THE ESTABLISHMENT AND ADMINISTRATION OF A "PRUDENT INVESTMENT" RATE BASE

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CONJURED up by the Supreme Court in *Smyth v. Ames*[1] and incanted through a series of decisions during the nineteen-twenties the concept of "fair value" and its requirements long bedevilled the determination of "return" on investment as a factor in public utility rate-making. After a long struggle, this troublesome spirit has finally been driven out by the reconstituted Court in the recent case of *Federal Power Commission v. Hope Natural Gas Company*.[2] Ruling that commissions in fixing rates are not bound by any one particular formula and that courts may on review consider only the reasonableness of the end result, the Court cleared the way for the adoption of a rate-making base more satisfactory than "fair value." It is the main purpose of this article to present a definite program by which a "prudent investment" rate base can be established and systematically administered. First, however, the development and demise of "fair value" will be briefly considered.

"FAIR VALUE"

In fixing reasonable utility rates agencies must naturally make provision to cover all the costs that are properly incurred in furnishing public service. The four major cost factors are: (1) ordinary operating expenses and maintenance,[3] (2) depreciation as it takes place currently,[4]

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1. 169 U. S. 466 (1898).

2. 320 U. S. 591 (1944).

3. Operating expenses for any accounting period include the current cost of labor and materials used in operating the properties and making ordinary repairs and the cost of minor replacements of properties used in operation. Amounts included for rate-making are the actual and reasonable costs. Extravagant or otherwise unwarranted costs are excluded. The proper amounts are usually taken directly from accounts and involve little or no factual dispute.

4. Depreciation provides for that *physical* and *functional* decline of major property units which is not made good by the ordinary repairs and the minor replacements included in operating expenses. Current charges or allowances for depreciation are ordinarily classed along with operating expenses. Provisions for depreciation are predicated upon the original cost of the property and its present age in relation to total service life. While they are thus based on original plant costs, they involve estimates as to total service life (also as to particular mode of regular calculation). No serious difficulties have been encountered, however, in regulatory determinations. Companies have usually agreed that full current depreciation, functional as well as physical, should be included in the fixing of rates. In the determination of the rate base, however, they have generally attempted to

(3) taxes payable in connection with operation at reasonable rates,[5] and (4) return on the properties used in operation. The first three of these factors are moderately definite in content and determination and have caused relatively little difficulty in past rate-making practice. In principle they consist of actual cost reasonably incurred in connection with efficient and economical operation and can for the most part be determined from the utility's accounts and records. The fourth factor, however, has caused considerable trouble partly because of unclear concepts and uncertain facts, but chiefly because of requirements imposed by the Supreme Court, which, in turn, were probably based largely upon past factual uncertainties.

Determination of return on properties involves two underlying elements: the valuation or rate base and the rate of return by which the rate base is multiplied. While the rate of return is quantitatively as important as the rate base, it has evoked less theoretical dispute, and its practical ascertainment has caused considerably less difficulty. On the cost principle, it should be the actual rate of return reasonably paid in obtaining needed capital for public service; but it has also involved conjectural elements of cost at the time of the rate inquiry. In the interest of definite regulation, it should be shifted to actual cost along with the rate base. But since the rate base has been the chief hindrance to effective rate control, this discussion will be limited to that factor.

Determination of the rate base in any particular case has always involved the questions of what elements to include, at what amounts, and in what proportions. It has raised especially the problem of how far valuation should be based on the original cost of the properties and to what extent provision should be made for replacement, or "reproduction cost," at the time of the rate inquiry. Instead of permitting the computation of return on the direct basis of cost properly incurred, as is the practice in determining operating expenses, depreciation, and taxes, the Supreme

confine deductions from the "cost new" of the properties to either "observed" or "physical" depreciation and have disregarded entirely the functional causes of depreciation. See page 508 *et seg. infra.*

5. In the past the tax factor has caused little dispute. It included actual taxes paid in connection with the furnishing of service. Companies have been regarded merely as tax-collecting agencies, the amounts being actually payable by consumers. There has always been some doubt, however, as to the validity of including in the rate coverage, payments of federal income tax (or any income tax), especially amounts based on excessive income above a "fair return." This feature has come particularly into prominence during the war, since the regular 1943 federal income tax has reached forty per cent on taxable income, roughly up to six per cent on invested capital, and ninety per cent on the balance subject to excess profits tax. The author submits first, that at most the regular income tax of forty per cent (or whatever modification may be made) should be predicated upon otherwise reasonable rates and secondly, that in any case, no excess profits taxes should be allowed as a cost for rate-making purposes. See Bauer, *Relation of the War Taxes to Utility Rate Making* (1944) 33 P. U. FORT. 211.

Court held in *Smyth v. Ames* [6] that return must be predicated upon the "fair value" of the properties used for the convenience of the public and that

> ". . . in order to ascertain that value, the original cost of construction, the amount expended in permanent improvements, the amount and market value of its bonds and stock, the present as compared with the original cost of construction, the probable earning capacity of the property under particular rates prescribed by statute, and the sum required to meet operating expenses, are all matters for consideration, and are to be given such weight as may be just and right in each case. We do not say that there may not be other matters to be regarded in estimating the value of the property. What the company is entitled to ask is a fair return upon the value of that which it employs for the public convenience. On the other hand, what the public is entitled to demand is that no more be exacted from it . . . than the services rendered by it are reasonably worth." [7]

Manifestly, this purported prescription of "fair value" for rate-making presented neither a clear concept, nor a definite basis for factual determination. What it meant has been widely discussed and disputed. The issue of what "fair value" is became predominant in rate cases during and immediately following the first World War. After the *McCardle* [8] and the *St. Louis-O'Fallon* [9] cases, reproduction cost appeared legally fixed as the dominant element to be considered in determining "fair value." It is primarily this requirement which has greatly complicated rate-making procedure and extensively frustrated rate control.[10]

