives any benefit until the property becomes productive.[26]

The traditional definition of used and useful, which restricts rate base consideration to property actually in use, is not accepted by all jurisdictions. Some agencies have adopted a broader view and include

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In contrast, reproduction cost new estimates the expense of reproducing the existing plant using current prices, while trended original cost utilizes price indices to estimate a reproduction cost from actual cost figures. The difference between these two types of valuation is that reproduction cost new considers the reconstruction of the plant as a whole, while trended original cost is predicated on piecemeal construction. *See* Rose, *Confusion in Valuation for Public Utility Rate Making*, 47 MINN. L. REV. 1, 2-3 n.5 (1962).

Fair value is a judgment figure set by the regulatory commission after receiving evidence on original and reproduction cost, depreciation, face and market value of bonds and stock, and capacity of the property under consideration. *Id.* at 1-2 n.2.

22. See discussion note 17 *supra.*

23. 169 U.S. 466 (1898).

24. *Id.* at 546 (emphasis added); *accord*, Bluefield Water Works & Improvement Co. v. Public Serv. Comm'n, 262 U.S. 679, 690 (1923).

25. For discussion of the categories of property considered used and useful, see Priest, *supra* note 17, at 310-12.

26. *See Re* New Eng. Tel. & Tel. Co., 100 P.U.R.3d 189, 191 (Mass. Dep't Pub. Util. 1973) (eliminating a plant under construction from rate base consideration).

Another reason given for disallowing construction work in progress is that many utilities capitalize the interest on the debt capital. Thus, to also allow the company to include the interest paid for development capital within its operating expenses would result in a double return. *See* Shevin v. Yarborough, 274 So. 2d 505 (Fla. 1973); Baltimore Gas & Elec. Co. v. McQuaid, 220 Md. 373, 380, 152 A.2d 825, 828 (1959); *Re* Kansas-Nebraska Natural Gas Co., 99 P.U.R.3d 176, 184 (Kan. Corp. Comm'n 1973); *Re* New York Tel. Co., 2 P.U.R.4th 1, 16 (N.Y. Pub. Serv. Comm'n 1973); Pennsylvania Pub. Serv. Util. Comm'n v. Pennsylvania Elec. Co., 1 P.U.R.4th 272, 279-80 (Pa. Pub. Util. Comm'n 1973); *Re* Vermont Gas Systems, Inc., 100 P.U.R.3d 202, 208 (Vt. Pub. Serv. Bd. 1973).

in the rate base construction work in progress[27] and property held for future use. One rationale for this position is that planning and acquisition of land and physical plants is essential for maintaining adequate and dependable supplies of energy and it is, therefore, in the public benefit to include such property in the rate base.[28]

Regardless of whether a past or a future test period is used, a broad or narrow agency interpretation of used and useful remains at issue. That is, using a future test period merely changes the period for which property classifications are made. The agency must still determine whether or not to include within this future time frame construction work in progress and property held for future use. The future test period does, however, alleviate the basic problem of noninclusion of property scheduled to enter service after the rate hearing but while the new rates are in effect. Thus, even under the traditional definition of used and useful, a plant under construction at the time of the rate hearing would be considered in the rate base if it is due to become operational, and therefore used and useful, during the future test period. The utility, therefore, would not be forced to request another

27. *See Re* Long Island Lighting Co., 99 P.U.R.3d 457, 460 (N.Y. Pub. Serv. Comm'n 1973); *Re* Potomac Elec. Power Co., 3 P.U.R.4th 197, 200-01 (Va. Corp. Comm'n 1974). Several jurisdictions consider such property in the rate base when the company elects to include capitalized interest during construction as revenue, *see Re* Northwestern Bell Tel. Co., 3 P.U.R.4th 473, 481 (S.D. Cir. Ct. 1974); *Re* Potomac Elec. Power Co., 3 P.U.R.4th 197, 200-01 (Va. Corp. Comm'n 1974); or when the company does not capitalize interest. *See Re* Iowa-Illinois Gas & Elec. Co., 100 P.U.R.3d 1, 8 (Ia. Commerce Comm'n 1973); *Re* Brooklyn Union Gas Co., 100 P.U.R.3d 345, 349 (N.Y. Pub. Serv. Comm'n 1973); *Re* Washington Elec. Cooperative, Inc., 1 P.U.R.4th 47, 50 (Vt. Pub. Serv. Bd. 1974).

A Pennsylvania commission has allowed inclusion of construction work in progress where the construction: (1) was or would be completed within a short time after the end of the historic test year; (2) was identifiable as nonrevenue producing; (3) was identified as nonexpense producing; (4) did not affect the level of operations at the end of the test year; (5) improved environmental conditions; (6) improved the quality and reliability of service; and, (7) improved safety. *See* Pennsylvania Pub. Util. Comm'n v. Philadelphia Elec. Co., 1 P.U.R.4th 417, 423 (Pa. Pub. Util. Comm'n 1973); Pennsylvania Pub. Serv. Util. Comm'n v. Pennsylvania Elec. Co., 1 P.U.R.4th 272, 278 (Pa. Pub. Util. Comm'n 1973); A. PRIEST, PRINCIPLES OF PUBLIC UTILITY REGULATION 171 (1969).

28. [I]n recent years utilities have experienced numerous problems in acquiring adequate plant sites and related facilities due in large degree to scarcity of land available for utility needs. This commission recognizes that scarcity of land for such utility functions is due in part to such factors as the increase in population, the growing use of water front property for recreational, residential, and industrial uses, and the growing objections raised to proposed location of utility facilities, on the basis of conservation, safety, aesthetics and other grounds.

FPC Order No. 420, Docket No. R-379 (Jan. 7, 1971), *quoted in* Pennsylvania Pub. Util. Comm'n v. Pennsylvania Elec. Co., 1 P.U.R.4th 272, 279-80 (Pa. Pub. Util. Comm'n 1973); *accord*, Pennsylvania Pub. Util. Comm'n v. Metropolitan Edison Co., 4 P.U.R.4th 209, 214 (Pa. Pub. Util. Comm'n 1974); Pennsylvania Pub. Util. Comm'n v. Philadelphia Elec. Co., 1 P.U.R.4th 417, 422 (Pa. Pub. Util. Comm'n 1973); Pennsylvania Pub. Util. Comm'n v. Peoples Natural Gas Co., 100 P.U.R.3d 476, 482 (Pa. Pub. Util. Comm'n 1973); *Re* New Eng. Tel. & Tel. Co., 99 P.U.R.3d 228, 232 (R.I. Pub. Util. Comm'n 1973). *But see Re* Southwestern Bell Tel. Co., 98 P.U.R.3d 30, 37 (Kan. Corp. Comm'n 1973); *Re* New Eng. Tel. & Tel. Co., 100 P.U.R.3d 189, 191 (Mass. Dep't Pub. Util. 1973); *Re* Duke Power Co., 99 P.U.R.3d 321, 354 (N.C. Util. Comm'n 1973).

rate hearing whenever a plant came into use shortly after the rates were established.

Once the decision to include or exclude property has been made, property values must be determined.[29] In evaluating property placed in the rate base, as well as in determining operating expenses and revenue, a common time period is selcted by the regulatory agency. This is the test period, usually a recent 12-month period for which actual results of operations are available.[30] The dual purpose of this period is to establish reasonable operating expenses and to formulate a basis for estimating future revenue requirements.[31] The data obtained from this test period determines the values used in the ratemaking formula.

The essential difference between the historic and future test period is the reliance on past or projected data. The historic test period provides documented records of performance[32] that form the basis of the testimony and exhibits presented at rate hearings.[33] The future test period, however, relies on expense and valuation projections intended to reflect actual values at the time the rates will be in effect, rather than as they were during the prior period. While the historic test period has adequately served both the commissions and the utilities in the past, its use is increasingly under attack as unsuited to an unstable and inflationary economy.[34] Historic test period data is particularly susceptible to obsolescence during a period of rapid inflation. While utilities' gross receipts are set at a fixed rate by the regulatory agencies, companies must make their purchases and raise capital on the open market where prices are continually increasing.[35]

Although pressures from moderate inflation can be offset to some extent by economies of scale and improvements in operating efficiences,[36] an accelerating rate of inflation affects utility companies

29. See discussion note 17 *supra*.

30. *Re* Midland Tel. Co., 27 P.U.R.3d 30, 36 (Utah Pub. Serv. Comm'n 1958). *See* Mountain States Tel. & Tel. Co. v. Public Util. Comm'n, — Colo. —, —, 513 P.2d 721, 724 (1973).

31. *See Re* Central Me. Power Co., 29 P.U.R.3d 113, 125 (Me. Pub. Util. Comm'n 1959). As power demands increase, however, attempts to estimate future revenue requirements through the use of past data, such as consumer demand during the test period, frequently result in an actual rate of return different than that anticipated by the regulatory agency. *Id.; see Panel Discussion, supra* note 2, at 61.

32. Mountain States Tel. & Tel. Co. v. Public Util. Comm'n, — Colo. —, —, 513 P.2d 721, 723-25 (1973).

33. *See Re* Mountain States Tel. & Tel. Co. 94 P.U.R.3d 263, 271 281 (Ariz. Corp. Comm'n 1972).

34. Although this theory was raised in the following cases, it was rejected by the courts and agencies. *See* Mountain States Tel. & Tel. Co. v. Public Util. Comm'n, — Colo. —, —, 513 P.2d 721, 723 (1973); *Re* Mountain States Tel. & Tel. Co., 94 P.U.R.3d 263, 282 (Ariz. Corp. Comm'n 1972). *See also* Mountain States Tel. & Tel. Co. v. Public Util. Comm'n, 345 F. Supp. 80, 82 (D. Colo. 1972).

