The Changing Nature of Public Utility Regulation:
The Used and Useful Property Rate versus the
Capitalization Rate Base in the Nuclear Age

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ARTICLES

THE CHANGING NATURE OF PUBLIC UTILITY REGULATION: THE USED AND USEFUL PROPERTY RATE BASE VERSUS THE CAPITALIZATION RATE BASE IN THE NUCLEAR AGE

Melvin G. Dakin*

INTRODUCTION

In his dissenting opinion in the Southwestern Bell Telephone Case, Justice Brandeis suggested:

The thing devoted by the investor to the public use is not specific property, tangible and intangible, but capital embarked in the enterprise. . . .

The investor agrees, by embarking capital in a utility, that its charges to the public shall be reasonable. . . . The compensation which the Constitution guarantees an opportunity to earn is the reasonable cost of conducting the business. Cost includes not only operating expenses, but also capital charges. Capital charges cover the allowance, by way of interest, for the use of the capital, whatever the nature of the security issued therefore; the allowance for risk incurred; and enough more to attract capital.1

The Federal Power Commission might have been the "bell wether"2 in bringing about the widespread adoption of the Brandeis capitalization rate base had the commission chosen to use it in the Hope case;3 a majority was satisfied in the case, however, to make the transition from a "fair value" rate base to an original cost rate base,4 although a dissenting

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2. Probably not a well-chosen aphorism since state regulatory commissions are notoriously restive under Federal leadership.
commissioner argued for a complete transition.\textsuperscript{5}

Justice Brandeis did not live to see his prudent investment-capitalization rate base widely adopted. Following the example of the Federal Power Commission, it was typically modified, (as by the Louisiana Public Service Commission) to mean that in order to avoid confiscation "the thing which is required to be protected . . . is the money invested in used and useful property and not the ever changing and illusory value of the property."\textsuperscript{6} What we see today in the majority of the voluminous commission decisions reprinted in, \textit{e.g.}, the 4th series of Public Utilities Reports, is a hybrid approach in which a rate of return (the capital charge of Justice Brandeis) is conventionally calculated for a test period on the basis of the outstanding capital obligations of the utility. This rate of return is then applied, however, to a property rate base consisting of property "used and useful" or "on line" during the test period.\textsuperscript{7} This means that the rate base conventionally does not include construction work in progress (CWIP) which is excluded on the ground that an alternative method of compensating such plant is regarded as adequate by regulatory authorities. The alternative method consists of adding an allowance for funds used during construction (AFUDC) to the other costs of construction and reducing the return requirement by this amount. The return resulting when CWIP, including AFUDC, is put in service is deemed adequate compensation for the capital thus employed, but the result is to leave such capital at the risk and carrying charge of the stockholders during the construction period.\textsuperscript{8} This procedure is in part justified on the ground that to include CWIP in productive plant is deemed to pose the necessity of attributing hypothetical earnings to it in order to avoid distortion of the actual earnings relationship to the productive plant during the test period.

When CWIP was not such a substantial part of total utility property, and securities outstanding were thus not greatly in excess of used and useful property, the conventional procedure did not pose serious financial problems. But with the advent of nuclear power plants (under construction for as many as ten or fifteen years) as much as forty percent of a utility capital structure may be devoted to CWIP.\textsuperscript{9} Nonetheless, the traditional distinction between the used and useful plant and CWIP is maintained by many states and the rate base is limited

\textsuperscript{5} Id. at 44. The same result was practically achieved since \textit{Hope} was wholly capitalized with common stock, the common equity approximately equaling the net property rate base adopted.


\textsuperscript{8} Id.

\textsuperscript{9} \textit{E.g.}, In re Commonwealth Edison Co., 43 P.U.R. (4th) 503, 528, 550 (Ill. 1981).
to plant in service; the funds devoted to CWIP, as noted, are deemed adequately compensated by including in CWIP accumulated AFUDC and allowing an actual return to be earned only when CWIP is moved "onto line" and into the rate base.10

THE CASH FLOW PROBLEM; CWIP AND AFUDC

Without the more liberal return possibilities in the "fair return on fair value" approach to regulation, the time lapse between investment of funds and the generation of a return on those funds when a new plant is put into service has the clear potential for creating a cash flow shortage. When construction of nuclear plants extends over ten or a dozen years the potential for cash shortages becomes acute. This possibility grows clearer when it is noted that the capital structure carrying the entire plant is the vehicle for calculating the needed rate of return; the rate determined is applied, however, to a rate base limited to the plant which is "on line" and hence "used and useful."11 The rate base, in the case of a utility engaged in nuclear plant construction may be several billion dollars less than the capital structure since the latter necessarily encompasses plants under construction as well as plants "on line."12

The Bonbright Suggestion

Long before the current practice of relaxing the "used and useful" approach to allow inclusion of CWIP in the rate base either partially or in entirety, Bonbright was expressing concern over the problems posed for the utilities by the abandonment of the "fair return on fair value" approach and the adoption of a "cost of capital" approach applied to the "used and useful" original-cost rate base.13 While long a critic of the "specious aura of expertise and objectivity"14 with which the fair value or reproduction cost view of utility plant was presented to regulatory authorities, Bonbright was also acutely aware of the potential constriction on the flow of investment funds into utilities which the new approach augured. He doubted that a flexible rate of return would be used with the degree of liberality needed to achieve the legitimate goals of the industry.15 The Bonbright idea, which is plausible but has had only limited overt adoption, was the suggestion that the common equity portion of the rate base be restated on a current basis by applying index-number adjustments to the original dollars of plant

11. 43 P.U.R. (4th) at 550, 556.
12. Id. at 543.
14. Id. at 238.
15. Id. at 256.
representing common stock investment (and reinvestment through surplus).\textsuperscript{16} Given the added protection to "coverage" of senior security charges which would be achieved, this enhancement of the rate base would generate the needed dollars, he reasoned, to assure not only a flow of common stock investment but debt and preferred stock investment as well.\textsuperscript{17}

A few states have experimented with a variation of the Bonbright idea. For example, Illinois incorporated in its findings a "fair value" rate base arrived at by stating 76 percent of the used and useful plant at original cost and restating 24 percent of the plant at current cost.\textsuperscript{18} The percentages used by the Illinois Commission were a compromise from the 33 percent restatement proposed by the utility which had common equity amounting to 33 percent of capital structure.\textsuperscript{19}

Another variation of the Bonbright procedure appears in a new utilities regulatory scheme adopted by Texas in 1975.\textsuperscript{20} In the statute the term "fair value" is not used; instead, the commission is directed not to prescribe rates which will yield more than a fair return on an "adjusted value of invested capital." The commission is vested with discretion to fix an adjusted rate base with from twenty-five percent to forty percent restated at current cost and the remainder at original cost.\textsuperscript{21}

In neither Illinois nor Texas is the Bonbright suggestion fully applied however. In Texas, the actual rate of return is calculated using a wholly original-cost rate base and, after translation into dollars of return, the dollars are related to the "adjusted" rate base and a determination made as to the resulting rate of return on adjusted value, which is then deemed either "adequate" or "inadequate."\textsuperscript{22} The adjusted value thus plays no role in the actual generation of dollars of return. Bonbright presumably had in mind the actual utilization of an adjusted rate base by applying to it the rate of return percentage arrived at in an analysis of the entire capital structure.\textsuperscript{23} Such a procedure would determine the return or capital cost necessary for the common equity, combine that return with the embedded costs of debt and preferred stock by conventional weighting, and arrive at the overall rate of return to be applied to an adjusted rate base.\textsuperscript{24} The window-dressing role

\begin{itemize}
  \item \textsuperscript{16} Id. at 274-77.
  \item \textsuperscript{17} Id. at 280-81.
  \item \textsuperscript{18} \textit{In re Commonwealth Edison Co.}, 43 P.U.R. (4th) at 528.
  \item \textsuperscript{19} Id. at 527, 550.
  \item \textsuperscript{22} E.g., Houston Lighting and Power Co., 50 P.U.R. (4th) 157, 213-14 (Tex. 1982).
  \item \textsuperscript{23} J. Bonbright, supra note 13, at 191.
  \item \textsuperscript{24} Id. at 243.
\end{itemize}
assigned to the procedure in Texas has been approved by the judiciary.  