6. 169 U. S. 466 (1898).
7. *Id.* at 546-47.
8. McCardle v. Indianapolis Water Co., 272 U. S. 400 (1926).
9. St. Louis & O'Fallon Ry. v. United States, 279 U. S. 461 (1929).
10. The first two in the series of leading cases which appeared to fix the "fair value-reproduction cost" rate base were decided prior to the first World War. Willcox v. Consolidated Gas Co., 212 U. S. 19 (1909); The Minnesota Rate Cases, 230 U. S. 352 (1913). In each of these cases the opinion stressed that return should be based upon the "fair value" of the properties at the time of their use for the benefit of the public. While reproduction cost was in neither case a decisive factor in the decision, the period was one during which current costs of construction had not greatly surpassed (if at all) the actual installation costs of the properties. The postwar cases, however, were decided in a period when current construction costs stood generally far above original costs. Southwestern Bell Telephone Co. v. Public Service Comm., 262 U. S. 276 (1923); Bluefield Water Works & Improvement Co. v. West Virginia Comm., 262 U. S. 679 (1923); McCardle v. Indianapolis Water Co., 272 U. S. 400 (1926); St. Louis & O'Fallon Ry. v. United States, 279 U. S. 461 (1929). Therefore, the required inclusion of reproduction cost had a substantial effect on valuation figures.

Despite these cases, certain of the Supreme Court Justices continued to expound the view that "actual cost" constituted the primary factor in determining "fair value." While reproduction cost was given emphasis in the majority opinion in the *Southwestern Bell*

Considerable dispute and uncertainty has also been caused by a second phase of the "fair value" determination, the problem of determining the amount of property depreciation since original construction deductible from the "cost new" (whether actual cost, reproduction cost, or any other particular combination). Although this deduction was not even mentioned in *Smyth v. Ames,* it was necessarily a part of the determination of "fair value." It was first comprehensively considered by the Supreme Court in 1909,[11] but the concept itself and the ascertainment of depreciation in any case have remained subject to dispute and have contributed seriously to the difficulties attached to the computation of the "fair value" rate base.

Reproduction Cost Obstructions. The objection to the "fair value" rate base has been premised partially on indefiniteness of concept, but mostly on difficulties of application and administration, especially in regard to reproduction cost. From the strictly legal standpoint there has never been clear recognition that the "fair value" concept differs basically from ordinary commercial value or, particularly, from *value* as found in condemnation cases, where distinctly private property is taken for public use. Commercial or condemnation value depends directly or indirectly upon earning power; but since this depends, in turn, upon the prices charged for the product, such value cannot be used as the basis of rate-making.[12]

case, *supra,* Mr. Justice Brandeis's famous concurring opinion presented "prudent investment" as the reasonable rate base determinant. Only three weeks after the *Southwestern Bell* decision, moreover, Mr. Justice Brandeis read the majority opinion in Georgia Ry. & Power Co. v. Railroad Comm., 262 U. S. 625 (1923), where the rate base included no provision for reproduction cost. Although following this case, the Court returned to the reproduction cost requirement, Messrs. Justices Brandeis and Holmes continued to dissent.

The first indications of success in the battle for a prudent investment rate base came after the 1929 financial collapse with the resultant break in the general price level. Despite the fact that in Los Angeles Gas & Electric Co. v. Railroad Comm., 289 U. S. 287 (1933), Chief Justice Hughes stated that the decision was based on general principles which the Court had often proclaimed, the rates approved were predicated on a rate base in which no provision was made for reproduction cost. In West v. Chesapeake & Potomac Telephone Co., 295 U. S. 662 (1935), the Court rejected a price-index method of adjusting prior valuation figures to the current costs at the time of the rate inquiry. This rejection of a particular method of attaining "fair value" did not, however, bear directly on the reproduction cost requirement. But in Federal Power Comm. v. Natural Gas Pipeline Co., 315 U. S. 575 (1942), it appeared that the Court had abandoned reproduction cost, approving a prudent investment rate base. The conclusive statement of this abandonment was made in the case under consideration here. Federal Power Comm. v. Hope Natural Gas Co., 320 U. S. 591 (1944). Now no rate base is essential to the fixing of reasonable rates; only the end results are decisive as to whether actual injustice has been perpetrated.

11. City of Knoxville v. Knoxville Water Co., 212 U. S. 1 (1909).

12. See, *e.g.,* Hale, *Does the Ghost of Smyth v. Ames Still Walk?* (1942) 55 HARV. L. REV. 1116. The Supreme Court itself has, until recently, virtually ignored any basic

The inherent illogic of basing rates on a value that depends on rates, a process of theoretical self-blocking, has in practice been obviated by primary recourse to reproduction cost and other factors that do not depend on rates.

In the past a typical rate case started with a reproduction cost appraisal and a depreciation study. So-called "physical value" consisted of reproduction cost less depreciation. To this was added an allowance for "going concern" value and a further amount for working capital. Not a single step in the entire determination could be taken from exact records. Each depended, to a varying extent, on estimates, opinions, and hypothetical calculations beyond the scope of precise measurement and exact factual verification.

Determination of reproduction cost started with an inventory or physical count of the various classes of property used in operation. While to a large extent the quantities could be ascertained from records, they were subject to field counts and measurements. When completed, the inventory presented a classification of property units and the number of units in each class. The job of making a complete inventory was often extremely laborious and costly. The second step was to prepare "unit prices" for each class of property as presented in the inventory. Each unit price was then applied to the number of units, giving the reproduction cost of each

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difference in the kind of "value" encountered for different purposes. It has spoken of "fair value" as if it were identical with ordinary commercial or condemnation value, or with the value of a "going concern." In some opinions the assumption has been implicit that the properties were in effect taken in condemnation at the time of the rate inquiry. This view ignores the fact that the rates are subject to public restriction because the properties have continuously been dedicated to public service and have, therefore, been clothed with public interest from the time private capital was invested in the quasi-public enterprise. Since the original capital expended for utility development is the property taken for public purposes the original investment should, therefore, constitute under the condemnation theory the *prima facie* or actual condemnation value.