35. *See Panel Discussion, supra* note 2, at 61-62.

36. *See* Stelzer, *supra* note 8, at 187-88; discussion note 4 *supra*.

more than most nonregulated businesses because of the large capital investments required to produce the necessary service.[37] This has been exacerbated by even larger capital expenditure requirements caused by increased energy needs,[38] the necessity of integrating technological advances into existing systems,[39] and environmental legislation requiring utilities to fund pollution control devices.[40] In addition to raising operating and construction expenses, inflation has increased the cost of obtaining the capital necessary for additional construction.[41] When inflation pushes interest rates up on the open market, the utilities must pay the market rate when borrowing or otherwise raising capital.[42] Additionally, a company suffering from reduced earnings may have to pay even higher rates to attract investors to purchase its stock and bond issues.

The combination of increased investment needs and rising costs tends to outstrip productivity and revenues, causing earnings to fall.[43] Attrition, which describes this diminished rate of return, occurs with particular frequency during a period of comparatively high construction costs.[44] When an expensive plant comes into service after the end of

37. Cunningham, *supra* note 14, at 55; *see Panel Discussion, supra* note 2, at 38. For instance, in 1964, electric utilities required an average of $4.33 in gross capital investment to receive $1 in annual revenue, while nonregulated industries required only $.29 to $1.46 in gross plant investment. *See* Stathas, *Some Future Considerations and Implications for Regulated Industries and Regulatory Agencies,* in REGULATION, *supra* note 7, at 172-73.

38. The Federal Power Commission [FPC] has estimated that by 1990 electric power requirements will be four times greater than at present. Brown, *Rates, Cases and Utility Financing,* 91 PUB. UTIL. FORT., Feb. 15, 1973, at 39.

39. *See generally* Rosoff, *Economics and Regulation,* 1971 A.B.A. PUB. UTIL. 31. Technological obsolescence is of particular importance at this time due to the potential use of atomic energy for power generation. For example, Arizona Public Service Company is currently engaged with several other utilities in the development of a $2.2 billion nuclear plant to be located in the Harquahala Valley, Arizona. Interview with Henry B. Sargent, Vice President, Ariz. Pub. Serv. Co., in Phoenix, Ariz., Sept. 13, 1974.

40. *See* Luce, *Utility Responsibility for Protection of the Environment,* 10 ARIZ. L. REV. 68 (1968); Tarquin, Dowdy & Applegate, *Cost of Air Pollution Controls in the Power Industry,* 91 PUB. UTIL. FORT., Mar. 29, 1973, at 40. Chairman Wagner of the Tennessee Valley Authority [TVA], for example, has estimated that the cost of TVA compliance with environmental laws will be approximately $830 million a year. Wagner, *Power, Environment and Your Pocketbook,* 89 PUB. UTIL., FORT., June 22, 1972, at 27, 31.

41. Cost of capital has been defined as, "the annual percent which a company must receive to maintain its credit, to pay a return to the owners of the enterprise, and to insure the attraction of capital in amounts adequate to meet future needs." C. PHILLIPS, *supra* note 3, at 279; *see* Missouri *ex rel.* Southwestern Bell Tel. Co. v. Public Serv. Comm'n, 262 U.S. 276, 306 (1923) (Brandeis, J., concurring). For a more complete discussion of the cost of capital determination, see Cunningham, *supra* note 14, at 42-43; Kosh, *The Determination of the Fair Rate of Return in Principle and Practice,* 12 PRAC. LAW., Nov. 1966, at 9.

42. *See* C. PHILLIPS, *supra* note 3, at 292; Kosh, *supra* note 41, at 11-12. It has been estimated that failure to attract new capital has caused cutbacks valued at $8.7 billion in planned construction for 1974-78. *Washington and the Utilities,* 94 PUB. UTIL. FORT., Nov. 21, 1974, at 12.

43. *See* discussion note 2 *supra.*

44. New Eng. Tel. & Tel. Co. v. Massachusetts Dep't of Pub. Util., 331 Mass. 604, 622, 121 N.E.2d 896, 906 (1954).

the test period, it often is not considered in the rate base.[45] Therefore, although the utility has expended the money for construction and the plant is in service, these additional expenses are not reflected in the allowed revenue.[46]

Aggravating the effects of attrition and inflation is the problem of regulatory lag,[47] the period of time between the end of the test period and the date when the new rates are implemented.[48] During this period, the utility continues to earn the old rate of return until the commission has approved and put into effect the new rates. Although the actual delay differs from agency to agency, recent analysis indicates an increase in the percentage of cases requiring more than 1 year for settlement.[49] This delay is caused by many factors: increased work loads, inadequate budgets, lack of clearly defined standards and policies, plus the complexity of the evidence presented in rate hearings.[50] All of these factors combine to create further delays in the implementation of new rates.[51]

Regulatory delay, combined with the problems of inflation and increased demand, often results in severe earnings erosion. Recognizing these problems, commissions are experimenting with alterations in the ratemaking formula. Changes in rate design,[52] increases in the rate of return[53] or the rate base valuation, and the use of an end-of-the-period rate base[54] have all been used to some extent. Automatic

45. *See* text & notes 22-28 *supra.*

46. *See* New Eng. Tel. & Tel. Co. v. Massachusetts Dep't of Pub. Util., 331 Mass. 604, 622-23, 121 N.E.2d 896, 906-07 (1954); Wirth, *Attrition,* 91 PUB. UTIL. FORT., May 24, 1973, at 15.

47. *See* C. PHILLIPS, *supra* note 3, at 730-33.

48. *See* Ileo & Parcell, *Economic Objectives of Regulation—The Trend in Virginia,* 14 WM. & MARY L. REV. 547, 555 (1973).

> For example, it may take a utility three months to recognize that its rates are inadequate, another three months to develop and file a rate application, another three months for the rate hearing and order to be issued, and yet another three months for the new rates to be instituted. Because a year has passed it is only remotely conceivable that the new rates, based on a year-old situation, will reflect the utility's current status . . . .

Id.

49. Weidenbaum, *supra* note 6, at 30.

50. C. PHILLIPS, *supra* note 3, at 731; *see* Crampton, *Some Model Suggestions for Improving Public Utility Rate Proceedings,* 51 IA. L. REV. 267-71 (1966); Weidenbaum, *supra* note 6, at 30.

51. Weidenbaum, *supra* note 6, at 30.

52. *Panel Discussion, supra* note 2, at 59-60. Rate design is the distribubtion of rate increases among the different classes of users of utility service. Usually, a stepdown rate is used; the cost per unit of service is reduced as the volume of services is increased. *Id.* at 59.

53. *See* Miller & Massie, *Ratemaking Issues in Virginia: Suggestions for Legislative Clarification,* 14 WM. & MARY L. REV. 601, 614 (1973).

54. With the use of the average rate base, the property is valued at the end of each month of the test period, and the average of these values is used. When using an end-of-period rate base, on the other hand, the property is simply given the value it has at the end of the test period. *Re* Southwestern Bell Tel. Co., 98 P.U.R.3d 30, 26 (Kan. Corp. Comm'n 1973). *See generally Year-end Rate Base as an Offset to Inflation,* 92 PUB. UTIL. FORT., Aug. 2, 1973, at 47.

adjustment clauses, allowing increases in utility expenses to be passed along to the consumer, are also used in some jurisdictions.[55] Additionally, the historic test period is frequently supplemented by normalization techniques[56] and adjustments for anticipated expenses such as increases in wages and taxes.[57] While each of these methods may lessen the erosion of earnings, none results in the balanced ratemaking formula produced by the future test period, which considers all foreseeable changes that will affect costs during the time the rates are to be in effect.[58] For instance, adjustment clauses may consider only increases in fuel expenses, and the year-end rate base does not include property coming into service after the historic test period, even though it will be used during the time the new rates are in effect.[59] Such partial adjustments of cost variables result in an unbalanced formula that defeats the purpose of the test period by inaccurately reflecting the relative values of the various components.[60]

Historic test period ratemaking employs the paradoxical technique of setting prospective rates based on past events. Even with normalization and adjustments for known change, regulatory agencies are relying on economic data that is months and sometimes years out of date.[61] The use of a future, rather than a historic test period, would make the

55. For example, 43 states and the District of Columbia permit automatic adjustment for fuel costs, which are subject to frequent changes and are out of the utility's power to control. The automatic adjustment mechanism reflects the increase or decrease of the particular expense with relatively short delay, and this is passed along to the consumer by an increase or decrease in service costs. Weidenbaum, *supra* note 6, at 30-31. The legality of the automatic adjustment clause, however, recently has been challenged in Florida. *See Financial News & Comment*, 94 PUB. UTIL. FORT., Nov. 21, 1974, at 39.

56. Normalization involves adjustments to eliminate the effects of nonrecurring expenditures and events. By investigating past records, a normalized expense profile can be developed and used to project test-year expenses using standard statistical methods. *Re* Hawaiian Elec. Co., 96 P.U.R.3d 80, 84 (Hawaii Pub. Util. Comm'n 1972). Normalization may be distinguished from forecasting in that no attempt is made to consider future expenses.

57. *See* Mountain States Tel. & Tel. Co. v. Public Util. Comm'n, — Colo. —, —, 513 P.2d 721, 724 (1973); Swidler, *Rate Regulation in New York State*, 91 PUB. UTIL. FORT., Mar. 29, 1973, at 48; Note, *The Use of the Future Test Year in Utility Rate-Making*, 52 B.U.L. REV. 791, 796-97 (1972).