**AUGMENTING CASH FLOW WITHOUT FAIR VALUE**

*Modification of the “used and useful” rate base concept*

Wisconsin is one of the few states candidly treating the problem of permitting generation of enough dollars to service the entire debt and provide a return on the entire common equity devoted to the public service. A typical statement encountered in commission opinions is as follows:

Applicant’s average net investment rate base plus construction work in progress is 99.59 percent of capital applicable primarily to utility operations. This is a reasonable and just factor for use in translating cost of capital previously found reasonable and just . . . into return requirements applicable to net investment rate base.

However, even the Wisconsin approach does not ensure a “just and reasonable factor” where CWIP is substantially in excess of ten percent of the property base, as it may well be where nuclear plant construction is involved. The commission includes all CWIP not in excess of ten percent of the property rate base but insures only some cash flow for CWIP in excess of ten percent of rate base. This additional cash flow is accomplished by permitting the utility to capitalize AFUDC on the excess of CWIP over ten percent of rate base at seven percent and allowing the excess to earn a cash return at the difference between the AFUDC rate of seven percent and the composite cost of capital fixed for the utility. The commission expressed no concern over violation of the “used and useful property” concept; one can only conjecture as to what the commission would do if the excess was as substantial as it would be in the case of nuclear plant construction—a problem which has not arisen in Wisconsin, thanks probably to commission intervention.

The District of Columbia commissioners were, for many years, equally untroubled about the inclusion of CWIP in rate base and allowed a full return thereon in order to put CWIP on a “pay-as-you-go” basis and thus ensure the ability of the utility to meet “all its capital obligations.”

27. Id. at 397.
28. In re Potomac Elec. Power Co., 89 P.U.R. (N.S.) 483, 502 (D.C. 1951). See also 29 P.U.R. (4th) 517, 546-555 (D.C. 1979); The D.C. practice was judicially approved in Goodman v. Public Serv. Comm’n of D.C., 497 F.2d 661 (D.C. Cir. 1974), the court noting that “the funds [were] being used for the benefit of the public just as much as funds invested in plant in service . . . .” particularly where “the record has demonstrated a continuing need for permanently financing a large construction program.” Id. at 668-69. An argument that the responsibility should properly fall on the investors was turned aside on the ground that this “overlooks the fact that . . . Pepco has not capitalized interest during construction” and that “[t]he utility must be compensated either by including in the rate base interest during construction [AFUDC] or by including in the rate base the value of funds invested in the plant during construction.” Id. at 667-68.
approach was continued down to 1982 when the District Peoples Counsel successfully argued that unfairness resulted from this violation of the “used and useful” concept and this distortion of the conventional-test-period approach; a substantial factor in the policy reversal was, expectably, the long periods involved in the construction of nuclear powered plants. The D.C. commission thus abandoned a procedure which moved towards a capitalization rate base, and joined the ranks of the majority of state commissions stating: “We find that it is time to strike a more equitable balance between Pepco and its present and future customers... We believe that as a matter of policy, present customers should not pay for facilities that will be used to provide service for future customers.”

The rejection by the D.C. commission hardly represented a return to the prior “used and useful” rate base, with CWIP moved into it only when the new plant came “on line;” the “cash flow” problems precipitated by large scale, long-term construction, even though non-nuclear, financed in substantial part by outside capital, have still to be met. An early instance of “strategic behavior” required to meet such “cash flow” needs under the new policy quickly surfaced in a telephone rate case; the utility urged inclusion of short-term CWIP in the rate base, even though not yet on line, in order to generate more income. Somewhat of a *tour de force* was necessary to accommodate the D.C. commission’s departure from its recent restoration of the “used and useful” rate base concept; it was said that CWIP had been excluded from the rate base not on the “used and useful” doctrine but on the fact that the company capitalized interest on its construction projects. Since it was now including CWIP in the rate base without capitalized interest, it could not be violating the “used and useful” doctrine!

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30. Id. at 555. The D.C. Commission expressed concern about “the inordinately long time that... units have been under construction and earning a return without any tangible benefits flowing to consumers.” Id.
31. Id. at 554.
32. The term “strategic behavior” was used by Baron & Taggart, *Regulatory Pricing Procedures and Economic Incentives*, in *Issues in Public Utility Pricing and Regulation* 27 (1980) to refer to the practices resorted to by regulated firms to influence regulated prices and enhance profits where limitations of regulatory authorities in their price-setting procedures preclude consistency with economic-efficiency criteria. It is used here also to include practices to improve cash flow accomplished by regulatory authorities by manipulation of their highly structured regulatory formats.
34. Id at 182. A utility would hardly argue for both inclusion of CWIP in the rate base and continuance of capitalizing AFUDC thereon in the same period; it would, however, argue for the inclusion of CWIP and AFUDC up to the point of inclusion in order to achieve “pay-as-you-go” status for CWIP and alleviate cash flow problems. A clear violation of the “used and useful” rate base principle is thus necessarily involved.
The Federal Power Commission (Now FERC) Policy Announcement on Inclusion of CWIP in Rate Base

The policy change at FERC and the statements which accompanied its announcement provide dramatic evidence of what has happened in utility financing, primarily as a result of the advent of nuclear plant construction. The commission, in announcing a rule permitting the inclusion of CWIP in the rate base, said:

The FPC will permit, in individual proceedings, inclusion of CWIP in rate base where the utility is in severe financial stress. The financial circumstances that we contemplate are those in which it would be clearly detrimental to utility wholesale customers if some amount of CWIP were not permitted in rate base. In particular, we envision a situation in which the rate of return necessary to enable the utility to maintain its credit and attract capital in accordance with the standards of the Bluefield [262 U.S. 679 (1923)] decision would be materially in excess of the cost of capital for otherwise similar utilities. Such a circumstance might arise, for example, where the exigencies of the utility's construction program are such as to reduce its interest coverage to such an extent that additional capital cannot be raised at reasonable rates and that an amount of earning sufficient to attract capital would require a rate of return on equity substantially in excess of the cost of equity capital to otherwise similar electric utilities. Under such circumstances, it would be to the benefit of the consumer if the additional earnings necessary to attract capital were permitted by way of a return on CWIP rather than by way of an inflated return on the traditional rate base since the former treatment would eventually be reflected in a lower rate base by way of reduced AFUDC allowance, while the latter would not.35

The commission recognized a number of factors militating against the blanket inclusion of CWIP in all cases, the primary one being the familiar fact that there may be a lack of identity between present ratepayers and the future ratepayers who are the primary beneficiaries of including CWIP in the rate base. But it would not adhere to an absolute rule that plant must be "used and useful" in the traditional sense before inclusion in the rate base, noting that "[w]here the plant not under construction, the consumers might well be facing a certain danger of future power insufficiency."36


36. Id at 2943. Adoption of the rule has precipitated opposition at both state and national levels, particularly since FERC removed the test of "severe financial distress" and permitted utilities subject to its jurisdiction to file for inclusion of 50% of CWIP in rate base. See 18 C.F.R. 35.26 (c)(3) (1984). See also editorial comment, 111 Pub. Util. Fort. March 31, 1983 at 37, 40. For later developments, particularly the introduction and progress of H.R. 555, Construction Work in Progress Policy Act of 1982, see 113 Pub. Util. Fort. 50, 53 (March 1, 1984). The bill would restrict the inclusion of CWIP in the rate base to instances in which the internally generated cash flow of a utility is less than 40 percent of construction expenditures.
The FERC Approach in State Practice; New Jersey

The impact of the FERC approach on the search for adequate cash revenues was illustrated in a rate case recently decided by a New Jersey utilities board. The total capital structure amounted to approximately 5.8 billion dollars, the common equity accounting for some 2.2 billion dollars. The total rate base included CWIP of some 1.36 billion dollars and amounted to 5.6 billion dollars or 95.5 percent of capitalization. The commission allowed a common equity return of 16 percent and an over-all rate of return of 10.67 percent. Had CWIP not been included, the return for the common stock would have been short by some 150 million dollars of achieving a sixteen percent return on the common equity of 2.2 billion dollars. That shortage in cash flow, or at least part of it, would have had to be made up from other sources of cash flow including, of course, the possible increase in the rate of return. Bonbright, writing in 1961, thought that inclusion of large amounts of CWIP in the rate base would be a questionable departure from the "used and useful" rate base principle. However, might he not countenance such a departure where the financial integrity of a utility is seriously threatened rather than resort to an arbitrary increase in the rate of return to close the gap between earnings on a "used and useful" rate base and the demands of the utility capital structure? In the New Jersey case, for example, to provide an additional 150 million dollars in net operating revenue (NOR) on a rate base excluding CWIP would have meant increasing the allowed rate of return from 10.67 percent to over fourteen percent, an increase obviously difficult for consumer groups to accept.