One could revel in details showing how illogical and inconsistent the Supreme Court has been in considering "fair value" for rate-making. Nevertheless, it has always preserved a basic view of purpose and kept "fair value" clear of preventing either rate reductions or rate increases. It has never, moreover, taken earning power directly as the measure of "fair value," although indirectly it has approved the capitalization of earning power to some extent, as in the allowance for "going concern" value.

Any past vagaries, moreover, regarding the nature of "fair value" have disappeared with the present Supreme Court. In the *Hope Natural Gas Company* case, Mr. Justice Douglas states explicitly that "rates cannot be made to depend upon 'fair value' when the value of the going enterprise depends on earnings under whatever rates may be anticipated." Hope Natural Gas Company v. Federal Power Comm., 320 U. S. 591, 601 (1944). There is no longer any confusion to the effect that "fair value" is in any way predicated upon existing earning power. If the same term is still to be used, it signifies merely the measure of allowable earning power as determined by the rate base and is not to be confused with any concept of value which directly or indirectly depends on earning power.

class; and by adding these class costs the total reproduction cost of the properties devoted to public service was determined.

The unit price calculation was a matter of successive estimates and cumulative conjecture. It was intended to show the total cost of labor and materials that would be incurred if the properties were to be constructed or installed at the time of the rate inquiry. Apart from various fanciful assumptions as to the nonexistence of the properties and the continuance of original conditions of construction and other hypothetical matters, each unit price was based on estimates of quantities of different kinds of labor required under assumed methods of construction at given wages or salaries, plus allowance for supervision and construction overheads. Similar estimates had to be made of quantities of different kinds of materials theoretically used, prices paid, charges for transportation and handling, and costs of tooling and equipment.

When these compounded estimates and calculations had been assembled and presented by "qualified" witnesses as an appraisal before a regulatory body, all the imaginary items and steps involved were subject to detailed cross-examination, usually by several parties. Often two or more appraisals were made on behalf of the different participants, involving basic conflicts of interest. The depreciation study was likewise based on estimates. Determination of the extent of depreciation that had accrued required physical inspection of all the properties. Measurements were not definite, and since the study was made on behalf of each participant, it was subject to meticulous direct and cross-examination.

Inasmuch as the amounts were arrived at throughout by judgment and opinion, all valuation factors had to be presented by duly qualified experts. Persons were selected not only for their knowledge and experience, but for their views in relation to the interest of the employing party. On the side of the companies, highly specialized training was common to build up maximum supportable reproduction cost figures and minimum depreciation deductions. For "going concern" value extraordinary fantasies were developed. The whole procedure was a travesty upon sensible determination of relative private and public rights.[13]

Out of the welter of valuation testimony and exhibits presented in a rate case, including actual cost along with reproduction cost and a variety of other data, the regulatory commission was expected to reach somehow the "fair value." Inevitably, the amount was inconclusive because it

13. Careful preparation, however, was practically limited to the company's side of a rate case. On the public side, there was hardly ever sufficient planning and financial support for adequate preparation. Furthermore, the upper limits of valuation possibilities for the company were much more elastic than the lower limits for the consumers. The exhibits and testimony offered by the latter were never comparable in degree of deviation to the fantastic figures supported for the companies by witnesses who were primarily experts in the technique of rate base pyramiding.

rested upon indefinite concepts and upon shifting and hypothetical figures. If it was unsatisfactory to the company, the determination was subject to review by the courts. This required more time and expense, and conditions often had changed so much when litigation was concluded that a new round of inquiry was necessary to fix "reasonable rates." [14]

This procedure naturally resulted in avoidance of rate cases by the regulatory bodies. Systematic regulation was impossible, since commissions did not have staffs adequate to do the requisite work. Consequently, they tried for the most part to get such rate reductions as could be obtained through negotiation. To a large extent, therefore, real rate control broke down because of the crushing difficulties of administration.

"Fair Value" Abandoned. It is not surprising, therefore, that there has been for years an incessant struggle to discard the "fair value" obfuscation and replace it with a rate base which starts with actual cost and can be maintained continuously through regular accounting procedure. Led by Messrs. Justices Brandeis and Holmes in brilliant minority opinions during the nineteen-twenties, this fight has been brought to a winning conclusion in the present Supreme Court, largely under the aegis of Messrs. Justices Douglas, Black, and Murphy, although apparently no member of the Court adheres to the reproduction cost requirement.

The final discard of the "reproduction cost" requirement was presaged in 1942 by the *Natural Gas Pipeline Company* case.[15] While this case involved temporary rates fixed by the Federal Power Commission under the administration of the Natural Gas Act of 1938, the determination of the issues presented and the language used in the opinion by Chief Justice Stone virtually decided that reproduction cost was no longer a requisite element of the rate base.

> "The Constitution does not bind rate-making bodies to the service of any single formula or combination of formulas. Agencies to whom this legislative power has been delegated are free, within the ambit of their statutory authority, to make the pragmatic adjustments which may be called for by particular circumstances. Once a fair hearing has been given, proper findings made and other statutory require-

14. Among the notorious cases in which the rate-making process was blocked for many years is the *Chicago Telephone* case. Lindheimer v. Illinois Bell Telephone Co., 292 U. S. 151 (1934). The Supreme Court in 1934, the second time the matter was before the Court, finally wrote a definite *finis* to the elaborate contentions urged by the company for over ten years, ordering large refunds to be paid to consumers. For a more complete survey of the issues presented by the problem of determining "fair value," see BARNES, THE ECONOMICS OF PUBLIC UTILITY REGULATION (1942), the latest and a highly competent survey of the various aspects of utility regulation; BAUER, EFFECTIVE REGULATION OF PUBLIC UTILITIES (1925); BAUER AND GOLD, PUBLIC UTILITY VALUATION FOR PURPOSES OF RATE CONTROL (1934); and BONBRIGHT, VALUATION OF PROPERTY (1937).