58. Mountain States Tel. & Tel. Co. v. Public Util. Comm'n, — Colo. —, —, 513 P.2d 721, 725 (1973); *Re* Southwestern Bell Tel. Co., 96 P.U.R.3d 148, 156 (Mo. Pub. Serv. Comm'n 1972) (out-of-period adjustments that occur in the normal course of business should not be made since to hold otherwise would be to abandon the test-year concept unless all out of period adjustments are made). The New York Commission, which has accommodated current inflationary trends through emergency and interim rates and automatic adjustment clauses, recognizes that in some instances only the use of a projected test period will fully solve the problem. Swidler, *supra* note 57, at 49.

59. See discussion text & notes 22-28 *supra*.

60. A member of the Arizona Corporation Commission's staff, opposed to the inclusion of adjustments, argued that the objective of the test year was to accurately reflect the company's prior financial performance and that the inclusion of adjustments results in unmatched revenue and expenses. *Re* Mountain States Tel. & Tel. Co., 94 P.U.R.3d 263, 271 (Ariz. Corp. Comm'n 1972); *see* Note, *supra* note 57, at 796.

61. *See* Weidenbaum, *supra* note 6, at 31.

components of the ratemaking formula more representative of the utility's financial structure at the time the new rates are in effect.

SOME POSSIBLE OBJECTIONS TO THE FUTURE TEST PERIOD

Due Process Considerations

Acceptance and implementation of the future test period is, of course, subject to constitutional limitations on ratemaking procedures.[62] United States Supreme Court decisions from 1876[63] to the present[64] have established that legislatures and agencies have broad discretionary power to regulate certain industries. This power is limited only by fourteenth amendment restrictions on deprivation of property without due process of law.[65]

Originally, it was held that deprivation occurred only when no compensation was allowed the owners of a regulated industry.[66] Later, in *Smyth v. Ames,*[67] the Court adopted a stricter due process standard and held that a rate was confiscatory unless the industry received a just return on its property.[68]

The Court also enunciated what was to be the cornerstone of ratemaking regulation for the next 40 years, the fair value doctrine. This doctrine, which requires that rate determinations be based on the fair value of the property being used for the convenience of the public,[69] is still in effect in many jurisdictions.[70]

Constitutional imposition of the fair value doctrine was eliminated by *FPC v. Hope Natural Gas Co.*[71] The *Hope* Court held that the test of just and reasonable rates should be applied to the end result of the agency's ratemaking procedures, not to the method used to establish

62. The history of Supreme Court decisions on rate regulation has been covered in depth by a number of authors. *See, e.g.*, Bernstein, *supra* note 4; Dakin, *The Changing Nature of Utility Rate Regulation: Just Compensation, Due Process and Equal Protection,* 36 TUL. L. REV. 401 (1962); Demet & Demet, *Legal Aspects of Rate Base and Rate of Return in Public Utility Regulation,* 42 MARQ. L. REV. 331 (1959); Priest, *Major Public Utility Decisions in Perspective,* 46 VA. L. REV. 1327 (1960).

63. Munn v. Illinois, 94 U.S. 113 (1876). "When . . . one devotes his property to a use in which the public has an interest, he, in effect, grants to the public an interest in that use, and must submit to be controlled by the public for the public good . . . ." *Id.* at 126.

64. Permian Basin Area Rate Cases, 390 U.S. 747 (1968).

65. *See* Munn v. Illinois, 94 U.S. 113, 125 (1876).

66. *See id.*; Chicago & N.W. Ry. v. Dey, 35 F. 866, 880 (C.C.S.D. Ia. 1888); Dakin, *supra* note 62, at 404.

67. 169 U.S. 466 (1898).

68. *Id.* at 522-26.

69. *Id.* at 546-47. For a discussion of fair value, see note 21 *supra.*

70. For a discussion of those states considered fair value jurisdictions, see Priest, *supra* note 17, at 296-303. *See also* Note, *supra* note 57, at 802 n.78.

71. 320 U.S. 591 (1944). The issue before the *Hope* Court was whether the FPC could, under relevant constitutional and statutory standards, use the original cost method of valuing a rate base rather than the fair value method.

rates.[72] The importance of the *Hope* end result doctrine to the use of future test period is clear. If the end result is the sole constitutional consideration, an agency may use either a historical or a future test period so long as it achieves a nonconfiscatory rate structure.[73] Further, although either test period may be used, neither is required[74] as long as the end result of the agency determination is a just and reasonable rate.

Although neither the historic nor the future test period is constitutionally required, the latter may, in certain circumstances, be less vulnerable to constitutional challenge than the historic test period. The Supreme Court has recently developed the concept of the "zone of reasonableness" in utility rate cases.[75] Rates set within this zone may not be overturned on judicial review because they automatically meet the constitutional stricture against confiscation.[76] The combined effect of regulatory lag and inflation, consequences inherent in the use of the historic test period, may result in a substantially lower rate of return than that anticipated at the time of the rate hearing. A future test period, using data reflecting the most recent financial experiences and estimates, would ameliorate these problems. Thus, it then would be more likely that the rates would be within the "zone of reasonableness" and, therefore, insulated from judicial review.[77]

Procedural due process objections also have been raised regarding

72. *Id.* at 602; *accord,* Rhode Island Consumers' Council v. Smith, — R.I. —, —, 302 A.2d 757, 764 (1973). *See also* Somers, *The "End Result" Approach to Public Utility Regulation,* 16 BUFFALO L. REV. 689 (1967).

73. In two recent cases the constitutionality of the historic test period has been challenged. *See* Mountain States Tel. & Tel. Co. v. Colorado Pub. Util. Comm'n, — Colo. —, 513 P.2d 721 (1973); Rhode Island Consumers' Council v. Smith, — R.I. —, 302 A.2d 757 (1973). In both cases the utilities alleged that the use of past data during an inflationary economy resulted in rates that were unreasonably low, unfair, and confiscatory. Mountain States Tel. & Tel. Co. v. Colorado Pub. Util. Comm'n, *supra* at —, 513 P.2d at 723-24; Rhode Island Consumers' Council v. Smith, *supra* at —, 302 A.2d at 763. The Colorado court held that the use of a historic test period was not, as a matter of law, unreasonable under the relevant Colorado statutes, COLO. REV. STAT. § 115-3-1(1) (1963), in that there was sufficient evidence to find that the rate of return allowed was fair and reasonable. The Rhode Island court upheld the historic test period, noting that under the end result doctrine the selection of a test period was only one way to compensate for erosion of earnings. If the erosion could be corrected by adjustment of other factors, such as rate base or rate of return, the use of a historic test period was not per se confiscatory. Rhode Island Consumers' Council v. Smith, *supra* at —, 302 A.2d at 764.

74. Courts recognize that commissions must have some latitude in exercising the difficult function of setting reasonable rates. Mountain States Tel. & Tel. Co. v. Public Util. Comm'n, 345 F. Supp. 80, 85 (D. Colo. 1972); *see* Bluefield Waterworks & Improvement Co. v. Public Serv. Comm'n, 262 U.S. 679, 692-93 (1923).

75. Permian Basin Area Rate Cases, 390 U.S. 747, 770 (1968).

76. *Id.*; Mountain States Tel. & Tel. Co. v. Public Util. Comm'n, 345 F. Supp. 80, 85 (D. Colo. 1972). *Permian Basin* set the requirements for federal commissions under the Natural Gas Act. Act of June 21, 1938, ch. 556, 52 Stat. 821 (codified at 15 U.S.C. § 717 (1970)). The standards, while indicative of what the Supreme Court might consider reasonable and fair on a state appeal, apply to federal agencies.

77. *Cf.* Rhode Island Consumers' Council v. Smith, — R.I. —, —, 302 A.2d 757, 764 (1973).

the use of a future test period, on the grounds that basing a test period on projected information denies intervenors the right to a fair examination of the evidence, thereby making it impossible to effectively refute such evidence.[78] The proponents of this argument urge that if new evidence is accepted up to the time of the hearings, there would not be adequate time to examine it. As a result, any error in the projection method or in the factual basis of the data would be difficult to isolate,[79] and intervenors would be unable to present objections to the submitted evidence.

This objection, however, is founded on the assumption that a consumer has a right to intervene in a rate hearing and to have access to evidence. It generally has been held that utility consumers have no constitutional right to notice or an opportunity to be heard in ratemaking proceedings, nor standing to bring a suit challenging rates.[80] This is based on the theory that the regulatory commissions and staffs adequately represent the public interest.[81] Any right to intervene, then, must rest solely upon federal or state statutory authority.

Standing in federal proceedings is governed by the Administrative Procedure Act[82] and agency regulations. Of primary concern in state utility ratemaking, however, is private intervention in agency proceedings, which is dependent on either state statutes or rules of procedure adopted by the individual commissions. Generally, intervention is by discretion of the agency.[83] In Arizona, for example, neither the constitution nor the pertinent statutes provide a right of intervention to utility consumers, and the Commission retains the right to prescribe the extent and manner of public participation.[84] However, although not required,

78. Note, *supra* note 57, at 801; *see* Opinion No. 74-25, 1974 OP. ARIZ. ATT'Y GEN. —.

79. Opinion No. 74-25, 1974 OP. ARIZ. ATT'Y GEN. —. For a discussion of the reliability of projected data, see text & notes 91-115 *infra*.

80. *Cf.* Berman v. Denver Tramway Corp., 197 F.2d 946, 950 (10th Cir. 1952); San Antonio Util. League v. Southwestern Bell Tel. Co., 86 F.2d 584, 585 (5th Cir. 1936), *cert denied*, 301 U.S. 682 (1936); O'Connell v. Pacific Gas & Elec. Co., 19 F.2d 460, 461 (9th Cir. 1927).