Typically, once a commission realizes that traditional capitalization of AFUDC will not solve the cash problem because the time lag is too great, the "used and useful" concept as a governing principle is played down and instead the talk shifts to balancing the burdens between rate payers and shareholders, thus enabling the commission to include some, but not necessarily all, of CWIP. Such criteria (as when CWIP will go "on line" or what percentage of the rate base will be permitted as CWIP) are not abandoned but the primary issue becomes the effect on investors' criteria such as coverage for the debt, with and without capitalizing AFUDC, and what percentage of earnings is represented by capitalized AFUDC, together with the rate of discount that is applied by the market to such earnings.

38. Id. at 334.
39. Id. at 336.
40. J. Bonbright, supra note 13, at 178.
41. 46 P.U.R. (4th) at 335-36.
42. E.g., In re Commonwealth Edison Co., 43 P.U.R. (4th) at 523.
43. Id. at 521-26, 549.
The modification of a fair return on the used and useful plant in service to include a fair return on at least part of CWIP and the accompanying capital obligations invested in utility plants is also dramatically illustrated by amendments to the North Carolina regulatory statutes during the 1970's. A pertinent excerpt follows:

In fixing . . . rates, the Commission shall . . . ascertain the reasonable original cost of the public utility's property used and useful, or to be used and useful within a reasonable time after the test period [less recovered depreciation] . . . plus the reasonable original cost of investment in plant under construction [CWIP] . . . In ascertaining the cost of the public utility's property, [CWIP] . . . as of the effective date of this subsection shall be excluded until such plant comes into service but reasonable and prudent expenditures for . . . [CWIP] after the effective date of this subsection may be included, to the extent the commission considers such inclusion in the public interest and necessary to the financial stability of the utility in question . . .

Fix such return on the cost of the property . . . as will enable the public utility by sound management to produce a fair return for its shareholders . . . maintain its facilities and services in accordance with the reasonable requirements of its customers . . . and . . . compete in the market for capital funds on terms which are reasonable and which are fair to its customers and to its existing investors . . .

In processing rate applications after enactment of the statute, the commission might have reasoned that the language in the second paragraph quoted above authorized it to fix a return adjusted to include current compensation for capital obligations representing CWIP since that was necessary to "maintain its facilities and service in accordance with the reasonable requirements of its customers." However, that would probably have entailed too sharp a departure from the property-rate-base concept. Instead, the shift (as noted below) was the inclusion of so much of CWIP as "necessary to the financial stability of the utility."

The North Carolina legislature was certainly influenced by the same considerations which influenced FERC in adopting its 1976 CWIP policy. FERC noted that construction capital might be so costly as to reduce interest coverage and require a return on equity "substantially in excess of the cost of equity capital to otherwise similar utilities" and concluded that:

it would be to the benefit of the consumer if the additional earnings necessary . . . were permitted by way of a return on CWIP

rather than by way of an inflated return on the traditional rate base since the former treatment would eventually be reflected in a lower rate base by way of reduced AFUDC allowance while the latter would not.\textsuperscript{45}

In a case arising under the noted statute, a utility proposed inclusion of substantially all CWIP,\textsuperscript{46} but after hearing testimony the commission included only that amount of CWIP in the rate base sufficient to increase interest coverage (without AFUDC inclusion) from 2 to 2.5. In summary, the commission said:

When this level of coverage is considered along with such other indicia as CP&L'S capital structure (38 percent equity), the percentage of AFUDC in earnings, the fact that the new Mayo I plant will be on line in 1983, and the recent sale of plant to the power agency, the commission concludes that today's order will allow the company to maintain its financial stability.\textsuperscript{49}

The effect on common equity earnings was to increase them from 101 million dollars to 145 million dollars. To accomplish the same result through the overall rate of return would have required an increase from 11.57 percent to 14.7 percent. As in the New Jersey case,\textsuperscript{48} this would obviously be a less palatable mode of procedure to consumer advocates.

\textit{Other Commission Responses—Louisiana}

The Louisiana commission has not been unresponsive to the problem of maintaining a utility's financial stability where a substantial portion of its capital obligations must carry non-earning CWIP. The following quotations from a 1980 Louisiana order present an interesting exercise in justification of commission departure from the "used and useful" rate base.

The commission generally has adhered to the regulatory policy that would require an inclusion of AFUDC in adjusted operating income at the fair rate of return. However, in the recent past this commission and other regulatory bodies have found it necessary to compromise this principle to accommodate a more pressing public utility requirement: the need to attract capital to finance construction. This need must be met in order for utilities to be able to properly serve their customers. The capital markets, with or without good reason, have come to regard "real earnings" as more valuable than AFUDC. Thus, the full amount of AFUDC in many instances is not counted in computing the fixed charge

\textsuperscript{45} F.P.C. Order No. 555, supra note 35. See also supra note 36 for broadening of the rule by FERC.
\textsuperscript{47} Id. at 254.
\textsuperscript{48} See supra text accompanying note 41.
capital coverages of a company. In instances in which utilities have disproportionately large construction programs, the application of a policy that requires the inclusion of AFUDC in operating income at the full rate prevents the utility from meeting coverage requirements and attracting capital. . . .

The massive construction program of Gulf States requires the attraction of large amounts of capital, and the coverages required for this action would not be achieved without the allowance of more "real earnings" than would be realized under a "net" rate of AFUDC . . . .

In this case, a significant amount of the CWIP of Gulf States is invested in the River Bend nuclear project. An expert recommended . . . that the River Bend CWIP be excluded from the amounts used to compute AFUDC. The ten-year study . . . of the construction and capital requirements of Gulf States indicates that, if this approach is adopted, Gulf States will be able to finance its construction program. This recommendation will be accepted by the commission. A reduction of $18,731,000 in the amount of AFUDC included in operating income is required.49

In light of the method used in handling AFUDC, it was unnecessary for the commission to indicate the dollars of CWIP which were, in effect, included in the earning rate base. The utility in question operates in two jurisdictions so that the capital obligations data consist only of the capital structure stated in percentages of debt, preferred stock, and common equity.50 Thus, the opinion gives no indication of the dollars required to service the capital obligations carrying plant in service and CWIP; however, the CWIP included in the rate base is obviously the plant under construction represented by 18.7 million dollars of AFUDC. The increase in the rate of return which would be required if this item of CWIP were not included in the rate base cannot be accurately determined. We know only that the 18.7 million dollars represents some 2.2 percent of the 10.8 percent rate of return allowed by the Louisiana commission.51

To an unpracticed eye, the Louisiana Commission seems to be departing from the principle of including only used and useful property in the rate base. However, while the statement is made that CWIP is "included

50. Id. at 599.
51. Id. at 599-600. This assumes that the $94.6 million allowed Net Operating Income (NOR) includes $18.7 million AFUDC and that excluding that amount in calculating a rate of return would reduce the rate from 10.8% on the allowed rate base of $878.5 million to 8.6% on that base, a difference of 2.2%. Some indication of the role of this concession is given, perhaps, by comparing the return on common equity of 17.5% to 18.5% said to be required by experts for the utility, with the 13.75% to 14.25% allowed by the commission although, again, since data on the capital obligations was not included in the opinion, no accurate inferences can be drawn as to the equity rate of return which would have been required absent the commission concession.
in the rate base" together with interest capitalized (AFUDC), the effect of the inclusion is normally negated (in terms of allowing "real" earnings thereon) by the practice of adding AFUDC to net operating income (NOR), thereby preventing the included CWIP from remediying any deficiency in revenue. It should be noted that the dollars of needed NOR are determined by applying the rate of return to a rate base including CWIP, but the deficiency in dollars, if any, is determined by deducting therefrom the test period NOR which includes AFUDC. Thus, normally no real dollar deficiency will be generated by the inclusion of CWIP in rate base. This elaborate charade provides the backdrop against which the commission could, in this case, grant relief to assure "attraction of capital" by stating that it would "eliminate the AFUDC entry [as to a nuclear plant under construction], resulting in higher rates but decreasing the amount of the rate base in the future on which ratepayers must pay the fair rate of return and which would be returned to the utility through depreciation." In other words, if AFUDC is not used to increase NOR it will not be added to CWIP as future rate base.