15. Federal Power Comm. v. Natural Gas Pipeline Co., 315 U. S. 575 (1942).

> ments satisfied, the courts cannot intervene in the absence of a clear showing that the limits of due process have been overstepped." [16]

This position was further confirmed by the concurring opinion of Messrs. Justices Douglas, Murphy, and Black. After reviewing the controversy over reproduction cost, they concluded that courts cannot "concern themselves with any issues as to the economic merits of a rate base," and that the Federal Power Commission

> ". . . is now freed from the compulsion of admitting evidence on reproduction cost or of giving any weight to that element of 'fair value.' The Commission may now adopt, if it chooses, prudent investment as a rate base—the base long advocated by Mr. Justice Brandeis. And for the reasons stated by Mr. Justice Brandeis in the *Southwestern Bell Telephone Case,* there could be no constitutional objection if the Commission adhered to that formula and rejected all others." [17]

Yet, despite the apparent clarity of these opinions, the casting out of reproduction cost as a required element of "fair value" could not be accepted by those imbued with the old concept or those who stood to gain from continued confusion.

The issue was, therefore, raised again by the Hope Natural Gas Company in May, 1942, when it was ordered by the Federal Power Commission to reduce its future interstate rates by approximately $3,610,000 in annual operating revenues. The order was predicated on a prudent investment rate base without any allowance for reproduction cost. Prudent investment, as adopted by the Commission, consisted of the actual original cost of the properties used in service less the required depreciation reserve to provide for all factors of depletion and depreciation; it excluded, moreover, $17,000,000 of past well-drilling costs, which, in accordance with earlier accounting standards, had been charged to operating expenses.[18] On petition for review, the order was set aside by the Court of Appeals for the Fourth Circuit, one judge dissenting, chiefly because of (1) the failure to allow for reproduction cost in the rate base, (2) the rejection of the $17,000,000 of well-drilling costs, and (3) the deduction of the required depreciation reserve as determined by the Commission.[19]

16. *Id.* at 586.

17. *Id.* at 606.

18. Cleveland and Akron v. Hope Natural Gas Co., 44 P. U. R. (N.S.) 1 (1942).

19. In considering "fair value-reproduction cost," Judge Parker, who wrote the majority opinion in the Circuit Court, quoted extensively with approval from BAUER AND GOLD, PUBLIC UTILITY VALUATION FOR PURPOSES OF RATE CONTROL (1934), in regard to both reproduction cost and to the determination of depreciation. Hope Natural Gas Co. v. Federal Power Commission, 134 F. (2d) 287, 293-94 (C. C. A. 4th, 1943). He overlooked, however, the book's objective which explains the particular position taken on these

These are the items that enter directly into rate base determination. On certiorari, the Supreme Court, after a galaxy of briefs and oral arguments, reversed the Circuit Court and sustained the Commission in an opinion delivered by Mr. Justice Douglas.

The decision, especially in view of the issues specifically raised, definitely disposed of reproduction cost as a necessary rate base factor. The company had contended for a net valuation of $66,000,000, and based its claim on a $97,000,000 reproduction cost. The Commission's valuation of $33,712,000 was predicated on an original cost of $51,957,000. The reproduction cost issue was, therefore, determinative of the results, and the Commission was sweepingly sustained by the following conclusive disposition:

> "We held in *Federal Power Commission v. Natural Gas Pipeline Co.* . . . that the Commission was not bound to the use of any single formula or combination of formulae in determining rates. Its rate-making function, moreover, involves the making of 'pragmatic adjustments.' . . . And when the Commission's order is challenged in the courts, the question is whether that order 'viewed in its entirety' meets the requirements of the Act. . . . Under the statutory standard of 'just and reasonable' it is the result reached not the method employed which is controlling. . . . It is not theory but the impact of the rate order which counts. If the total effect of the rate order cannot be said to be unjust and unreasonable, judicial inquiry under

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questions. The book was published in 1934 and was predicated upon what then appeared to be fixed legal requirements in the determination of "fair value." The objective was to bring about the displacement of the unclear and variable "fair value" standard by the establishment of an exact accounting rate base. For that purpose it was proposed that under comprehensive and definite statutory provisions the existing properties at the time of the shift over should be appraised in compliance with prevailing "fair value" requirements both as to reproduction cost and depreciation deduction. After such initial determination for each company, the accounts were to be rewritten accordingly and not subject to further revaluation, despite any changes in prices and costs or other conditions affecting properties. All subsequent plant changes (additions, retirements, and further accruing depreciation) would then be entered in the records as regular accounting procedure. See pages 507-08 *infra*.

The purpose was, therefore, to establish a definite accounting rate base and still meet the immediate necessities of "fair value." At the time, there was grave doubt among legal circles whether even such an effort to escape the strangling effects of "fair value" would pass the Supreme Court. The plan had been presented to the 1929 New York Legislative Committee investigating the effectiveness of the state public service commission law and rejected by the majority of the Committee because of assumed unconstitutionality. I COMMISSION ON REVISION OF PUBLIC SERVICE COMMISSIONS LAWS: REPORT AND HEARINGS (1930) 17-21. It was espoused, however, by the minority, *id.* at 51, and embodied in the so-called Roosevelt public utility bills submitted to the legislature in 1930.

No such strain to escape judicial restraints is now necessary. An accounting rate base can be established without an initial valuation giving effect to reproduction cost. Reproduction cost can be ignored without the circumvention presented in the Bauer-Gold book.