81. Smith v. Illinois Bell Co., 270 U.S. 587, 592 (1926) (commission represents public and they are bound by the decree); Southern Bell Tel. & Tel. v. Tennessee Pub. Serv. Comm'n, 202 Tenn. 465, 486, 304 S.W.2d 643, 649 (1957) (commission represents the public at large).

82. 5 U.S.C. §§ 500-59 (1970). Despite the statutory provisions, intervention in federal administrative proceedings as a matter of right is unclear. *See* K. DAVIS, ADMINISTRATIVE LAW TEXT 321 (5th ed. 1973); Shapiro, *Some Thoughts on Intervention Before Courts, Agencies, and Arbitrators*, 81 HARV. L. REV. 721 764-67 (1968); Note, *Public Participation in Federal Administrative Proceedings*, 120 U. PA. L. REV. 702 (1972).

83. Gary Transit, Inc. v. Indiana Pub. Serv. Comm'n, — Ind. App. —, —, 314 N.E.2d 88, 91 (1974); *Re* Chesapeake & Potomac Tel. Co., 96 P.U.R.3d, 373 383 (D.C. Pub. Serv. Comm'n 1972) (right to intervene granted telephone users association since its members could be adversely affected); *Re* J.J. Kirby & Sons, 10 P.U.R.3d 13, 21 (N.M. Pub. Serv. Comm'n 1955) (potential adverse impact on property rights may be sufficient basis for standing before commission).

84. *See* Walker v. DeConcini, 86 Ariz. 143, 148-49, 341 P.2d 933, 936-37 (1959);

it is a common commission practice to send notice to all interested parties and to have open hearings.[85] Thus, although there is no general right of intervention, interested parties are often granted an opportunity to be heard and, at the discretion of the agency, may be permitted to intervene.

Even assuming the recognition of a right to intervene in agency proceedings, procedural objections to the use of future data have been rejected in the one instance in which the issue was raised.[86] Further, with a future period, as with a historic test period, agencies may set final dates for the submission of evidence for consideration. Forecast data and the methods of projection would then be on file sufficiently far in advance for review by intervenors. This would ensure that data would be available, as it is when historical data is used, and the accuracy and reliability of the submitted projections would then be open to contest by the commission staff and intervenors.

Substantial Evidence

In addition to the constitutional limitation on ratemaking, a rate may be challenged if it is not based on substantial evidence.[87] The objection has been raised that projected data is speculative and, therefore, does not constitute substantial evidence.[88] Reliable data is required to correctly balance investor return and consumer needs,[89] and

Opinion No. 71-15, 1971 OP. ARIZ. ATT'Y GEN. 40; Ariz. Corp. Comm'n Gen. Order U-50 (1971).

85. Opinion No. 71-15, 1971 OP. ARIZ. ATT'Y GEN. 40. *See Re* Southern Cal. Edison Co., 100 P.U.R.3d 257, 263 (Cal. Pub. Util. Comm'n 1973).

86. *See* Rhode Island Consumers' Council v. Smith, — R.I. —, —, 302 A.2d 757, 764 (1973); Note, *supra* note 57, at 802. *See also* Opinion No. 74-15, 1974 OP. ARIZ. ATT'Y GEN. —.

87. *See, e.g.*, FPC v. Hope Natural Gas Co., 320 U.S. 591, 602-03 (1944); Simms v. Round Valley Light & Power Co., 80 Ariz. 145, 154, 294 P.2d 378, 384 (1956); Illinois Cent. R.R. v. Illinois Commerce Comm'n, 387 Ill. 256, 275, 56 N.E.2d 432, 440 (1944); Central Me. Power Co. v. Public Util. Comm'n, 150 Me. 257, 261-63, 109 A.2d 512, 514 (1954).

As applied to administrative findings, evidence is substantial if it provides: "A substantial basis of fact from which the fact in issue can be reasonably inferred. . . . [I]t must be enough to justify, if the trial were to a jury, a refusal to direct a verdict when the conclusion sought to be drawn from it is one of fact for the jury." NLRB v. Columbian Enameling & Stamping Co., 306 U.S. 292, 299-300 (1939); *cf.* City of Tucson v. Citizens Util. Water Co., 17 Ariz. App. 477, 481, 498 P.2d 551, 555 (1972) (a valuation based on speculative and uncertain evidence is not reasonably supported by the evidence). *See also* Dodd v. Boies, 88 Ariz. 401, 404, 357 P.2d 144, 146 (1960) (speculative inferences and conclusions do not constitute substantial evidence).

88. *See* Mountain States Tel. & Tel. Co. v. Public Util. Comm'n, — Colo. —, —, 513 P.2d 721, 725 (1973). *Contra, Re* Florida Power & Light Co., 98 P.U.R.3d 441, 443 (Fla. Pub. Serv. Comm'n 1973).

89. *See* Permian Basin Area Rate Cases, 390 U.S. 747, 794-95 (1968); Colorado Interstate Gas. Co. v. FPC, 324 U.S. 581 (1945); FPC v. Hope Natural Gas Co., 320 U.S. 591, 603 (1944); New Eng. Tel. & Tel. Co. v. State, 113 N.H. 92, —, 302 A.2d 814, 817 (1973); Lerner & Moag, *supra* note 16, at 195.

Rates are set as a result of state action. Holt v. Yonce, 370 F. Supp. 374, 376-77 (D.S.C. 1973), and since the utility has a monopoly on services the consumer cannot

because of doubts concerning the accuracy of projected information, regulatory agencies that have long relied on the known relationship between costs, investments, and revenue in the historic test period are reluctant to adopt the future test period.[90]

The objection that projections are not supported by substantial evidence has been countered to a considerable extent by new methodology which provides agency and utility researchers with increasingly accurate forecasts.[91] Advances in econometric and statistical modeling techniques greatly increase the reliability of forecast data. Improved accounting systems, which allow identification of specific variances[92] in revenue and expense accounts, combine with sophisticated financial planning techniques[93] to improve accuracy. Thus, improvements in the reliability of financial data and the advent of modern modeling

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forego, setting rates based on unreliable data may violate the consumer's interest in just and reasonable rates. *See* New Eng. Tel. & Tel. Co. v. State, *supra* at —, 302 A.2d at 817. A commission must ensure that the public will not pay higher rates than are required. *Id.*

90. *See* Mountain States Tel. & Tel. Co. v. Colorado Pub. Util. Comm'n, — Colo. —, —, 513 P.2d 721, 724-25 (1973); *Re* Mountain States Tel. & Tel. Co., 94 P.U.R.3d 263, 282 (Ariz. Corp. Comm'n 1972); Opinion No. 74-15, 1974 OP. ARIZ. ATT'Y GEN. —.

91. *See* Jones, *Regulation: The Changing Mandate*, 91 PUB. UTIL. FORT., June 7, 1973, at 13; Lerner & Moag, *supra* note 16, at 195; Interview with Fred Durland, Ass't Vice President for Rates and Economic Services, Tucson Gas & Elec. Co., in Tucson, Ariz., Sept. 4, 1974 (projections are accurate within reasonable parameters). For an example of the working methodology of projections, see *Re* Hawaiian Elec. Co., 96 P.U.R.3d 80, 83-84 (Hawaii Pub. Util. Comm'n 1972).

92. Specific valuations and projections for each account and subaccount are more accurate than across the board percentage increases. *See* Carpenter, *Rate Regulation and Pricing of Utility Service*, 91 PUB. UTIL. FORT., Mar. 15, 1973, at 13-15. *But cf.* Somers, *Rate of Interest and Rate of Return: 'Cost of Money' in Public Utility Rate-Making*, in NEW ECONOMICS, *supra* note 7, at 69, 96-100. Somers suggests that the rate of return be based solely on the cost of capital. *Id.* at 100. *See also* Somers, *"Cost of Money" as the Determinant of Public-Utility Rates*, 4 BUFFALO L. REV. 289 (1955).

93. Projecting revenue and operating expenses requires a coordinated effort by the marketing, financial, and engineering divisions of the utility. The expected demand for consumer service and the cost of such services are, of course, interrelated. In determining the increase or decrease of future service, consideration must be given to additional requirements of current users as well as the needs of new users. These service requirements also will be affected by competition from other energy sources and by weather conditions. Once the load requirements are determined, the expenses needed to fund this service must be projected. These include wages, taxes, fuel costs, and related operational expenses. Additionally, the cost of new capital and allowances for payment of the existing debt must be considered. When projected totals are finally determined, a proposed price structure is developed to distribute the rates among the different classes of consumers. Interview with Fred Durland, *supra* note 91. *See also Re* Hawaiian Elec. Co., 96 P.U.R.3d 80, 83 (Hawaii Pub. Util. Comm'n 1972).