"Matching" Used or Useful Property With The Revenue Requirement or "Matching" the Revenue Requirement With Capital Obligations

To many state commissions compelling arguments persist for refusing to allow a current cash flow on CWIP. It is suggested that in a competitive environment no return is earned on CWIP and cash flow problems must be solved as best they can be by corporate ingenuity and innovation; comparable incentive in the regulated utility field must be provided by the regulators. There is growing recognition, however, that the problems posed by nuclear plant construction are of such magnitude that time-honored principles of regulation must give way if the problems are to be solved. A Maine commission expressed it this way:

52. Id. at 595.
53. Id. at 597.
54. Id.
55. The alternative approach of excluding CWIP at the outset and then including some or all of it as dictated by financial need has the advantage of simplicity; interest expense and other capital charges (AFUDC) can be reduced "below the line" to the extent capitalized. (e.g., see, 18 C.F.R. pt. 104, Elec. Plant Instructions 2(B) at 446-47 (1984). A determination of the rate of AFUDC to be capitalized must, however, then be made using the rate base plus CWIP to accomplish "interest synchronization," e.g., In re Bangor Hydro-Elec. Co., 46 P.U.R. (4th) 505, 541-42 (Me. 1982). FERC requires use of a formula for utilities subject to its jurisdiction which gives what it deems proper weight to the role of short-term debt in the financing of construction, e.g., In re Arizona Pub. Serv. Co., 46 P.U.R. (4th) 242, 247 (FERC 1982). But a number of states lump all debt together for a simpler calculation of the AFUDC rate (e.g., 46 P.U.R. (4th) at 558). The resulting rate of return is then used for the capitalization of AFUDC until modified by later rate cases and assures the utility of complete recovery of all capital costs incident to CWIP through subsequent depreciation charges. Id. at 552-53.
The experience of recent years shows that, as construction budgets and financing costs rise, strict adherence to the matching principle may be achieved at the cost of rates that are higher than would otherwise be necessary. Thus, a utility with a large amount of plant under construction, which generates only non-cash earnings pursuant to the matching principle, may find that access to capital to continue construction may only be had on terms less favorable than those extended to a utility with smaller capital requirements or larger cash earnings.

Were the commission to be faced with such a situation, it would have to assess the comparative costs and benefits to ratepayers, investors, the utility, and the public interest of adhering to the matching principle and the construction program in the face of rising capital costs, or of deviating from either the principle or the program to some degree in order to preserve the financial integrity of the utility. Thus, were the commission to conclude from the evidence before it that continuation of its policy denying a current cash return on CWIP would have a substantial adverse effect upon the utility’s financial condition in the face of a necessary construction program, it might well alter that policy to the extent necessary to prevent the harm and to assure that needed plant could be built on reasonable terms.56

Strategic Behavior; Manipulation of the Rate of Return

The Illinois commission’s approach to the problems of one of its giant utilities57 illustrates the kind of “strategic behavior” engendered by the need to bridge the enormous gap which develops when major nuclear construction is excluded from the rate base but capital obligations necessitated by the construction must nonetheless be provided for in the calculation of revenue requirement.

In the Illinois commission’s analysis of statistics vital to the utility’s financial health, it was noted that test-year data indicated that AFUDC additions to NOR represented eighty-six percent of the “earnings” per common share, that this percentage would increase in the following year to ninety-five percent and that the utility had been forced to sell additional securities in order to keep itself in funds to pay common and preferred dividends and to pay interest on its debt.58 This procedure, innovative though it might be, inevitably contributed to the deterioration in earnings and the

58. Id. at 521-22. The Financial Standards Accounting Board, the chief rulemaking body for accountants, is considering proposed rules which would limit a utility’s ability to defer costs and claim profits that haven’t been realized as they now can, using AFUDC procedures. See Wall Str. J., Nov. 20, 1984, at 33, col.3.
The Illinois commission determined a rate base of some 4.1 billion dollars at original cost which, with other rate base items, aggregated to some 4.8 billion dollars; to this it added 730 million dollars of CWIP, which resulted, with other adjustments, in a rate base of some 5.4 billion dollars.\(^5\) This base was used to provide for revenue requirements (and cash needs) to service capital obligations aggregating 9.6 billion dollars.\(^6\)

Obviously the cash flow deficiency of a utility in which forty-eight percent of total capitalization was represented by CWIP and eighty-six percent of earnings for common equity was represented by AFUDC, could not be remedied by including this modest portion of CWIP in the rate base. The utility proposed that in such circumstances, not less than an eighteen or nineteen percent return was required for common equity. The staff proposed approximately sixteen percent. The commission concluded:

> It is essential to the company and its ratepayers that the cost of external financing be kept at a minimum, to the extent that such control can be reasonably and fairly maintained. In its most recent credit rating, Edison was classified as an A/A-company in the financial market. This rating cannot reasonably be expected to be maintained without giving heed to the quality of certain financial ratios and the company’s continuing ability to attract financing. These ratios were set forth and made a part of the commission’s interim order. Since the commission’s interim order, the cost of capital has continued to rise. A reexamination of these ratios based on the current costs of capital indicates that a 17.5 percent return on equity should result in a pretax interest coverage, including AFUDC, of approximately 2.36 times.\ldots

The commission’s decision regarding a fair rate of return must be one based on reasoned judgment. The commission, in reaching its decision on a fair rate of return, has considered the continuing inflation in our economy, the volatile nature of current interest rates, the generally depressed condition of the electric utility common stocks, the deratings of the company’s debt, the limitations of current regulatory tools, and the decision to include certain construction work in progress in rate base.\(^6\)

At this point the opinion grows vague. The Illinois commission allowed a rate of return of 11.9 percent and applied the rate to an original-cost rate base which included some 730 million dollars of CWIP (out of total CWIP of some 4.6 billion dollars).\(^6\) The commission then cagily translated the allowed rate into a rate of return on a “fair value” rate base of 7.6


\(^6\) Id. at 549-50.
billion dollars and noted that such return was a modest 8.52 percent; however, as noted below, neither this rate nor the fair-value rate base was used in determining the dollars of revenue requirement. The show-case 8.52 percent was calculated by applying the rate of return of 11.9 percent to the original-cost rate base to arrive at 647 million dollars as needed NOR; 647 million dollars over a fair-value rate base of 7.7 billion dollars then yielded 8.52 percent as the “showcase” rate of return.