> the Act is at an end. The fact that the method employed to reach that result may contain infirmities is not then important. Moreover, the Commission's order does not become suspect by reason of the fact that it is challenged. It is the product of expert judgment which carries a presumption of validity. And he who would upset the rate order under the Act carries the heavy burden of making a convincing showing that it is invalid because it is unjust and unreasonable in its consequences." [20]

This disposition not only does away with reproduction cost, but also frees the Commission, or any regulatory body, from technical requirements in fixing reasonable rates. The end result is controlling regardless of the methods employed. No particular rate base provisions are imposed, provided that the rates as fixed are all-around "just and reasonable."

The Court also approved summarily the Commission's disregard of the $17,000,000 well-drilling costs charged to past operating expenses without discussing the technical issues raised by the company. It upheld tacitly by absence of comment the Commission's depreciation deduction, ignoring opposing theories that had been urged for approval.[21] While the case involved the administration of the Federal Natural Gas Act of 1938, the decision and the opinion apply as well to state commissions and other utility regulatory bodies insofar as controlling statutes do not fix different specific standards and procedures.

Rate control is left as a basic legislative function, and when it is assigned to a special body for administration, courts cannot interfere, except where conclusive injustice has been perpetrated.

Although judicial review is not completely eliminated, anyone seeking to upset the rate schedule as fixed "carries the heavy burden of making a convincing showing that it is invalid because unjust and unreasonable in its consequences." If in any instance review is sought and granted, the court is now bound to disregard the methods and procedure by which the rates have been fixed and to consider only the apparent reasonableness of the resulting rates. For such consideration there is no technical yardstick, but the showing of unreasonableness must be convincing. Mr. Justice Douglas indicated that the Court must balance "the investor and consumer interests," recognizing that "regulation does not insure that the business shall produce net revenues," but that there is "a legitimate concern with the financial integrity of the company," and that "it is important that there

20. Federal Power Comm. v. Natural Gas Pipeline Co., 320 U. S. 591, 602 (1944).

21. The Court directly overruled, moreover, the holding in United Railways v. West, 280 U. S. 234 (1930), that the current depreciation allowance in rate-making must be predicated on reproduction cost in harmony with the earlier rate base holdings. It recognized the propriety of basing annual depreciation on cost. "By such a procedure the utility is made whole and the integrity of its investment maintained. No more is required." Federal Power Comm. v. Natural Gas Pipeline Co., 320 U. S. 591, 606 (1944).

be enough revenue not only for operating expenses but also for the capital costs of the business," including "service on the debt and dividends on the stock."

> "By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital. . . . The conditions under which more or less might be allowed are not important here. Nor is it important to this case to determine the various permissible ways in which any rate base on which the return is computed might be arrived at. For we are of the view that the end result in this case cannot be condemned under the Act as unjust and unreasonable from the investor or company viewpoint." [22]

The judicial criteria of invalidity are, then, left quite indefinite, presumably to preclude the imposition of formulae and the shackling of regulation. Without specific measurements, the showing of the petition for review must be conclusive that the rates are inadequate, not merely injuring the investors unjustly, but preventing proper service to the public. The task of future regulation is lodged practically in its entirety in the commissions, and courts retain only the rigorously limited function of preventing really unjust and destructive administrative action.[23]

A Public Policy Rate Base

Freed from judicial restrictions on rate base determination—at least from those imposed by the federal courts[24]—commissions may now adopt such rate bases as will be best suited to the objectives embodied in regulatory statutes. They can devise the means according to the purposes. The rest of this article will be devoted to the kind of rate base best qualified to achieve the goals of regulation. The controlling standard is administrability.

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22. *Id.* at 603.

23. Since this article was written, the Supreme Court has approved an order of the Public Utilities Commission of the District of Columbia authorizing the Washington Gas Light Company to effect a rate increase equal to $200,000 a year. Vinson v. Washington Gas Light Co. and Public Utilities Commission of the District of Columbia, 12 U. S. L. Week 4256 (U. S. 1944). This increase opposed as inflationary by the Director of Economic Stabilization and the Office of Price Administration, was approved by the Court on the basis of the Commission's findings. Mr. Justice Douglas, however, wrote a dissenting opinion, joined by Messrs. Justices Murphy and Black, objecting to the refusal to permit the Economic Stabilization Director, legally a participant in the proceedings, to offer in evidence alleged facts which would show that the rejection of the rate increase would not create a hardship upon the company. *Id.* at 4259.

24. The possibility of state courts holding to "fair value-reproduction cost" requirements are considered later in this article. See pages 512-13 *infra*.

Establishment of a rate base which can be systematically administered requires (1) the adoption of a precise concept, (2) exact determination of initial amounts, and (3) continuous factual adjustments as changes in the operating properties take place in order that accounts and records may show definitely at any time the amount on which the company is entitled to receive a reasonable return. In addition, the rate of return in relation to the rate base should be determined continuously in order to furnish the amount of return to be included in the fixing of rates.

"Prudent Investment." The concept "prudent investment" has been widely recognized as embodying more successfully than other concepts the criteria of a satisfactory public policy rate base.[25] By itself, however, the term is not as precise as it might appear. It will mean here the original cost of the properties used in public service, less the part of such cost which is applicable to past use, leaving the balance as net prudent investment devoted to present and future operation. The deduction is the total existing depreciation due both to physical wear and decay and to various functional causes, especially obsolescence. If proper plant and depreciation accounting has been adhered to, the total cost of the plant units, less the depreciation reserve, is equal, at any given time, to the investment actually made, the full amount having been preserved. But if adequate provisions for depreciation have not been made directly or indirectly, interest and dividends may have been paid upon the consequent showing of corporate net income and the investment correspondingly impaired. In such a case the original cost less the depreciation as properly found constitutes the unimpaired prudent investment. The idea of "prudent" signifies only the reasonableness of the various plant expenditures from the standpoint of original foresight, not present hindsight. The rate base here advocated would be of the same type as that approved by the Supreme Court in the *Hope Natural Gas* case.