In using a future test period, there would be some difference in projecting property valuations depending on whether a jurisdiction used original cost or fair value. *See* discussion note 21 *supra*. In an original cost state, the value of the property would remain the same, although the allowed depreciation could be projected. In a jurisdiction using the fair value method projections could be made in the same manner as they are currently, with indices developed to trend the projections. *See* text & note 100 *infra*. Instead of excluding property coming into service after the historic test period, however, the commission would include the property which would come into service during the projected test period. In the alternative, the company could be allowed an original rate increase based on the total estimated value of the property to be in use at the start of the test period. There would then be a subsequent automatic increase in the rate base when the property being constructed actually came into use.

methodology have combined to provide elaborate, comprehensive, and reliable bases for decisionmaking.[94] Although such evidence is not accepted everywhere at this time, it is more easily comprehended by an agency or reviewing court and thus offers advantages beyond its use for the future test period.[95]

A number of agencies,[96] including the Federal Power Commission,[97] are convinced that the value and accuracy of data projections are "within acceptable limits."[98] The Hawaii Public Utility Commission has solved the problem of accuracy to its own satisfaction by having both the utility and the commission staff present projections for expenses and revenues.[99] The commission used revenue projections which were based on historically trended cost.[100] The revenue trend line developed by the utility used data from 5 prior years and projected it for the year in which the increase was requested and 1 additional year. The commission staff chose to use the 10 prior years and projected the same 2 years as the utility company.[101] Expenses were pro-

94. Rosoff, *supra* note 39, at 32; *see* Jones, *supra* note 91, at 3. *But see* Wald, *Comment*, in RATE OF RETURN UNDER REGULATION: NEW DIRECTIONS AND PERSPECTIVES 205 (H. Trebing & R. Howard eds. 1969). For examples of statistical modeling, see Lerner & Moag, *supra* note 16, at 85.

95. *See* Rosoff, *supra* note 39, at 40.

96. *See Re* Florida Power & Light Co., 98 P.U.R.3d 441, 443 (Fla. Pub. Serv. Comm'n 1973) (projected data filed in advance of hearing was accepted as valid because, due to regulatory lag, the projections had become actual data); *accord, Re* Hawaiian Elec. Co., 96 P.U.R.3d 80 (Hawaii Pub. Util. Comm'n 1972); City of New York v. New York Pub. Serv. Comm'n, 42 App. Div. 2d 259, 346 N.Y.S.2d 6 (App. Div. 1973) (court upheld use of projected data submitted 6 weeks before the close of the hearings). The Montana Public Utility Commission has used a projected test period for at least 16 years. The projections are verified by the commission as they become available. The commission has noted that it has found the projections to be accurate within a satisfactory degree. *See Re* Mountain States Tel. & Tel. Co., 73 P.U.R.3d 30, 34 (Mont. Pub. Serv. Comm'n 1968); *Re* Montana Power Co., 96 P.U.R.3d 265 (Mont. Pub. Serv. Comm'n 1973) (commission accepted 3-month projected test period without discussion). *See also Re* General Tel. Co., 25 P.U.R.3d 129 (Cal. Pub. Serv. Comm'n 1958); *Re* General Tel. Co., 23 P.U.R.3d 194 (Idaho Pub. Util. Comm'n 1958); *Re* Midland Tel. Co., 27 P.U.R.3d 30 (Utah Pub. Serv. Comm'n 1958); *Re* Mountain States Tel. & Tel. Co., 27 P.U.R.3d 259 (Wyo. Pub. Serv. Comm'n 1959).

97. FPC regulations require submission of data for the 12 months preceeding a hearing and a 12-month projection. 18 C.F.R. § 35.13(b)(1) (1974).

98. *Re* Florida Power & Light Co., 98 P.U.R.3d 441, 443 (Fla. Pub. Serv. Comm'n 1973).

99. *Re* Hawaiian Elec. Co., 96 P.U.R.3d 80, 82-83 (Hawaiia Pub. Util. Comm'n 1972).

100. *Id.* at 83. Both the commission staff and the company used the least-squares projection method. The staff corroborated its testimony by statistical findings on such economic indicators as population, growth, housing units, employment, tourism, and construction.

Trending also may be used to establish plant fixture valuations. Trending requires the use of indices to calculate reconstruction cost new from original cost data. North, *Trending Utility Plant Costs*, 66 PUB. UTIL. FORT., July 21, 1960, at 88. The indices are designed either for utilities generally, such as the Handy-Whitman Index of Public Utility Construction Costs, or are custom designed for a particular company. *See Re* Great Falls Gas Co., 29 P.U.R.3d 237, 244 (Mont. Pub. Serv. Comm'n); Edgar, *The Rate Base—Its Nature, Composition and Role in Regulation*, in REGULATION, *supra* note 7, at 107, 125.

101. *Re* Hawaiian Elec. Co., 96 P.U.R.3d 80, 83 (Hawaii Pub. Util. Comm'n 1972).

jected in the same manner. The Hawaii commission accepted this method as a reasonable and accurate basis for setting future rates.[102]

Another basis for challenging the reliability of projected data is the effect of unforeseen changes which might create inaccuracies in projections. For example, social, economic, and political factors may substantially alter the cost of required materials or services.[103] Additionally, commission regulations, as well as subsequent case law and statutes, may increase costs or impose new restrictions, such as environmental controls, on powerplants.[104] Such unforeseen changes do not necessarily invalidate the use of a future test period, however. Controls, of course, must be implemented to ensure continued accuracy of projected data within acceptable limits. This monitoring can be accomplished by audits and investigations similar to methods currently in use.[105] In addition, in several states, consumers may petition the commission for a rate hearing if they have reason to believe the established rates are unreasonable.[106] Procedures currently in use with the historic test period, such as the automatic comprehensive adjustment clause,[107] may also be adapted to evaluate and correct projections. For example, an adjustment clause could permit upward and downward adjustment of rates either to reflect unanticipated changes in utility expenses or to correct projections which subsequent data has proved to be inaccurate.

The extent to which agencies employ projected data in ratemaking appears to be a function of each commission's belief in the reliability

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102. *Id.* at 84.

103. A current example is the recent energy crisis and the subsequent astronomical rise in fuel costs. For instance, the average delivered cost of coal to the Tennessee Valley Authority's steam plants has doubled in the past 4 years to about $9 per ton. Welsh, *Pages with The Editor*, 94 PUB. UTIL. FORT., Sept. 26, 1974, at 6, 8.

104. *See* authorities cited note 40 *supra.*

105. In Arizona, for example, the corporation commission is given broad authority to supervise and regulate every public service corporation in the state. *See generally* ARIZ. CONST. art. 15; ARIZ. REV. STAT. ANN. §§ 40-101 to -433 (1974). It may examine utility records to determine the accuracy of data. *Id.* § 40-241. If the commission were to find that any information accepted was substantially incorrect, it has the power to conduct hearings and to require changes in the rates to reflect the current data. *Id.* § 40-250. Similarly, if adequate service is not being provided by a company or if a change in circumstances requires alterations in services, the commission has the authority to order improvements and changes in the utility's plants. *Id.* § 40-331. If a future test period were adopted, a company which frequently projected data inaccurately could be restricted, under the commission's discretionary authority, to the historical test period.

106. ARIZ. REV. STAT. ANN. § 40-246(A) (1974), provides that a charge of unreasonableness of rates, signed by a mayor, a majority of the legislative body of a city or town, or 25 consumers or prospective consumers, may be filed with the Arizona Corporation Commission. Upon filing of a complaint, the commission is required to set a hearing. *Id.* § 40-246(C). *Accord,* ALA. CODE tit. 48, § 57 (1958); FLA. STAT. ANN. § 366.065 (Supp. 1974-75); MONT. REV. CODES ANN. § 70-701-711 (Supp. 1974). The Montana code provides for the creation of a consumer counsel empowered to intervene and appear at public hearings, to institute proceedings, and to investigate utilities.

107. *See* text & note 55 *supra.*

of the projections. Some jurisdictions merely require submission of projected data, or accept it for consideration on a discretionary basis, while continuing to base rates on a historic test period.[108] States that use future test periods limit the length of the accepted projections in relation to the perceived accuracy of the projected data.[109] For example, New York frequently uses a 6-month historic and 6-month forecast test period.[110] Since the New York commission attempts to complete rate cases within 10 months,[111] the projections can be checked against actual data as it becomes available.[112] Florida uses a similar method whereby a projected test year may be filed along with historical evidence prior to the rate hearing. If, because of regulatory lag, the projection can be verified with actual data by the time the hearings are completed, it will be accepted, subject to verification by the commission.[113]

To date, no cases or rate hearings have used a full future test period projected at least 1 year from the time the rates are set to take effect. The California Public Utility Commission, however, appears to come the closest to the use of a full future test period. That commission usually employs either a 1 or 2-year test period. If a 1-year test period is selected, it is usually a year in the immediate future. If 2 years are used, one is the current year and the other is the following year.[114] Although the data may be fully projected at the time the evidence is submitted, in practice, by the time the hearings are completed and the order issued, only a few months remain of the projected period.[115] By permitting projections over short periods of time and then reviewing their accuracy, commissions can evaluate whether forecasts are accurate within an acceptable level of variation. As the use of projected data becomes more prevalent and its reliability

108. Rhode Island Consumers' Council v. Smith, — R.I. —, —, 302 A.2d 757, 763-64 (1973); *Re* Mountain States Tel. & Tel. Co. 94 P.U.R.3d 263, 281-83 (Ariz. Corp. Comm'n 1972).

109. For example, Alabama allows inclusion in the rate base of new investments coming into service up to 1 year subsequent to the end of the historic test year. ALA. CODE tit. 48, § 52 (Cum. Supp. 1973).

110. *See* Swidler, *supra* note 57, at 47.

111. *Id.*

112. *Id.* The New York commission also uses a full forecast test year for rate base determination when it is justified by special circumstances, such as the future addition of a nonrevenue producing environmental control plant. *Id.* at 48. *But see Re* Citizens Water-Supply Co., 3 P.U.R.4th 82, 84 (N.Y. Pub. Serv. Comm'n 1974) (the 6-month historic, 6-month projected approach is preferred only for larger utilities with more volatile customer demands, and the additional regulatory expense required to consider projected data for smaller companies would not be commensurate with any greater precision that might be gained).

113. *Re* Florida Power & Light Co., 97 P.U.R.3d 501, 503 (Fla. Pub. Serv. Comm'n 1972).