The commission did not choose to carry its reported calculations further. However, the capital structure requirements in dollars would seem to emerge as follows:

**Pro-Forma Capital Structure:** (000 omitted)

<table>
<thead>
<tr>
<th>Embedded Revenue</th>
<th>Amount</th>
<th>% of Total</th>
<th>Revenue Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounts Payable</td>
<td>90,400</td>
<td>.943</td>
<td>0%</td>
</tr>
<tr>
<td>Pollution Control Bonds</td>
<td>60,000</td>
<td>.626</td>
<td>11.71</td>
</tr>
<tr>
<td>Long-term Debt</td>
<td>5,035,864</td>
<td>52.551</td>
<td>9.13</td>
</tr>
<tr>
<td>Preferred Stock</td>
<td>1,133,975</td>
<td>11.834</td>
<td>9.42</td>
</tr>
<tr>
<td>Preferred Stock</td>
<td>48,153</td>
<td>.503</td>
<td>4.48</td>
</tr>
<tr>
<td>Common Equity</td>
<td>3,214,360</td>
<td>33.543</td>
<td>17.50</td>
</tr>
<tr>
<td><strong>$9,582,752</strong></td>
<td></td>
<td>11.9%</td>
<td><strong>$1,138,235</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Amount</th>
<th>% of Total</th>
<th>Rate of Return</th>
<th>NOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounts Payable</td>
<td>90,400</td>
<td>.943</td>
<td>11.9%</td>
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<td></td>
</tr>
</tbody>
</table>

63. Id.

64. That this was the manner of proceeding is inferred from the conventional manner of determining an allowable rate of return, id. at 550, and use thereof in supplementary calculations, id. at 538. The formal findings of the commission mention only the "reasonable" rate of return on "fair value" without indicating the derivation of the "reasonable" rate of return.

65. Id. at 550. Revenue required has been calculated from the tabular presentation of capital costs. The following year the utility was again at the commission door urging that it was unable to generate additional external funds needed to carry on another year of construction and related financial adjustments without an emergency increase in revenues to remedy a shortfall in actual earnings and rate of return on investment. In re Commonwealth Edison Co., 49 P.U.R. (4th) 62, 67 (Ill. 1982). The utility testified that a permanent increase of $805 million in gross revenue was needed in order to achieve the 17.5% rate for the common equity which the commission had approved the preceding year. In re Commonwealth Edison Co., 43 P.U.R. (4th) at 549. Had the capitalized NOR estimated in the table, and presumed to be deferred for future recovery, been permitted current recovery in gross revenues before taxes, it would have enabled the utility to achieve the granted 17.5% return for the common stock as well as to cover the increased cost of debt with which the utility was faced in 1982. The commission, acting as it is on an emergency interim basis, granted an increase of $324 million, noting that further relief, if any, must await a review of the present and forecasted rate base and a redetermination of the proper rates of return.
The opinion does not set forth the underlying calculations but an increase in NOR to the amount indicated would indeed improve coverage for the bonds; significantly, however, the interest coverage of 2.36 times which was deemed adequate was determined by including AFUDC of the magnitude estimated in the table above. Inclusion of more CWIP in the rate base would have commensurately reduced the NOR capitalized and hence left for future recovery.

Strategic Behavior: Normalization of Tax Benefits versus "Flow Through"

If only a limited portion of a substantial, probably nuclear, CWIP is included and if only an inadequate increase in the rate of return is forthcoming, to what other sources of cash flow may a utility look to help bridge the gap between the allowed rate base and its capital obligations? One of the sources of additional revenue is the willingness of some commissions to allow normalization of tax benefits arising from investment tax credits and from liberalization of depreciation deductions for tax purposes. Congress, in providing such tax benefits through accelerated depreciation and other changes, had in mind a sharing between rate payers and investors; conditions imposed may require a state commission to permit the use of such procedures as "normalization," or accruing or deferring tax expense, rather than "flowing through" as an immediate benefit solely to current ratepayers. Where normalization of taxes is permitted, the usual utility practice is to determine federal income tax expense as if the utility has not taken advantage of tax benefits available so as to present commensurately larger income tax expense and commensurately greater revenue requirements.

On the other hand, if a commission accepts the reasoning of such analysts as Davidson, these tax benefits are required to be "flowed through" i.e., the tax expense for rate purposes is deemed to be the lower amounts paid as a result of investment tax credits and larger depreciation

66. Id. at 549. 86% of common earnings (amount of AFUDC included therein, id. at 522) if added to allowed NOR would approximate this coverage. Coverage without AFUDC on the basis of the estimates in the above table would be on the order of 1.4 times rather than 2.36 times. The effect of AFUDC in concealing actual current return on common equity was informatively revealed in a study by P. R. Chandy and W. N. Davidson III, AFUDC and Its Impact on the Profitability of Electric Utilities, 112 P. Util. Fortnightly, 34 (Aug. 4, 1983). The study indicated that, for a recent year, elimination of AFUDC amounting to 82.9% from the NOR of Commonwealth Edison reduced return on equity from 13.8% to 2.44%.


deductions for income tax purposes. This is done on the theory that such
tax savings for a growing utility will continue into the indefinite future and
will not be offset by later tax detriments when the accelerated depreciation
deductions are exhausted and thus give way to smaller depreciation deduc-
tions resulting in larger tax payments later. The Louisiana commission is
one of many state commissions accepting the Davidson recommendations
of "flow through" of tax benefits—it has rejected the normalization pro-
cedure whenever it could and derisively called such taxes "phantom" taxes.71

Florida leads in thoroughgoing adoption of normalization of tax ben-
efits arising from accelerated depreciation deductions and investment tax
credits, as well as other expenses having accrued or deferred effects due to
a time lag.72 In adopting normalization for telephone ratemaking the Flor-
ida commission said:

The question arises whether our requiring the use of full nor-
malization accounting benefits the ratepayers as well as the utili-
ties. The record clearly reflects this question must be answered in
the affirmative for a number of reasons. First, the ratepayers rec-
ognize the benefits of the cost reduction; that is, the tax reduction
will be passed on to the future ratepayers who will be paying for
the tax deductible charges through increased depreciation expense
during the useful life of the property, rather than to the present
ratepayers during the time the property is being constructed. It
should also be pointed out that while the full normalization con-
cept will require higher rates at first than the partial normalization
concept, future ratepayers will not be required to pay previous
customers' tax expenses in the form of higher rates. Thus, future
rates will be lower than they otherwise would have been. . . .

We also find that the current ratepayers will benefit by a larger
amount of cost-free capital, which results in a lower cost of capi-
tal. Moreover, the record reflects that the utilities will benefit from
increased cash flow to assist them in financing their construction
programs. These expanded facilities will in turn benefit the future
customer as well because of the availability of service. Finally, it
is clear that revenues will be properly matched with expenses. This
will result in a higher quality of earnings which should produce
lower financing costs due to higher bond ratings which inure to

71. Id. at 153. The commission honors the Congressional admonition, denying the
tax benefits of accelerated depreciation if a regulatory commission required the benefits
to be "flowed through" to rate payers. See, e.g., Ex Parte South Central Bell Tel. Co.,
15 P.U.R. (4th) 87, 118 (La. 1976). However, as to state taxes, no normalization has
been permitted. See, e.g., 20 P.U.R. (4th) at 153-54.
(Fla. 1980).
the benefit of the ratepayers.73

After passage of the Economic Recovery Tax Act of 1981, property placed in service after December 31, 1980 will not be subject to accelerated depreciation tax benefits, or investment credit benefits unless those tax benefits are subject to normalization. As to such property, regulatory commissions are precluded from requiring flow through of tax benefits without also risking denial of those tax benefits,74 however, regulators do not deem themselves precluded from regarding the deferred credits or accrued taxes arising from normalization as cost-free capital and from deducting such capital from the rate base in setting rates.75 The “cash-flow” benefit is thus limited to the additional tax expense normalized in the determination of net operating revenues. This required equitable split of tax benefits between ratepayers and investors must be compared with the “at one-time” statutory requirements of the Investment Tax Credit Act which apparently required inclusion of savings (deferred taxes) in the rate base and in the capital structure so as to ensure the benefit inured primarily to the common stockholder.76 The section was interpreted, however, to permit the return on this cost-free portion of the rate base to be measured by the over-all rate of return rather than the higher common equity rate of return.77