"Prudent investment" is viewed at times, especially by people who would gain thereby, as consisting of the gross original cost of all the plant units devoted to public use without deduction of past depreciation due to physical and functional causes. The inapplicability of this gross cost view appears clear if one considers that once a corporate investment is made, it must subsequently be fully maintained or it will be impaired or dissipated. Such full maintenance consists of ordinary repairs plus proper provisions for depreciation as it accrues, both charged regularly to operating expenses, which are in turn included in rates paid by consumers. If the total original cost of plant were included in the rate base,

25. The term *public policy* rate base suggests the contrast to commercial value and indicates criteria for specific adoption. See Bauer, *Public Policy Concept of Valuation for Purposes of Public Utility Rate Control* (1939) 27 GEO. L. J. 403. The essential criteria are presented and discussed in BAUER AND GOLD, *op. cit. supra* note 14, at 363-465.

the company would get a return not only on its own actual or unimpaired investment, but also on the amount of consumer contribution provided in the rates for the purpose of conserving the corporate investment. And even if depreciation were deducted, the company might still get a return on consumer contributions if its own accounting were taken as conclusive. This would be true directly if adequate depreciation accruals had not been made. In that case, the stated surplus as presented in the balance sheet would reflect depreciation rather than actual surplus. If the showing of surplus were not sufficient to provide for reserve adjustments, there would have been plain impairment of capital or investment through past interest and dividend payments.

Prudent investment should, therefore, consist initially of the total original cost of plant in service less properly determined depreciation. The amount thus established will subsequently be subject to the plant and depreciation charges regularly entered into the corporate accounts under appropriate accounting standards.

If this concept of prudent investment is adopted, determination of the initial amounts should follow. First, the original cost of all the properties in service must be ascertained. Secondly, the part of the original cost applicable to past depreciation should be determined. Thirdly, the property accounts and the depreciation reserve should be rewritten in accordance with the factual findings. The prudent investment rate base would be the original cost less the depreciation as found and embodied in the accounts. Initial establishment of original cost and depreciation is a sizable though indispensable task if a definite rate base is to be established and maintained for systematic regulation.

Prudent investment, as technically defined above, applies only to the physical plant, or so-called "fixed capital," devoted to public service. In addition, however, it includes an amount for "working capital," consisting of the cash, materials, accounts receivable, and other current assets held by a company to facilitate public service, less corresponding current liabilities and operating reserves other than depreciation. Since the amount involved is usually of minor importance, it has caused little difficulty and will not be further considered in the present survey, but it should be definitely provided for in the readjustment of accounts necessary for the adoption of the prudent investment rate base.

Original Cost Reclassification. To a large extent, the original cost of the properties in service has already been determined. The Federal Power Commission has required all electric companies under its jurisdiction to reclassify their plant accounts so as to show the original cost of each class of property in service. The procedure has been: first, to require each company to make its own readjustments and reclassification; secondly, for the Commission's staff to make a survey and report; and, finally, for the

Commission to issue formal findings and an order of reclassification. As a result, previous write-ups and other unwarranted charges have been eliminated leaving only the reasonable original cost under each account. To date, eliminations have averaged approximately twenty-five per cent of the original cost as established. When the total reclassification is completed, the bulk of the electric properties of the country will be entered in the accounts at original cost as officially found and ordered by the Commission. The legal power to require reclassification was recently confirmed by the Supreme Court.[26]

Besides the Federal Power Commission, several state agencies are also requiring original cost reclassification. In either case the original costs are determined for each class of property in service and are taken from past purchase or construction records or are reasonably estimated where adequate records are not available. Although the making of these determinations is a great task, it needs to be done only once for the permanent clearing up of the past rate base muddle. The process should be extended to all utility properties subject to public rate control.

Once plant accounts have been rewritten, all subsequent plant changes will be entered in the accounts at original cost. Additions, improvements, extensions, and replacements will be added or charged to the appropriate accounts; and all retirements from service will be deducted or credited. At any given time, therefore, the balance of any account will show the original cost of the particular kind of plant, and the total of all the balances will give the original cost of all the properties in service.

Such regular and definite plant accounting will eliminate from rate base computation the indefiniteness, estimates, and conjectures of reproduction cost findings. While initial estimates of original cost are, to a considerable extent, unavoidable in the reclassification, they are based on definite concepts and preclude merely speculative figures. And, it should be stressed, there will be no subsequent revaluations. Once reclassification has been completed for any company, the costs entered in the plant accounts will thereafter remain unchanged except as retirements and additions take place. Throughout, there will be exact amounts in the accounting. While the current changes should be subject to commission scrutiny to preclude improper entries, once approved they will stand as fact and will be controlling in regulatory procedure. There will be no further conflicts of interest, disputes as to amounts, delays in ascertainment, or other impediments to regular and systematic administration.

Depreciation: Determination and Accounting. In addition to the original cost of plant in service, the proper deduction for past depreciation must be ascertained in order to establish the net plant cost or investment

26. Northwestern Electric Co. v. Federal Power Comm., 64 Sup. Ct. 451 (U. S. 1944).

devoted to present and future service. Determination of past depreciation involves not only factual ascertainment, but also adoption of a precise concept. As to the latter, at least four distinct views of the depreciation deduction have been urged before commissions and courts. The first, the so-called "observed" depreciation, would provide only for such physical wear and decay as can be readily seen and would consist chiefly of the cost of placing the properties into good operating condition. Another view, full "physical" depreciation, consists merely of past wear and decay. A third is the depreciation reserve shown by the accounts under past accounting and financial policies. Finally, there is the concept of full depreciation due to both physical and functional causes, particularly obsolescence.