114. *Re* Southern Cal. Edison Co., 100 P.U.R.3d 257, 261 (Cal. Pub. Util. Comm'n 1973).

115. For instance, in a September 1973 hearing, the projected test period chosen was the calendar year 1973. *Id.* at 257, 315.

established, agencies will undoubtedly become more confident in extending the lengths of the test periods.

Although many question the accuracy of projected data, methods exist which produce reliability within acceptable limits, and monitoring procedures may be employed to update projections when subsequent changes render them inaccurate. Nevertheless, the use of the future test period may be subject to individual state limitations. Typical of such a restriction is Arizona's fair value ratemaking procedure, a restriction found in a number of states.[116] A review and analysis of Arizona ratemaking procedures will be presented as an example of the problems and potential solutions inherent in the use of a future test period in a fair value jurisdiction.

ARIZONA: A CASE IN POINT

Current Status of Projected Data in Ratemaking

In recent years, regulated utilities in Arizona have had to provide service for a population expanding at three times the national rate.[117] This growth has required large capital expenditures during a period when costs of construction, labor, capital, and supplies have been steadily rising.[118] In addition, environmental requirements have increased the cost of generating and transmitting facilities.[119] These factors have led to a reexamination of the status of projected data in Arizona ratemaking procedures.[120]

The current inflationary economy and the increased energy needs of Arizona's population make the future test period an important ratemaking consideration. Some projected information is already used in ratemaking hearings.[121] The projection of actual test year expenses is

116. *See* authorities cited note 70 *supra.*
117. *Financial News and Comment,* 91 PUB. UTIL. FORT., May 24, 1973, at 41.
118. 58 ARIZ. CORP. COMM'N ANN. REP. 18 (1970).
119. Tucson Daily Citizen, Oct. 11, 1974, § A, at 13, cols. 2-3. The Arizona legislature has established a procedure to aid corporations that are attempting to comply with environmental control laws. Incorporated political subdivisions with the power to issue tax free bonds may use the capital to facilitate construction of environmental control facilities. *See* ARIZ. REV. STAT. ANN. §§ 9-1151 to -1196, 9-1221 to -1281 (Supp. 1974-75). *See generally* "Industrial Development Authorities in Arizona," 16 ARIZ. L. REV. 489, 616 (1974).
120. *See* Opinion No. 74-25, 1974 OP. ARIZ. ATT'Y GEN. —.
121. *See* Simms v. Round Valley Light & Power Co., 80 Ariz. 145, 154, 294 P.2d 378, 384 (1956) (the commission abuses its discretion by refusing to consider all relevant factors); *accord,* Arizona Corp. Comm'n v. Superior Court, 107 Ariz. 24, 26, 480 P.2d 988, 990 (1971); Arizona Corp. Comm'n v. Arizona Water Co., 85 Ariz. 198, 201, 335 P2d 412, 414 (1959); City of Tucson v. Citizens Util. Water Co., 17 Ariz. App. 477, 481, 498 P.2d 551, 555 (1972). The commission concluded that the "all relevant evidence" rule, as further developed in *Arizona Water Co., supra,* required them to consider projected, as well as historical financial data. *Re* Mountain States Tel. & Tel. Co., 94 P.U.R.3d 263, 283 (Ariz. Corp. Comm'n 1972). A recent regulation specifically requires the submission of future year figures for most rate schedules. ARIZ. CORP. COMM'N GEN. RULE U-53 (1974).

limited, however, to out-of-period adjustments for known change,[122] normalization,[123] and automatic fuel adjustment clauses.[124] The first two techniques may be considered projections because, although the changes are known at the time of filing, the information reflects future expenses beyond the historical test year. Automatic adjustment clauses, while not projected, are also future changes outside the test period. In addition to using projected data for rate adjustments, the Arizona Corporation Commission also considers some projected data when determining the rate of return.[125] When estimating needed revenue, the commission staff and utility experts consider the projected cost of the components of capital, including stocks, bonds, and preferred financings scheduled for the near future.[126] Additionally, expected revenues are normalized to more accurately predict a typical year's return, and abnormal weather conditions affecting demand may be adjusted to reflect what an average test period would have produced in revenue.[127]

These partial projections, no doubt, have ameliorated erosion of earnings. The growing demand for interim rate increases,[128] however, indicates that these methods are not sufficient to produce the earnings required to attract capital. These interim increases, temporary measures granted until the next permanent rate hearing,[129] provide only a temporary solution to financial difficulties. Further, interim increases are an emergency technique employed only "when sudden change brings hardship to a company, when the company is insolvent, or when the condition of the company is such that its ability to maintain service pending a formal rate determination is in serious doubt."[130] Consider-

122. *See Re* Mountain States Tel. & Tel. Co., 94 P.U.R.3d 263, 271-72, 285-86 (Ariz. Corp. Comm'n 1972).

123. *See* discussion note 56 *supra.*

124. An "automatic adjustment" or "escalator" clause in the tariffs of a public service corporation is a regulatory device by which, through the use of a formula set forth in the clause, a public service corporation may increase or decrease utility charges in relation to increases or decreases in costs to the corporation of certain defined expenses, such as the cost of wholesale gas for resale or fuel and the cost of wholesale electricity for resale.
Opinion No. 71-15, 1971 OP. ARIZ. ATT'Y GEN. 34, 35. *See* Trigg, *Escalator Clauses in Public Utility Regulation*, 106 U. PA. L. REV. 964 (1958); discussion note 55 *supra.*

125. *See Re* Mountain States Tel. & Tel. Co., 94 P.U.R.3d 262, 283 (Ariz. Corp. Comm'n 1972).

126. *Id.* at 272-78.

127. See Interview with Fred Durland, *supra* note 91; discussion note 93 *supra.*

128. *See Re* Tucson Gas & Elec. Co., Docket No. U-1933, Decision No. 44856 (Ariz. Corp. Comm'n Dec. 12, 1974).

129. Interim rate increases are authorized by article 15 of the Arizona constitution. Opinion No. 71-17, 1971 OP. ARIZ. ATT'Y GEN. 45; *see* ARIZ. REV. STAT. ANN. §§ 40-203, -250-51 (1974).

130. Opinion No. 71-17, 1971 OP. ARIZ. ATT'Y GEN. 50; *see Re* Tucson Gas & Elec. Co., Docket No. U-1933, Decision No. 44856 (Ariz. Corp. Comm'n Dec. 12, 1974) (an interim increase is available when, without such increase, the financial emergency would cause a failure to meet needed service). *See also* Chicago Ry. v. City of Chicago, 292 Ill. 190, 126 N.E. 585 (1920); Omaha & Council Bluffs St. Ry. v. Nebraska Ry.

ing the limited effectiveness of partial projections and interim increases, the use of a future test period emerges as an important issue in maintaining financial stability in utilities.

The Arizona Corporation Commission, however, has expressed its intention to continue using a historic test period on the basis that it is precluded from adopting the future test year by the Arizona constitution.[131] Although possessed of extremely broad discretionary powers in the area of rate regulation,[132] the commission appears restricted in its consideration of available alternative ratemaking methods. The agency is constitutionally required to set just and reasonable[133] rates based on the value of the utility's property within the state.[134] The Arizona supreme court has interpreted these constitutional strictures as requiring that the commission first establish a rate base which reflects the fair value of the utility's property and that this base then be used to derive the rate of return.[135] Thus, although the constitutionally required result must be a just and reasonable rate,[136] the Arizona court has limited the methods by which these rates may be determined. This may present a substantial legal obstacle to the use of a future test period for rate base determination in Arizona. Particularly troublesome is the limitation which the court has placed on the determination of fair value.

The definition of fair value adopted by the Supreme Court of Arizona is the reasonable value of the utility's property being used in the public service at the time of inquiry.[137] The court's definition contains three distinct phrases: reasonable value, used in the public ser-

Comm'n, 103 Neb. 695, 173 N.W. 690, 692 (1919); Moskogee Gas & Elec. Co. v. State, 81 Okla. 176, 177-78, 186 P. 730, 732 (1920).

131. *See Re* Mountain States Tel. & Tel. Co., 94 P.U.R.3d 263, 282-84 (Ariz. Corp. Comm'n 1972); Opinion No. 74-25, 1974 OP. ARIZ. ATT'Y GEN. —.

132. "Article XV of Arizona's Constitution is unique in that no other state has given its commission the extensive power and jurisdiction that the Arizona Corporation Commission possesses." Arizona Corp. Comm'n v. Superior Court, 107 Ariz. 24, 26, 480 P.2d 988, 990 (1971). *See also* Simms v. Round Valley Light & Power Co., 80 Ariz. 145, 154, 294 P.2d 378, 384 (1956); Ethington v. Wright, 66 Ariz. 382, 391-92, 189 P.2d 209, 215-16 (1948); Corporation Comm'n v. Pacific Greyhound Lines, 54 Ariz. 159, 176-77, 94 P.2d 443, 450 (1939).

133. ARIZ. CONST. art. 15, § 3, provides: "The Corporation Commission shall have full power to, and shall prescribe just and reasonable classifications to be used and just and reasonable rates and charges to be made and collected, by public service corporations within the State for service rendered therein . . . ."

134. ARIZ. CONST. art. 15, § 14.

135. "The standard for establishing a rate base must be the fair value of the property and not what the commission might believe was a fair rate of return on common equity." Simms v. Round Valley Light & Power Co., 80 Ariz. 145, 155, 294 P.2d 378, 385 (1956).