Cash Flow Role of Normalization

What role does the normalization process play in bridging the gap between an original-cost rate base and the utility's capital structure when not all of CWIP is permitted to be added to the rate base? As previously noted, the procedure involves increasing tax expense for purposes of determining NOR for rate purposes by an amount sufficient to equalize actual tax expense with pro-forma expense if the tax benefit of depreciation acceleration were not utilized. As an expense, the taxes are recoverable in allowed rates, and the enhanced cash flow is assumed to be channeled into

73. Id. at 521-22.
75. See, e.g., In re. Nevada Power Co., 46 P.U.R. (4th) 1, 26-27, 30(Nev. 1982). An interesting development in this area has occurred as a result of the break-up of the AT&T system and the transfer of customer-provided equipment from the operating companies to the mother company net of any deferred taxes accumulated as to such property. The reorganization plan provided for transferring the deferred taxes to the transferor's common equity, a procedure resisted by some regulatory commissions on the ground the accumulation represented contributions which should be returned to the ratepayers through tax reductions and deducted from the rate base as cost-free capital. The development, including an IRS ruling favoring the reorganization plan, is discussed by Majoras, Telephone Company Deferred Taxes and Investment Tax Credits—A Capital Loss for Ratepayers, 114 Pub. Util. Fort., (21 Sept. 27, 1984).
77. 668 F.2d at 1337.
construction costs. But, as cost-free capital, it is deemed properly deduct-
ible in the form of deferred taxes from the rate base on which needed NOR
is to be calculated, thus widening the gap between earning rate base and
demanding capital obligations.\textsuperscript{78}

The effect is illustrated in a proceeding before the Illinois commission
in 1977.\textsuperscript{79} CWIP amounted to 279 million dollars; 80 million of CWIP, or
10 percent of the rate base, was allowed in the base on the theory it would
shortly be “on line.”\textsuperscript{80} However, the “gap-closing” benefit was negatived
since deferred taxes resulting from normalization also amounted to some
80 million dollars and were deducted in arriving at the earning rate base.\textsuperscript{81}

Closing the gap rather than widening it was the more appropriate pro-
cedure to the New Jersey commission in a recent case.\textsuperscript{82} The commission
was undeterred by the “used and useful” concept and included in the rate
base not only all CWIP and nuclear fuel in excess of 1.5 billion dollars,
but future plant sites as well,\textsuperscript{83} thus closing the gap to within 200 million
dollars of capital obligations; the rate base was fixed at 5.6 billion dollars
with capital obligations equaling 5.8 billion dollars.\textsuperscript{84} Here too, included
in capital obligations were deferred taxes or “cost-free” capital in the
amount of 386 million dollars which in Illinois would have been deducted
from the rate base and would thus have required a commensurately higher
return to assure required cash flow; New Jersey regulators chose not to
make this deduction and applied the determined rate of return to a rate
base of 5.6 billion dollars.\textsuperscript{85} Because of differences in time periods and
regions it is impossible to compare the effect on the respective common
equity requirements in New Jersey and Illinois, but it seems obvious that
the greater the gap between the rate base and capital obligations, the greater
the reliance must be on “strategic behavior” such as increasing common
equity rate of return or normalization of taxes, where CWIP is of such
magnitude as to make capitalized AFUDC for future earning power not
an adequate solution.\textsuperscript{86}

\textsuperscript{78} See, e.g., In re Houston Lighting & Power Co., 50 P.U.R. (4th) 157, 167-68
(Tex. 1982).


\textsuperscript{80} Id. at 428-29.

\textsuperscript{81} Id.

\textsuperscript{82} In re Public Serv. Elec. & Gas Co., 46 P.U.R. (4th) 322 (N.J. 1982).

\textsuperscript{83} Id. at 335.

\textsuperscript{84} Id. at 336.

\textsuperscript{85} Id. The argument is made that ratepayers, suppliers of the funds represented by
defferred taxes, are entitled to both a return on and a return of their capital and that
stockholders should not receive that return by allowing deferred taxes in the rate base.
plausible, the argument will sometimes, as in New Jersey, be rejected in favor of a pressing
need for revenue.

\textsuperscript{86} As indicated earlier, a commission will rarely portray in dollars the complete
effects of its strategic moves to assure “ability to attract financing” and hence will leave
somewhat obscure the real return for the common equity. An analysis sometimes concludes
with statements such as one noted from the Illinois commission “a 17.5% return on
equity should result in a ‘pre-tax’ interest coverage, including AFUDC, of approximately
2.36 times,” omitting the more meaningful interest coverage, i.e., excluding AFUDC. In
Strategic Behavior; Capitalization of AFUDC at Net of Tax Rather Than Gross of Tax

The accounting method used to achieve capitalization of AFUDC and normalization of taxes can play a role in revenue generation strategy to maintain financial integrity during a large construction program. Thus, if a so-called “gross of tax” method of normalization is adopted, the AFUDC is capitalized without reflecting any benefit from the tax deductibility of interest. Tax expense is then increased by an amount necessary to bring it to the level it would have been absent accelerated depreciation tax benefits, and the offset is carried to a deferred tax account. For rate-making purposes the deferred tax account is deemed deductible from the rate base on the theory that it is cost-free capital on which no return should be paid. If deducted from the rate base before the related CWIP is put in service, the effect is to partially offset the benefit to the utility of the cash flow engendered by normalization. If deducted only when CWIP is put in service, the utility receives the full benefit of normalization currently and the ratepayer enjoys the benefit of lessened depreciation deductions during the service life. The Maine commission has dealt frequently and at length with the strategic behavior possible in this area; its normal procedure has been to insist on flow through of tax benefits on the ground that “matching” principles support it and to require AFUDC capitalization on a “gross of tax” basis. However, on a showing of a substantial threat to interest and dividend coverages, the commission has permitted full normalization of taxes without reduction of the rate base, finding justification in its assumption that such action was superior to “artificially inflating the cost of equity” and that “additional revenues provided today will at least be reflected in a somewhat smaller rate base at the time that the new plant becomes operational.”

If a “net of tax” treatment is adopted, AFUDC is capitalized less the tax benefit factor contained in AFUDC. If normalization is then permitted, the offset of the normalization increase in taxes may be added to NOR, thus restoring it to the same level that would obtain if a gross AFUDC rate and deferred tax accounts were used. Absent normalization, capitalizing AFUDC “net of tax” would leave the tax element in the current

87. See, e.g., supra text accompanying note 73.
88. See, e.g., supra text accompanying note 81.
90. Id.
91. Id. at 546.
92. See, e.g., In re Pub. Serv. Co. of Ind. Inc., 17 P.U.R. (4th) 270, 286 n.17 (FPC 1976): “The tax reduction for interest related to CWIP charged to operating expense accounts is reflected in [lesser] AFUDC capitalized rather than in deferred tax accounts.” With normalization the equivalent amount of tax reductions is charged to current tax expense and credited to income “below the line” thus restoring “below the line” income to the same level that would obtain if a gross AFUDC rate and deferred tax accounts were used.
interest requirement to be met, along with other return requirements, out of NOR. "Net of tax" treatment with "flow through" would thus generate cash flow but only to the extent of this interest element.

Strategic Behavior; Computation of the Capitalization Rate for AFUDC

The rate used in capitalizing AFUDC is obviously related to the source of the funds used in such construction. Thus, if funds used are primarily short-term debt, their usually higher cost should be reflected in AFUDC. FERC evolved a procedure for assuring the utility that it would recover its full cost for such funds in depreciation charges by assuming that the cost of all short-term debt on the utility books was in AFUDC; the formula assigned first place to this debt cost in determining the capitalization rate for AFUDC and any remaining balance was assumed to be carried by long-term debt, preferred stock, and common equity.

