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INCONSISTENCIES IN PUBLIC UTILITY DEPRECIATION:  
DEDUCTION OF DEPRECIATION FOR RATE  
BASE PURPOSES\*

*Robert D. Hawn* †

WHEN considering depreciation for rate base purposes the courts and the commissions speak of accrued depreciation,<sup>91</sup> existing depreciation,<sup>92</sup> actual depreciation,<sup>93</sup> complete depreciation,<sup>94</sup> realized depreciation,<sup>95</sup> incomplete depreciation,<sup>96</sup> and observed depreciation.<sup>97</sup> Accrued, existing and actual depreciation all have the same meaning. In the words of one special master, confirmed orally by a federal court, this is:

“the difference between the value of an article new and its present value. When applied to the various items of property which enter into and make up the plant . . . it does not mean these items are to be treated as junk and so valued, nor as second-hand machinery, and then given market value as such. They must be valued as items of machinery used and useful to the company in giving efficient and adequate service to the public. . . . Do they render as efficient service as new units will? Will they last as long or are they obsolete or inadequate? . . . Their market value as second-hand machinery is not to be considered, but their value for the purposes for which they are being used, as compared with new units put in their place. This meaning of accrued de-

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<sup>91</sup> *McCardle v. Indianapolis Water Co.*, 272 U. S. 400, 57 S. Ct. 144 (1926); *Public Utility Comm. v. Solar Electric Co.*, (Pa. Pub. Util. Comm. 1938) 24 P. U. R. (N. S.) 337.

<sup>92</sup> *Minnesota Rate Cases*, 230 U. S. 352, 33 S. Ct. 729 (1913); *Illinois Bell Tel. Co.*, 292 U. S. 151, 54 S. Ct. 658 (1933).

<sup>93</sup> *Southern Bell Tel. & Tel. Co. v. Railroad Commission*, (D. C. S. C. 1925) 5 F. (2d) 77.

<sup>94</sup> *Knoxville v. Knoxville Water Co.*, 212 U. S. 1, 29 S. Ct. 148 (1909).

<sup>95</sup> *Indiana Bell Tel. Co. v. Public Service Comm.*, (D. C. Ind. 1924) 300 F. 190 at 198.

<sup>96</sup> *Ibid.*

<sup>97</sup> *Re Southern Bell Tel. & Tel. Co.*, (N. C. Util. Comm. 1934) 7 P. U. R. (N. S.) 21.

preciation must be kept in mind in arriving at its amount when applied to the property of this company."<sup>98</sup>

Complete or realized depreciation is that which has resulted in full expiration of service life. Incomplete depreciation has reference to loss of service value in property not yet retired and is therefore synonymous with accrued depreciation. By observed depreciation is meant that which can be seen by the eye, to be determined by appraisers who estimate the physical condition of the property as compared with new equipment after inspection, possible mechanical tests, and, as advocated by some, with some allowance for inadequacy and obsolescence.<sup>99</sup> Theoretical depreciation, which is a term frequently used, refers to a method of arriving at the depreciation that has taken place and not to a type of depreciation.<sup>100</sup> It is the amount determined by means of a life table based on a study of the average life of large numbers of like units.

#### *Necessity for Deduction for Rate Base Purposes*

In the cases the necessity for, and the amount of, the accrued depreciation deduction for rate base purposes receives far more consideration than does the annual depreciation. As has been stated earlier, there now remains no question as to the necessity of deducting accrued depreciation in determining the rate base.<sup>101</sup> The utilities have long since ceased to contest this fundamental issue, but they have never discontinued their efforts to minimize the amount of the deduction to be made. Illustrative of the type of reasoning employed by the utilities is the "plant immortality theory" mentioned above in connection with the discussion of annual depreciation.<sup>102</sup> This theory, as expounded by Professor Henry Earle Riggs in his book *Depreciation of Public Utility Properties*, conceives of a utility plant as a permanent entity of which the parts may change but which as a plant will continue indefinitely. As to physical depreciation Professor Riggs says:

"The writer is of the opinion that the proper method of fixing the amount of physical property depreciation is to make a study of the property under investigation, determine its proper normal

<sup>98</sup> *Arkansaw Water Co. v. City of Little Rock*, (D. C. Ark. 1923) P. U. R. 1924C 73 at 106-107.

<sup>99</sup> WISCONSIN PUBLIC SERVICE COMMISSION, DEPRECIATION 53-54 (1933).