136. See discussion note 133 *supra*.

137. *See* Arizona Corp. Comm'n v. Arizona Water Co., 85 Ariz. 198, 201, 335 P.2d 412, 414 (1959); Simms v. Round Valley Light & Power Co., 80 Ariz. 145, 151, 294 P.2d 378, 382 (1956); *Re* Mountain States Tel. & Tel. Co., 94 P.U.R.3d 263, 282 (Ariz. Corp. Comm'n 1972); *Summary of 1959 Arizona Case Law*, 2 ARIZ. L. REV. 121 (1960). *See also* Missouri *ex rel.* Southwestern Bell Tel. Co. v. Public Serv. Comm'n, 262 U.S. 276 (1923); Demet & Demet, *supra* note 62; Priest, *supra* note 17; Priest, *supra* note 62; Rose, *supra* note 21.

vice, and at the time of inquiry. Determination of whether this definition precludes use of the future test period requires further analysis. First, the use of projected data does not prevent the determination of reasonable property value.[138] The Arizona supreme court has stated that there is no set formula for determining reasonable value;[139] the only requirement is that the commission must consider all relevant data in reaching its determination.[140] Second, it is possible to identify what property actually will be in use for the public service during a future test period, thus satisfying the requirement that it be devoted to public use.[141] The phrase "at the time of inquiry,"[142] however, appears to present an obstacle to Arizona's use of the future test period. This limitation could be interpreted as indicating that a rate base determined by any data not indicative of value at the time of the rate hearings would not satisfy the Arizona supreme court's interpretation of fair value.

When presented with an opportunity to consider the use of a future test period, the Arizona Corporation Commission stated:

> In a fair value jurisdiction, such as Arizona, a test period must first be determined. Further, by legislative mandate, the hearing must be held before a rate can be changed. The majority, therefore, believes that any opinion that would escalate the company's earnings pursuant to a formula rate base to be effective in the future, or which would increase the rate of return by the company, effective according to future schedule rates, would exceed constitutional and legislative limitation placed on this commission.[143]

The commission has found, however, that the court's definition of fair value did not preclude the use of a year-end historical test period which ends before the rate hearings,[144] and not at the time of inquiry.

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138. For a discussion of reasonable value, see text & notes 91-115 *supra.*

139. Simms v. Round Valley Light & Power Co., 80 Ariz. 145, 151, 154, 294 P.2d 378, 382, 384 (1956); *Re* Mountain States Tel. & Tel. Co., 94 P.U.R.3d 263, 282 (Ariz. Corp. Comm'n 1972).

140. See discussion note 121.

141. See text & notes 23-28 *supra.*

142. This phrase has been modified to include "as close to the time of the inquiry as possible," and "as near as possible thereto." Arizona Corp. Comm'n v. Arizona Water Co., 85 Ariz. 198, 202, 335 P.2d 412, 414 (1959).

143. *Re* Mountain States Tel. & Tel. Co., 94 P.U.R.3d 263, 282-83 (Ariz. Corp. Comm'n 1972), *quoting Re* Tucson Gas & Elec. Co., Docket No. U-1933, Decision No. 41692 (Ariz. Corp. Comm'n 1972). "This commission in conformity with this philosophy, is still of the opinion that an appropriate test year [is a historical test period] . . . which must be used in establishing fair value rate base, or must be based on the company's properties actually in service and not on a projected fair value estimate of its property." *Re* Mountain States Tel. & Tel. Co., *supra* at 283.

144. See *Re* Mountain States Tel. & Tel. Co., 94 P.U.R.3d 263, 267, 281-83 (Ariz. Corp. Comm'n 1972) (commission's duty is satisfied by use of end of period valuation not average or future valuation). *See also* Arizona Corp. Comm'n v. Arizona Water Co., 85 Ariz. 198, 202, 335 P.2d 412, 414 (1959) (end of test period, not average valuation, satisfies "at the time of inquiry" requirement).

The Arizona Corporation Commission's interpretation of the "at the time of inquiry" requirement would seem to negate the use of a future test period since data extending beyond the time of the hearings would be used in establishing fair value. It would not, however, preclude the use of a test year which can be verified by the time of the hearing. Indeed, this procedure seems preferable to current procedures. The interpretation of fair value set forth by the Arizona supreme court and the corporation commission would appear to mandate a test period ending "at the time of inquiry" rather than several months before.[145]

Reevaluation of the Arizona Position

The Arizona Corporation Commission has traditionally employed a historic test period for both valuation of the rate base[146] and for the determination of operating expenses.[147] The commission has, however, found value in and utilized some projected data.[148] Further, it may use, without legal impediment, a full future test period to project operating expenses and revenues since the fair value limitation is applicable only to rate base.[149] Although opinions of the Arizona Corporation Commission and the attorney general's office indicate that the use of a future test period would be an abuse of the commission's discretionary authority under present case law,[150] the issue has never been considered by the Arizona courts. As will be shown, the fair value requirement and the future test period are not necessarily incompatible.

Fair value is not defined in the Arizona constitution, and, indeed, the court has repeatedly stated that fair value has no fixed formula.[151] Rather, the constitutional requirement of fair value was created in the aftermath of *Smyth v. Ames*,[152] which was the standard for the constitu-

145. There are usually several months between the end of the test period and the beginning of the rate case itself. In a recent Arizona case, the test year ended on July 31, 1974, but the final hearings did not being until October 15, 1974, and the new rates did not go into effect until Jan. 1, 1975. *See Re* Tucson Gas & Elec. Co., Docket No. U-1933, Decision No. 44853 (Ariz. Corp. Comm'n Dec. 12, 1974).

146. *See Re* Mountain States Tel. & Tel. Co., 94 P.U.R.3d 263, 282-83 (Ariz. Corp. Comm'n 1972). *See also* Arizona Corp. Comm'n v. Arizona Water Co., 85 Ariz. 198, 200, 202, 335 P.2d 412, 413-14 (1959).

147. *See Re* Mountain States Tel. & Tel. Co., 94 P.U.R.3d 263, 286 (Ariz. Corp. Comm'n 1972).

148. *See* text & notes 121-27 *supra*.

149. *See* text & notes 134-35 *supra*.

150. *See Re* Mountain States Tel. & Tel. Co., 94 P.U.R.3d 263, 282-83 (Ariz. Corp. Comm'n 1972); Opinion No. 74-25, 1974 OP. ARIZ. ATT'Y GEN. —.

151. *See* Arizona Corp. Comm'n v. Arizona Water Co., 85 Ariz. 198, 202, 335 P.2d 412, 414 (1959); Simms v. Round Valley Light & Power Co., 80 Ariz. 145, 154, 294 P.2d 378, 384 (1956); City of Tucson v. Citizens Util. Water Co., 17 Ariz. App. 477, 480, 498 P.2d 551, 554 (1972) (methods used to establish fair value rate base have not been clearly delineated).

152. 169 U.S. 466 (1898).

tionality of ratemaking[153] at the time the Arizona constitution was adopted.[154] The fair value doctrine was developed to offset the effects of original cost valuation and as an attempt to duplicate competition by valuing properties at current prices,[155] while, at the same time, allowing agencies sufficient flexibility to encourage utilities to decrease costs and improve services.[156] It was not conceived for the purpose of precluding use of projected or future data.

Fair value is not incompatible with the future test period. Indeed, both procedures developed out of the recognized need for flexibility in order to integrate economic realities into utility regulation.[157] Several United States Supreme Court decisions rendered during the fair value period of *Smyth v. Ames*[158] addressed the issue of future valuations and encouraged agencies to establish reasonable rates based on the value of the property at the time of the investigation and for a reasonable time in the immediate future.[159]

153. The history of rate regulation is frequently divided into periods. The initial period, subsequent to Munn v. Illinois, 94 U.S. 113 (1877), is termed the legislative phase, when regulation was by act of the legislature. Following Smyth v. Ames, 169 U.S. 466 (1898), was a period of judicial activity during which time most major regulatory decisions were made by the courts. FPC v. Hope Natural Gas Co., 320 U.S. 591 (1944), began an administrative phase in which determinations have been made primarily by commissions, with the little judicial intervention. *See* Edgar, *supra* note 100, at 115-16. The Arizona constitution was adopted during the period when fair value was considered the only constitutional method of ratemaking. See Note, *The "Fair Value" Test in Montana Public Utility Rate Regulation*, 22 MONTANA L. REV. 65, 73 (1960). For a discussion of *Smyth v. Ames* and fair value, see text accompanying notes 23-24, 67-70 *supra*.

154. The Arizona Constitution was adopted December 9, 1910. *See* MINUTES OF THE CONSTITUTIONAL CONVENTION OF THE TERRITORY OF ARIZONA 433 (1910).

155. At the time *Smyth v. Ames* was decided the country was in a depression following the post Civil War boom. *See* Edgar, *supra* note 100, at 117. The use of fair value, with its emphasis on reconstruction cost new, was advantageous to consumers as this valuation technique produced a lower rate base than the original cost method. Many of the railways, the primary objects of rate regulation, had been built during the prior period of high costs. As a result, the book value of the capital investment far exceeded the true value of the property. *See* Ames v. Union Pac. Ry., 64 F. 165, 177 (D. Neb. 1894); Edgar, *supra* note 100, at 117; Karber, *Problems and Considerations of Regulatory Agencies*, in UTILITY REGULATION: NEW DIRECTIONS IN THEORY AND POLICY 68 (W. Sheperd & T. Gies eds. 1966); *cf.* Dakin, *supra* note 62, at 402-10.

156. *See* Demet & Demet, *supra* note 62, at 333.