A variant of this procedure presents another strategic device for improving cash flow. If permitted to do so, a utility may deliberately compute AFUDC at a lower rate than the current cost of capital, thus removing a lesser amount from current revenue requirements. If a commission is sympathetic to a utility's cash needs it may very well permit the practice; in effect, this is the equivalent of increasing the rate base by an additional amount of CWIP. If, on the other hand, a commission is unsympathetic, the practice will be dealt with as it was by a Louisiana commission:

The . . . problem concerning AFUDC relates to the computation by Gulf States of AFUDC at a rate of 7.5 percent on CWIP. While this rate may have represented the cost of obtaining capital in the past, neither Gulf States nor the commission proposes that this is the cost of capital today. Thus, computing AFUDC at 7.5 percent defers only a portion of capital costs, to be paid by future ratepayers, and requires current ratepayers to bear some costs associated with plant that will be in service in the future. The commission believes that AFUDC should be computed at a figure more representative of the true overall cost of capital and should also take

93. See, e.g., In re Central Me. Power Co., 26 P.U.R. (4th) at 411-12. The utility argued that it should be permitted to capitalize AFUDC and add to NOR at a rate "net of taxes," that is, a capitalization rate which was reduced as a result of the tax deduction for the interest component of the cost of capital devoted to CWIP. Without normalization as described supra text accompanying note 92, the utility would then have the benefit of a higher interest element in calculating any deficiency in resulting NOR.

94. In Ex parte Gulf States Utilities, Docket Nos. U.-15640, 15641 (Dec. 12, 1983), the commission allowed computation of AFUDC on a "net-of-tax" basis without normalization under what appears to be the erroneous impression that this action was "effectively eliminating current earnings of CWIP."

into account the rate of return earned by Gulf States. The commission will compute AFUDC at 8.7 percent . . . . 96

An approach more sympathetic to the need for cash flow was adopted by a Wisconsin Commission:

Applicant presently used a 7 percent, allowance for funds during construction (AFUDC), rate on amounts in excess of 10 percent [plus capitalized AFUDC amounts] of net investment rate base. Because applicant’s electric construction work in progress is estimated to be less than 10 percent of rate base, the return allowed will be the composite cost of capital with no adjustment necessary for the difference between the 7 percent rate at which AFUDC is capitalized and the composite cost of capital. 97

Under the Wisconsin dispensation, a utility is permitted to include all CWIP up to ten percent of investment in the rate base. Where CWIP is less than ten percent there is little or no difference between the base on which the dollars of return are calculated and the capital obligations on the basis of which the over-all rate of return is calculated. However, as to the excess of CWIP over ten percent, where present, the utility need capitalize only seven percent on CWIP. The difference between seven percent and the allowed rate of return may be retained in revenue requirements and will, of course, be a part of the cash flow available to service capital obligations. 98

Strategic Behavior; The Attrition Factor

Even in the absence of a cash flow problem resulting from a rate base lower than the capital structure of the utility, a utility may legitimately argue that the allowed rate of return for a test year will prove inadequate for the immediate future due to attrition. This can result because the relationship between revenues, expenses, and investment reflected in the adjusted test year does not remain constant, and the changes therein result in deterioration in the utility’s opportunity to earn its required return. 99

98. A staff recommendation to the Illinois Commission in In re Commonwealth Edison, 49 P.U.R. (4th) at 71 (Ill. 1982), suggested that a permitted equity return of 17.5% be lowered to 15% for purposes of capitalizing AFUDC or, as an alternative, to lower it to a point such that a contemplated revenue increase would not increase earnings for the common stock. It was urged that the lowered amount of capitalized AFUDC thus resulting would mean future depreciation savings for ratepayers and immediate improvement in the quality of earnings for the common stock.
99. “[A]ttrition is a wearing away or erosion of the earnings or rate of return due to increases in investment costs and operating costs which cannot be offset by increased revenues or through efficiencies or productivity gains.” In re Southern Bell Tel. & Tel. Co., 21 P.U.R. (4th) 451, 463 (Fla. 1977).
Telephone companies have been in the vanguard in using this phenomenon to obtain from the regulators a higher rate of return than would otherwise be warranted by adjusted test year data. The success of their efforts depends on the plausibility with which the necessarily speculative data is presented. Thus, a Florida commission was not persuaded that the telephone utility had made a case for adjusting its rate base as an offset to the attrition factor because the current per-station cost over the embedded per-station cost, allegedly portraying non-revenue producing plant which the utility would have to carry, was highly speculative and engendered serious commission doubts as to whether it portrayed future conditions. Nevertheless, conceding the existence of attrition in an inflationary era, the commission allowed the rate base to be adjusted by allowing new plant closings to plant in service for the ninety day period beyond the test period to be included in the rate base. This somewhat subjective allowance was deemed by the commission to be a "reasonable method ... consistent with our desire that the company earn its allowed rate of return but that it not be overcompensated for this problem."

On the other hand, a willingness to accept plausible expert projections was evidenced by the Maine commission; over protests by staff that the calculations were too speculative to be accepted, that commission approved an attrition allowance projecting not only increased costs in plant and operating expenses over the test year, but also increased capital costs on which a higher than test year rate of return was found warranted. Acceptance was justified on the ground that earnings could not rest on conventional burden of proof tests but must rest on the persuasiveness of expert testimony expounding the attrition theory.

In a case before the Louisiana commission where rates were being set some two years later than the test year, the utility argued for the use of a year-end rate base rather than an average rate base on the ground that substantial time had passed since the test period (with consequent presumed attrition having occurred). The commission acquiesed in part, but noted that it was not making an allowance for attrition which it said must be "expressly proven." In a later case, with the same utility requesting an attrition allowance, the requirement of "express proof" was considerably modified, the commission stating that: "If in exceptional circumstances attrition causes the rate of return of a utility to decrease beyond an acceptable level for the utility to continue to build plant [the remedy of

102. Id. at 468.
104. Id.
interim relief through reduction of the AFUDC required to be capitalized] . . . remains available." Such an allowance can hardly be said to be for attrition "expressly proven;" all that had been persuasively demonstrated in the case was that "the inclusion of AFUDC in operating income at the full rate prevents the utility from meeting coverage requirements and attracting capital." 109

CONCLUSION

Is this welter of "strategic behavior" engendered by the desire of some regulatory commissions to preserve the "used and useful" rate base as an operative principle warranted in the era of nuclear plant construction? A thoughtful New York administrative law judge, after analysis of a record compiled before the New York utilities commission, concluded that the policy of capitalizing AFUDC on CWIP, the necessary accompaniment of the "used and useful" rate base, "has virtually nothing to recommend it." 110 The commission, although rejecting the judge's recommendation that CWIP be forthrightly included in earning rate base, summarized the arguments for inclusion in the following paragraphs:

Increased use of CWIP . . . tends to reduce investment risk and financing cost, according to Judge Harrison. Placing CWIP in rate base, he observed, increases current cash flows, thereby enhancing the quality of debt coverage, and reduces future cash flows. Thus, he said, in contrast to AFUDC policy, where the return is provided during the principal amortization period - when cash flow is least important rather than during the capital formation or investment period - when it is most important - CWIP policy "matches the timing of cash flows with the financial need for them." This improved timing tends to lessen the financial pressures faced by utilities during construction projects, said Judge Harrison, and the correspondingly reduced risk is reflected in slightly lower capital costs . . .

Arguing in favor of the AFUDC policy is the notion that the financial charges applicable to a particular project should be recovered solely from customers taking service after the project is completed and the facilities are in use. Under this reasoning, CWIP in rate base is undesirable inasmuch as it inequitably forces rate-payers to pay financial charges on plants still under construction. But in order to accept this analysis, Judge Harrison said, one must assume that plant under construction does not serve current cus-

107. Id. at 601.
108. Id. at 600.
109. Id at 597.
tomers. In fact, he observed, most ratepayers are not just current period consumers of electricity, but are placing “economic reliance on the continuous provision of electricity now and into the future, without regard to the timing of generation or transmission facility additions by the utility.” Thus, he said, the attempts to “compartmentalize” ratepayers in terms of the benefits of service provided by particular facilities is a “bogus exercise”; inasmuch as the benefit customers actually receive is continuous service over time. Moreover, said the judge, even if customers are analyzed in terms of a particular facility, the vast majority of customers taking service during its construction are likely to remain on the system after the facility goes on line; consequently, “today’s ratepayers and tomorrow’s ratepayers, to no small degree, are the same customers.”