This last concept of full depreciation was applied in the *Hope Natural Gas* case and was approved by the Supreme Court.[27] Representing the decrease in total original service life of the property units due to physical and functional causes, it involves ascertainment of the percentage of total expired serviceability, which is then applied to the original cost. Determinations are made separately for each class of property or property units and are entered in the depreciation reserve, which is, in turn, deducted from the original cost to show the net plant investment or prudent investment rate base.

Establishment of the initial depreciation requires inspection and testing of physical wear and decay and also calculation of functional decline. Physical depreciation is due to the deterioration of existing plant units

27. In the *Hope* case the Federal Power Commission followed the policy of deducting the *required* depreciation reserve from original cost, as it had in previous cases. In those cases, however, the actual reserves had been less than the *required* amounts found by the Commission. In the *Hope* case the total actual reserve resulting from past charges to operating expenses for depreciation greatly exceeded the *required* reserve. Commissioner John W. Scott maintained in a separate opinion that where an excess reserve had been accrued through past charges to operating expenses, the full amount should be deducted from original cost for determination of the rate base. He pointed out that the effect of the excessive annual depreciation charges to operating expenses upon the relative investor-consumer investments was the same as past charges to operating expenses for well-drilling which were not included in the rate base, although, according to proper accounting practice, they should have been considered originally as capital expenditures. Such charges resulted in showing excessive annual cost of operation, in understating the company's net earnings, and in building up the properties out of rates paid by consumers. Cleveland and Akron v. Hope Natural Gas Co., 44 P. U. R. (N.S.) 1, 39 (1942). Commissioner Scott's analysis deserves consideration in the initial ascertainment of the depreciation deduction. There is no incongruity of policy between deducting the required reserve where past annual depreciation charges have been inadequate and the company has made correspondingly greater distribution of net earnings, and deducting the full actual reserve accruals where excess annual charges have been made and the company has thus covered up or understated its net earnings. The issue, however, does not have serious regulatory importance. Actual reserves are usually inadequate, and the required reserve deduction generally exceeds past depreciation accruals.

and can, to a large extent, be determined by inspection and measurement. But functional depreciation, either obsolescence due to technological advances or inadequacy caused by increasing service requirements, is not due to conditions embodied within the actual plant units, but rather to the greater efficiency or other superiority of available substitutes. As better suited units become available, the ones in service depreciate accordingly by loss in total remaining serviceability. Determination of functional decline, therefore, depends upon service comparisons of actual with available plant units, considering relative operating efficiency, required repairs, depreciation, and other expenses incurred in regular operation. The superiority of available substitutes is offset by the depreciation of the actual units, for the return on the depreciated sum plus the greater relative operating expenses of the actual units equals, in relation to a given volume of regular production or service output, the return on the full cost of the available substitutes plus their lower operating expenses. The depreciation deduction thus produces capital equivalence between the existing units and the full capital cost of the available. Such determinations involve considerable factual uncertainties and rough approximations, but they must be made if a definite accounting rate base is to be provided for the future needs of workable regulation.

The task of establishing the initial depreciation of the properties in service has scarcely been touched. Since the Federal Power Commission has led in fixing the standards for comprehensive original cost reclassification, it may be urged to push similarly depreciation findings. It has already established such amounts for a considerable number of natural gas companies and will doubtless proceed likewise with electric companies when conditions justify or permit. State commissions should join actively, if they desire a definite and administrable rate base.

Accounting Rate Base. Once the initial determinations have been made both as to original cost and depreciation and the plant accounts and depreciation reserve have been rewritten or adjusted to show the established amounts, subsequent changes both in plant and depreciation can be readily entered into the accounts. The procedure for plant additions and retirements has already been outlined.[28] For depreciation, the current amount due to both physical and functional causes is charged to, or included in, operating expenses as a cost of service, and, at the same time, it is added or credited to the depreciation reserve, which thus adds cumulatively for every accounting period the currently developing depreciation. When property units are retired and deducted from, or credited to, the proper plant accounts at original cost, the amount less salvage is also deducted from, or charged to, the depreciation reserve.

28. See page 508 *supra.*

With such definite accounting, the reserve shows at any time the total amount of accrued depreciation for all the properties in service, while the plant accounts present the total original cost. The deduction of the reserve from the total original cost gives the net plant cost or rate base. This is a definite figure, promptly shown by reference to the accounts, and it furnishes the basic standards for systematic and effective administration in rate-making or other matters involving private and public interests.[29]

Apart from the rate base, there have been no greatly troublesome factors in the work of regulation. The proper rate of return, as well as operating expenses and taxes, can be readily provided for without serious difficulties, although scrutiny is necessary to assure proper determination of cost. Commissions can now establish an exact accounting rate base for every company and be free from the confusions and hindrances of past rate case procedure. With exact accounting provisions, they can readily scrutinize the results of operation periodically, at least once a year, and can then order rate adjustments promptly in accordance with definite standards and exact showing of facts. Rates can thereby be reduced readily as justified or raised as actually needed with equal and effective protection for both consumers and investors. Rate control may become a matter of regular administration—not litigation or weak negotiation—constantly directed towards public objectives.

Special Legislation. Every public rate-making body should adopt promptly the definite rate base now available and establish a factual system of regulation that can be systematically administered. But while such standards can be immediately attained, in practically all instances their effective application will require special legislation and adequate financial support.