157. *See* McCardle v. Indianapolis Water Co., 272 U.S. 400, 408-09 (1926); Mountain States Tel. & Tel. Co. v. Colorado Pub. Util. Comm'n, 345 F. Supp. 80, 85 (D. Colo. 1972); discussion note 155 *supra; cf.* Simms v. Round Valley Light & Power Co., 80 Ariz. 145, 151, 294 P.2d 378, 382 (1956) (commission must give appropriate consideration to factor of increased costs).

In an unusual rate hearing, illustrating the effect of economic realities on agency decisions, a state commission used a future test year over a company's protest. *See Re* Arkansas La. Gas Co., 96 P.U.R.3d 209, 215 (Ark. Pub. Serv. Comm'n 1972). The Arkansas commission determined that projected figures would be more appropriate and realistic than the use of the historic test year because sales volume of natural gas had declined in 1972 due to curtailments, and an increase in sales was projected for 1973. *Id.* at 216. In response to the utility's claim that the figures were unreliable because they did not encompass any period of actual experience, the commission stated that the burden of proof was on the company and, in the absence of a showing of error, the future test period was logical, reasonable, and satisfactory. *Id.* at 217.

158. 169 U.S. 466 (1898). The end result doctrine of FPC v. Hope Natural Gas Co., 320 U.S. 591 (1944), further emphasized the necessity to consider economic realities in ratemaking. At the time *Hope* was decided, the Depression of the 1930's,

There are, in addition, several fair value jurisdictions which have used projected rate base valuations. Montana[160] has used projected property valuations and the future test period for several years.[161] The Montana commission has stated that: "This type of test period has been adopted previously by this commission and other commissions in the case of utilities undergoing sizable plant expansions."[162] Pennsylvania, also a fair value jurisdiction,[163] has not adopted a future test period, but has included property not scheduled for public use until 10 years after the rate hearings within the rate base.[164] In Ohio, a fair value jurisdiction by both statute[165] and case law,[166] the court has allowed in the rate base plant additions which were to be added during the 4 years subsequent to the effective date of the rate increase.[167] The Public Service Commission of Maryland[168] considers the use of a projected test period to be within its discretionary authority[169] and has noted that it is a proper tool for regulatory use when the utility can show that a significant change in its revenues, expenses, and investments has or will be occurring.[170]

No Arizona decision has directly confronted the issue of whether the corporation commission has the authority to adopt a future test period. The principal cases interpreting fair value requirements address only the issue of fair value as opposed to original cost.[171] In

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coupled with the restrictions of prior case law and the introduction of federal competition, had produced serious financial difficulties for utilities. *See* Demet & Demet, *supra* note 62, at 335; Edgar, *supra* note 100, at 117; Karber, *supra* note 155, at 68.

159. *See* West Ohio Gas Co. v. Public Util. Comm'n, 294 U.S. 79, 81-82 (1935); McCardle v. Indianapolis Water Co., 272 U.S. 400, 408-09 (1926); Bluefield Waterworks & Improvement Co. v. Public Serv. Comm'n, 262 U.S. 679, 692 (1923); Missouri *ex rel.* Southwestern Bell Tel. Co. v. Public Serv. Comm'n, 262 U.S. 276, 287-88 (1923).

160. Montana statutes allow the commission to "ascertain the value of the property of every public utility actually used and useful for the convenience of the public." MONT. REV. CODE ANN. § 70-106 (1971). The Montana supreme court has interpreted this statute to require a determination based on fair value. *See* Tobacco River Power Co. v. Public Serv. Comm'n, 109 Mont. 521, 528, 98 P.2d 886, 889 (1940).

161. *See Re* Mountain States Tel. & Tel. Co., 73 P.U.R.3d 30, 34 (Mont. Pub. Serv. Comm'n 1968).

162. *Id.*

163. *See* Scranton Steam Heat Co. v. Pennsylvania Pub. Util. Comm'n, 405 Pa. 397, 401-02, 176 A.2d 86, 88-89 (1961); City of Pittsburgh v. Pennsylvania Pub. Util. Comm'n, 171 Pa. Super. 187, 195, 90 A.2d 607, 612 (1952).

164. *See* Pennsylvania Pub. Util. Comm'n v. Metropolitan Edison Co., 4 P.U.R.4th 209, 214 (Pa. Pub. Util. Comm'n 1974). Property held for future use is not generally considered used and useful. *See* text & note 28 *supra.*

165. *See* OHIO REV. CODE ANN. §§ 4909.05, 4909.15 (Page 1953); Priest, *supra* note 17, at 302.

166. *See* Ohio Edison Co. v. Public Util. Comm'n, 173 Ohio St. 478, 485, 184 N.E.2d 70, 76 (1962); Priest, *supra* note 17, at 302.

167. Columbus Gas & Fuel Co. v. City of Columbus, 17 F.2d 630, 636 (S.D. Ohio 1927).

168. MD. ANN. CODE art. 78, §§ 69, 72 (1969).

169. *See Re* Baltimore Gas & Elec. Co., 89 P.U.R.3d 340, 345 (Md. Pub. Serv. Comm'n 1971).

170. *Id.* at 346. *See also* McCardle v. Indianapolis Water Co., 272 U.S. 400, 408-09 (1926).

171. *See* Arizona Corp. Comm'n v. Arizona Water Co., 85 Ariz. 198, 201-03, 335

Simms v. Round Valley Light & Power Co.,[172] the leading Arizona case on the interpretation of fair value, the question raised was whether the commission had abused its discretion by disregarding fair value and, in reliance on *FPC v. Hope Natural Gas Co.*[173] and the end result doctrine, utilizing evidence of original cost as the sole basis for determining the utility's rate base.[174] The court noted that the *Hope* doctrine was not applicable in Arizona[175] because the constitution required determination of a reasonable return based upon the fair value of its properties at the time the rate was fixed, not at the time of construction.[176] The court's usage of the term "at the time of inquiry" was not directed toward a prohibition of a future test period, but was used only to indicate the time period when the value of the property was to be established, thereby precluding a determination based only on original cost.[177] Rather than negating the use of projected data, the *Simms* court noted that the commission's duty to consider all relevant data[178] might require it to consider substantial changes in cost data.[179]

The implications of the history of fair value doctrine and the Arizona court's subsequent amplification are readily apparent. The concept is not that of a fixed and rigid formula, but rather a procedure intended to require consideration of all relevant data, thereby allowing agencies sufficient flexibility to weigh economic conditions in the determination of the rate base. By considering not only original cost and current value, as it does now, but also future costs and value, the Arizona commission can more effectively fulfill its constitutional and judicially-imposed duty of determining fair value.

It would appear, therefore, that there is no constitutional or judicial impediment in Arizona to the use of a future test period. Rather, use of the future test period is within the discretionary powers of the Arizona Corporation Commission. During a changing economy, projected valuations are a valuable and necessary part of a true fair value

P.2d 412, 414-15 (1959) (requirement of fair value precludes exclusive use of original or purchase cost); Simms v. Round Valley Light & Power Co., 80 Ariz. 145, 150-51, 294 P.2d 378, 381-82 (1956); *cf.* City of Tucson v. Citizens Util. Water Co., 17 Ariz. App. 477, 479-80, 498 P.2d 551, 553-54 (1972).

172. 80 Ariz. 145, 294 P.2d 378 (1956).

173. 320 U.S. 591 (1944). *See* text & notes 71-72 *supra.*

174. 80 Ariz. at 151, 294 P.2d at 382. Original cost and prudent investment were used interchangeably by the court. For the distinction between them, see note 21 *supra.*

175. The Arizona court relied on Missouri *ex rel.* Southwestern Bell Tel. Co. v. Public Serv. Comm'n, 262 U.S. 276 (1923). *See* 80 Ariz. at 150-51, 294 P.2d at 381-82.

176. 80 Ariz. at 153, 294 P.2d at 383. *See also* Missouri *ex rel.* Southwestern Bell Tel. Co. v. Public Serv. Comm'n, 262 U.S. 276 (1923).

177. On the facts, the *Simms* court held that because the commission had considered some evidence of reconstruction cost new, it was unable to say whether the commission's finding of fair value was without substantial support in the evidence. 80 Ariz. at 156, 294 P.2d at 385.

178. *See id.* at 154, 294 P.2d at 384; discussion note 121 *supra.*

179. 80 Ariz. at 153, 294 P.2d at 383.

determination. The commission need not be bound to the use of projected data; in a stable economy it may be desirable to not use projections and to place greater emphasis on historical valuation. Adoption of such a flexible approach would more effectively fulfill the commission's duty to determine fair value and would appear to be consistent with its constitutional power to fix rates exclusive of legislative and judicial interference.[180]

CONCLUSION

With the current trend of inflated costs and increased energy needs, both utilities and regulatory agencies are searching for methods of making traditional ratemaking procedures more sensitive to changing economic conditions. One possible solution is the use of the future test period. While convential ratemaking techniques base future rates on prior data, the future test period, by employing projections of expenses, revenue, and rate base valuations, may more clearly reflect the conditions that exist at the time the rates are in effect.

Objections have been raised regarding the use of the future test period, particularly in fair value jurisdictions. In Arizona, for example, it has been postulated that this technique might violate the constitutional requirement that rates be based on the fair value of the property devoted to public service. Although interpreted as prohibiting the use of projected data, such a restrictive view is not necessary. Rather, the future test period is a valuable and necessary tool for accurate determinations of reasonable property values in a changing economy. The future test period is not a panacea for the problems of regulated utilities. Under appropriate circumstances, however, it may help to ensure a rate of return that is equitable to both the public and the utility.

180. ARIZ. CONST. art. 15, § 3 (the commission shall have full power in its ratemaking duties); see discussion note 132 *supra*.