In addition to discounting the equitable basis advanced on behalf of AFUDC policy, Judge Harrison discussed the ‘unfortunate economic implication’ of the cost recognition procedure under AFUDC rate making. According to him, the impact of placing a plant in rate base is sudden and substantial - due in part to the accumulated financial charges - and rate increases are accordingly “lumpy.” The resulting “lumpy” pattern of demand growth not only can be “economically disruptive,” he said, but it can also make projections of future load and capacity requirements more difficult to make.\(^{111}\)

From a rate-making point of view, inclusion of CWIP in rate base is preferable, observed Judge Harrison, because it results in the development of smoother service rates and load growth patterns, and produces a more efficient allocation of resources . . .

Judge Harrison also considered the notion that AFUDC policy should be retained as a means of providing an incentive for the efficient operation of the utility. Under this viewpoint, because companies under a CWIP policy would already be earning a return on uncompleted facilities, they may not have as much incentive as under AFUDC policy to complete a facility as quickly as possible. Judge Harrison pointed out, however, that construction delays have been “rampant” in recent years even under AFUDC policy. And the penalty imposed on consumers for a construction delay, regardless of its cause, is far more severe under AFUDC policy than under CWIP policy, he observed. When these observations are added to the previous finding that AFUDC policy imposes significantly higher real costs on consumers, said the judge, using AFUDC

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policy to attempt to force construction efficiency "emerges as the worst conceivable method of doing so from the ratepayers’ standpoint." The additional cost penalty inherent in AFUDC itself, he said, "grossly overmatches" the possible benefits of AFUDC policy as an incentive device...\(^{112}\)

The administrative law judge concluded that there would be slightly lower capital costs and, hence, somewhat lower consumer rates resulting from inclusion of CWIP in the rate base and the accompanying elimination of economic disruptions stemming from "lumpy" patterns of demand growth associated with the "used and useful" rate base and the AFUDC capitalization procedures required in connection therewith.\(^{113}\) It remained for the administrative law judge to demonstrate, if he could, that a cost-benefit analysis to the ratepayer would result from adopting inclusion of CWIP in the rate base. Summarily stated, the issue is whether the immediate dollars of savings in capital costs, and hence consumer rates, would be more valuable to the ratepayer than the use of those dollars to him in the future. Since the rate of return was assumed to be three or four percentage points in excess of the determined inflation rate, a constant dollar analysis indicated the present savings in the rate of return would be the more valuable to the consumer.\(^{114}\) In other words, the rate at which consumers could expect money to compound in the future would generate proceeds which it was suggested would be less than the savings resulting from a lowered current cost of capital.

While accepting this analysis as attractive, the New York commission nonetheless found the argument defective and rejected it because the argument did not take into account the probability that consumers might have to borrow to pay higher consumer rates and that the cost of such borrowing could exceed the savings of the utility in lower capital costs.\(^{115}\) The concluding comments of the New York commission, rejecting CWIP inclusion, expressed the sentiments of a majority of state commissions, stating:

\(^{112}\) In Re Financing Plans, 49 P.U.R. (4th) at 343-45. A spokesman for Gulf States Utilities Company, commenting on the possibility of further delays in construction and approval of its River Bend nuclear plant suggested that: "Estimates of increases that would result from such a delay are not available, but the increase in the company's AFUDC (finance charges) alone on its 70% share of the unit at current rates could be in the range of $250 million-$300 million." Morning Advocate, Sept. 6, 1984, § A, at 1, 6.

\(^{113}\) See In re Financing Plans, 49 P.U.R. (4th) at 344.

\(^{114}\) Id. at 345-346.

\(^{115}\) Id at 346. A FERC staff study, 45 Fed. Reg. 22,053, 22,076 (1980), analogizes the consequences of normalizing taxes to an involuntary loan advanced by utility customers, suggesting that the savings in consumer rates could be a worthwhile investment, particularly to upper income ratepayers. However, the consequences to lower income consumers, without investment funds and with access to only high interest borrowing, were not considered as they are here by the New York commissioners.
We are thus unpersuaded that a case has been made for including CWIP in rate base systematically, without regard for the presence or absence of financial need. Similarly, we are unconvinced that we should consider the inclusion of CWIP in rate base to be anything other than an extraordinary remedy, to be employed only where necessary to improve a utility's financial integrity and interest coverage levels. Accordingly, as in the past, our use of this device will continue to be selective, and evaluated on a case-by-case basis, consistent with our findings on bond ratings and interest coverage above. Our reliance on this and other cash flow enhancements will, of course, be tempered by our concern over the immediate revenue impact of these efforts on current consumers.

We concede that this policy does not alleviate all the shortcomings in the AFUDC method identified by Judge Harrison. But in our view, the selective inclusion of CWIP in rate base is only one of the measures that can be taken to preserve a utility's financial integrity during a construction program.\(^7\)

The degree of contentment with present practices evidenced by the foregoing statement is somewhat disturbing.\(^7\) One might legitimately speculate as to the thoughts of Justice Brandeis as he perused one of the more prolix decisions currently being reported. Would he, too, opt for the currently popular "selective" inclusion of CWIP and retention of the "used and useful" principle (although probably a distortion of his original meaning), carrying in its wake as it does the kinds of strategic behavior which we have sought to sample in the foregoing pages? Or would he opt for the greater simplicity to be achieved by inclusion of CWIP in the rate base and control of utility financial behavior through oversight of its financial structure and construction programs and restraint on the common equity return? Would he say again, as he did some three score years ago:

To give to capital embarked in public utilities the protection guaranteed by the constitution, and to secure for the public reasonable rates, it is essential that the rate base be definite, stable, and readily ascertainable; and that the percentage to be earned on the rate base be measured by the cost, or charge, of the capital employed in the enterprise.\(^8\)

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The key quantitative measure of financial stability, interest coverage, would not change with the demise of the CWIP dole and with a capitalization rate base, as Justice Brandeis envisaged it. The rate of return would be immediately translatable into dollars of earnings for interest coverage and return on equity; there would be no AFUDC hiatus to be solved by strategic behavior to engender cash flow and, perhaps, less need for resort to "exotic financing."

This is hardly to suggest that regulatory control in the public interest would diminish; oversight of construction expenditures would assume major significance and oversight of operating income and expenses and related problems would continue. The problems of rate design and the search for equity among users would still present their challenges. Normalization versus "flow through" would still be a lively topic of regulatory debate but with primary focus on achieving equity between present and future consumers, and not, as is now often the focus, on improving cash flow. The reality of nuclear plant abandonments would remain to be dealt with; it is to be hoped, through reasonable amortization programs and not through the bankruptcy courts. Interest coverage calculations would return to "pre-tax" and "after-tax" coverage, without the complication of "with or without AFUDC earnings." Thus, the move to a capitalization rate base could hardly be characterized as "shattering" the "sorry scheme of things entire;" at best it would qualify as a bit of "re-moulding." And Justice Brandeis would smile.


120. The Illinois commission has recently listened, seemingly sympathetically, to a staff witness who pointed out to them that the "traditional model" used for establishing an appropriate revenue requirement had "lost much of its applicability" because of the magnitude of the utility construction program and the current state of financial markets. In re Commonwealth Edison, 49 P.U.R. (4th) at 70. Instead, it was said, emphasis must be on current higher debt and preferred stock costs, on the effect on market to book ratios of new equity issuance below book value and on the "painfully expensive" effect on the utility and ratepayers of abandonment or delay in the completion of plants under construction. Particularly, the witness noted, emphasis must be on the financial markets' perception of the utility and market reliance on financial ratios. Specifically, it must take note of the fact that the AFUDC approach may no longer be feasible and that consequently the commission must take greater control of construction decisions. Because of the magnitude of these decisions, the commission "has effectively lost any ability to use a normalized capital structure [capital ratios fitted to a used and useful rate base] and must consider total interest expenses rather than just interest allocated to plant in service." Id. at 70 (emphasis added). What the staff witness is suggesting seems to be that the commission should move towards a capitalization rate base with control of construction expenditures as the paramount weapon in maintaining the financial health of the utility.