<sup>100</sup> Roberts, "Depreciation as an Element in Public Utility Valuation," 1 Mo. L. REV. 145 (1936).

<sup>101</sup> Part I, 38 MICH. L. REV. 160 at 161 (1939), and cases cited in note 7. See also *United Fuel Gas Co. v. Railroad Commission of Kentucky*, (D. C. Ky. 1925) 13 F. (2d) 510.

<sup>102</sup> Part I, 38 MICH. L. REV. 160 at 163 (1939).

condition taking into account the extent and character of the business, the demands upon the property, the extent and quality of past maintenance over a period of years, and to estimate carefully the work that ought to be done to bring the entire property, as one operating entity, up to the normal operating condition or the maximum condition in which it should be maintained having due regard for all economic considerations."<sup>103</sup>

On the subject of obsolescence he has the following to say:

"No deduction from value on purely conjectural grounds should be considered. If a property has obsolete equipment or equipment that is not wholly up to date it seems fair to assume either that sound business policy will dictate its replacement by a more economical unit, in which case the question of obsolescence is one for future operating expenses, or that the economies to be effected are not enough to justify the supersession. If this latter be the case the presumption is that the unit will continue to serve until worn out in service and replaced in the ordinary course of maintenance."<sup>104</sup>

This is what Professor Goddard classifies as a deferred maintenance theory,<sup>105</sup> under which, as he says, there is small occasion for a reserve and, in fixing the rate base, no need for a deduction for depreciation, at most a deduction only for deferred maintenance. The latter is the amount required to put the plant in condition to provide one hundred per cent service—Professor Riggs' physical depreciation.<sup>106</sup>

<sup>103</sup> RIGGS, *DEPRECIATION OF PUBLIC UTILITY PROPERTIES* 128 (1922).

<sup>104</sup> *Ibid.*, pp. 138-139.

<sup>105</sup> This theory was first presented by Allison, "Should Public Service Properties be Depreciated to Obtain Fair Value in Rate or Regulation Cases?" *REPORT OF ST. LOUIS PUBLIC SERVICE COMMISSION ON THE UNITED RAILWAYS COMPANY OF ST. LOUIS*, Appendix A, pp. 73-121 (1912).

Pros and cons of the theory are presented in a series of articles in the *Quarterly Journal of Economics*: Young, "Depreciation and Rate Control," 28 *Q. J. ECON.* 630 (1914); Davis, "Depreciation and Rate Control: A Criticism," 29 *Q. J. ECON.* 362 (1915); Bauer, "Depreciation and Rate Control: A Question of Justice," 29 *Q. J. ECON.* 651 (1915); Bonbright, "Depreciation and Rate Control: A Further Discussion," 30 *Q. J. ECON.* 546 (1916). Riggs reaffirms his belief in the theory in "Facts and Fallacies about 'Straight-line' Depreciation," 12 *PUB. UTIL. FORTN.* 393 (1933); CARTER and RANSOM, *DEPRECIATION CHARGES OF RAILROADS AND PUBLIC UTILITIES* (1921) (A Memorandum filed with the Depreciation Section of the Bureau of Accounts of the Interstate Commerce Commission) present this same view.

<sup>106</sup> Goddard, "The Interest of Public Utility Ratepayers in Depreciation," 48 *HARV. L. REV.* 721 at 730 (1935).

*Methods of Determining Accrued Depreciation*

Obviously a theory of depreciation such as that outlined by Professor Riggs is dependent upon an observation method of determining accrued depreciation. Estimated service life of the property, or its age at the time of the determination of the depreciation, have no place in such a theory of depreciation. The present fair value doctrine for the determination of the rate base plays directly into the hand of the utilities in this respect.<sup>107</sup> The Supreme Court did not in *Smythe v. Ames*<sup>108</sup> attempt to give any definitive meaning to its concept of "fair value"<sup>109</sup> and particularly did it fail to indicate the functional relation between the facts it laid down as evidentiary of fair value and the respective rights of utility investors and consumers which the test of fair value is to recognize and protect. While subsequent cases have by a piecemeal process evolved a substantive law rule of fair value new as composed of some sort of mixture of the elements derived from original cost and present cost of reproduction, they offer little help in determining what principles of depreciation the Court derives from its fair value concept. The Court seemingly "gropes in the dark" for a satisfactory theory concerning the deduction for accrued depreciation. The utility engineer meets this sense of vacuum on the part of the courts with the too obvious explanation that value new need only be reduced by the amount necessary to put the property in condition to operate as efficiently as new. Surprisingly, some courts accept this as a solution of the problem.<sup>110</sup>

The utilities naturally desire to hold the valuation of their properties for rate base purposes at the highest possible figure, since this is the figure on which they are entitled to receive a fair rate of return.