The glaring defect of practically all past regulatory legislation has been its general character, its lack of definite prescription of objectives and means. In providing for rate control, statutes have generally merely authorized or required commissions to fix reasonable rates and to prevent discriminatory charges, but otherwise have provided no goals or fixed standards and procedure. With such loose statutory enactments, commis-

29. The official procedure widely adopted by commissions in respect to current accounting for changes in plant accounts and in depreciation reserve is in harmony with the proposals outlined in this article. The writer agrees entirely with the FPC accounting classifications and in the main with the recent recommendations of the special depreciation committee of the National Association of Railroad and Utilities Commissioners. PROCEEDINGS OF THE 1943 WAR CONFERENCE OF THE NATIONAL ASSOCIATION OF RAILROAD AND UTILITIES COMMISSIONERS (1943) 83. Specific and detailed accounting for current changes in plant and accrued depreciation still does not provide, however, satisfactory data for the calculation of a prudent investment rate base, unless proper initial adjustments are also made in regard to present existing plant and depreciation. See pages 507-10 *supra*.

sions have had to improvise for themselves, and, therefore, have almost inevitably encountered judicial determinations and limitations controlling their work.

While the Supreme Court now has, to a large extent, eliminated judicial restrictions and requirements, leaving the task of regulation almost in full to the commissions, positive and clarifying amendments to present regulatory statutes would, in most states, greatly facilitate this task. The amendments could make mandatory the establishment and maintenance of a prudent investment rate base, prescribe generally the steps in its application, and fix other objectives and means for the protection and advancement of the public interest together with exact safeguarding of private investments devoted to public use. Legislative directives might also require creation of special reserves and other arrangements for systematic and full protection of consumers and investors. To facilitate administration on an exact basis, the relative rights of consumers and investors could be defined precisely and regularly safeguarded. If the objectives of regulation were stated as explicitly as possible, the area of conflicting interests would be greatly narrowed, if not completely removed.

State Law. In some states, however, the "fair value-reproduction cost" factors may be invoked as a matter of state rather than federal law. And in the unscrambling of federal from state law there may be considerable confusion since judicial directives in many state cases as to provisions for "fair value" were probably predicated upon federal standards which had to be followed as Constitutional prescriptions.

Even as to state statutes, moreover, basic federal and state law may converge. Past regulatory statutes were naturally based upon the long-standing federal "fair value" rule. In some instances, they embodied much of the language of the Supreme Court in *Smyth v. Ames.*[30] Consequently, statutes containing traditional "fair value" provisions will require close scrutiny to determine whether they were merely made harmonious with the old notion of federal law or were in themselves intended to fix definite state policy. Utility counsel will doubtless argue that the statutes and case law of the state retain the old "fair value" requirements and, therefore, preclude establishment of prudent investment as a rate base. Any such existing state legal impediments to the adoption of the prudent investment rate base and of other procedures for systematic administration of rate-making, should be removed through appropriate legislation or, if necessary, by constitutional amendment. A definite system of control should be provided. If any state regulation continues to flounder as in the past, the fault rests with the commission or with restrictive features

30. 169 U. S. 466 (1898).

within the state law. The Supreme Court has eliminated the possibilities of unreasonable interference so far as the incidence of the federal law is concerned.[31]

31. On the basic question whether reproduction cost must be given factual consideration in the rate base, there was unanimity among the eight judges in the *Hope* case. Mr. Justice Roberts took no part in the consideration or decision of the case.

Mr. Justice Reed, however, disagreed with the view "that it makes no difference how the Commission reached a rate base so long as the result is fair and reasonable." See Mr. Justice Reed, dissenting in Federal Power Comm. v. Hope Natural Gas Co., 320 U. S. 591, 620, 623 (1944). He considered the FPC disallowance of a $17,000,000 outlay for well-drilling "a major error," believing that it should be included along with other plant costs in the determination of the rate base. *Id.* at 624.

Mr. Justice Frankfurter objected to the Commission's action because "the range of its vision was too narrow." See Mr. Justice Frankfurter, dissenting, *ibid.* He agreed with the analysis presented by Mr. Justice Jackson, which deserves future consideration in the determination of regulatory objectives.

The Jackson opinion is apparently unique in the annals of court decisions and opinions, because Mr. Justice Jackson considers the basic matters of broad public interest as well as direct legal issues. See Mr. Justice Jackson, concurring, *id.* at 628. While Mr. Justice Jackson agrees that the theory of "fair value-reproduction cost" should be overruled, he nevertheless feels that the case should have been remanded to the Commission for reconsideration in the light of the purposes involved in the Natural Gas Act of 1938 and of the basic economic and social factors encountered in the natural gas industry. He conceives the basic purpose of the Act to be the conservation of the natural gas supply for maximum usefulness to the public. Maximum usefulness consists in residential as against commercial and industrial consumption. He points out that the rates which are to be determined in the light of the public interest are specifically required to be non-discriminatory. The *Hope* case started in part on the grounds of discrimination between consumers and between classes of service. In its disposition of the case, however, the Commission ordered a flat percentage reduction in rates regardless of factors of conservation and discrimination. Mr. Justice Jacskon points to the comparatively much higher rates for residential than for commercial and industrial use and states that the *public interest* "requires that the great volume of gas now being put to uneconomic industrial use should either be saved for its more important future domestic use or the present domestic user should have the full benefit of its exchange value in reducing his present rates." *Id.* at 659.

There may be a question, however, as to what the controlling purpose of the Act really was or how it was to be attained. Presumably, moreover, the Commission had considered the purposes of the Act and had decided that the reduction ordered was in conformity with such purposes. The issue of general nonconformity was not before the Court. Moreover, if Mr. Justice Jackson's general position were to be adopted as controlling, utility cases would come back to the courts for consideration of various public aspects. Thus the signal accomplishment of the *Hope* decision, which was to leave the job of regulation with the commissions except under the clear circumstances of unjust orders, would be nullified.

Perhaps the sensible course would be to make the regulatory statutes as explicit as possible in regard to purposes and means and then leave the work of regulation to administrative agencies, subject primarily to executive rather than judicial control. Yet, the function of ultimate judicial review can hardly be discarded entirely.