<sup>107</sup> See comment in NEW YORK COMMISSION ON REVISION OF PUBLIC SERVICE COMMISSIONS LAW, MINORITY REPORT 358 (1930) (N. Y. Leg. Doc. 75). The minority commissioners (Frank P. Walsh, James C. Bonbright and David C. Adie) say the courts are logically compelled, under the fair value theory, to make a distinction between depreciation *provided against* and the depreciation the properties have actually *sustained* at the time when the valuation is being made.

<sup>108</sup> 169 U. S. 466, 18 S. Ct. 418 (1898).

<sup>109</sup> Kauper, "Wanted: A New Definition of the Rate Base," 37 MICH. L. REV. 1209 (1939).

<sup>110</sup> *New York & Queens Gas Co. v. Prendergast*, (D. C. N. Y. 1924) 1 F. (2d) 351; *Kings County Lighting Co. v. Prendergast*, (D. C. N. Y. 1925) 7 F. (2d) 192; *Consolidated Gas Co. v. Newton*, (D. C. N. Y. 1920) 267 F. 231; *Brooklyn Union Gas Co. v. Prendergast*, (D. C. N. Y. 1925) 7 F. (2d) 628; *New York & Queens Gas Co. v. Newton*, (D. C. N. Y. 1920) 269 F. 277; *Bronx Gas & Elec. Co. v. Public Service Comm.*, (N. Y. S. Ct. 1922) P. U. R. 1923A 255. See also the cases cited in 2 WHITTEN, VALUATION OF PUBLIC SERVICE CORPORATIONS, 2d ed., by Wilcox, § 828 (1928).

This was the cause of their contention for reproduction value during the period of rising prices which existed during the early years of regulation and up to very recent times. The same reason exists for their insistence upon the observation method of determining existing depreciation.

The United States Supreme Court has not approved the use of deferred maintenance as a measure of accrued depreciation.<sup>111</sup> It is said, however, that it has accepted observed depreciation in preference to age-life calculations.<sup>112</sup> This conclusion is based on statements in the *San Francisco*<sup>113</sup> and *Indianapolis Water Co.*<sup>114</sup> cases. In the former case the United States Supreme Court, in referring to objections to use of the "modified sinking-fund method" followed by the master of a federal court in calculating accrued depreciation, said:

"Appellant objects to the application of this method and insists that depreciation should have been ascertained upon full consideration of the definite testimony given by competent experts who examined the structural units, spoke concerning the observed depreciation and made estimates therefrom. As these examinations were made subsequent to the alleged depreciation for the definite purpose of ascertaining existing facts, we think the criticism is not without merit. Facts shown by reliable evidence were preferable to averages based upon assumed probabilities. When a plant has been conducted with unusual skill the owner may justly claim the consequent benefits."<sup>115</sup>

Later, in the *Indianapolis Water Co.* case, the Court said:

"The testimony of competent valuation engineers who examined the property and made estimates in respect to its condition is to be

<sup>111</sup> 2 BONBRIGHT, *THE VALUATION OF PROPERTY* 1129 (1937); WISCONSIN PUBLIC SERVICE COMMISSION, *DEPRECIATION* 97-98 (1933). There is no exact correlation between the deferred maintenance measure of accrued depreciation and the amount determined by the observation method. According to most writers, the latter would include a somewhat broader category of factors and result in a larger amount of accrued depreciation. In fact, there is nowhere to be found a clear-cut explanation, on which all appraisers would agree, of how depreciation is to be determined by observation.

<sup>112</sup> MASON, *PRINCIPLES OF PUBLIC-UTILITY DEPRECIATION* 109 (1937). The New York commission says in *Re Bronx Gas & Elec. Co.*, (N. Y. Dept. Pub. Serv., State Div., 1937) 24 P. U. R. (N. S.) 65, that the Court has never made observed depreciation compulsory.

<sup>113</sup> *Pacific Gas & Elec. Co. v. San Francisco*, 265 U. S. 403, 44 S. Ct. 537 (1924).

<sup>114</sup> *McCardle v. Indianapolis Water Co.*, 272 U. S. 400, 47 S. Ct. 144 (1926).

<sup>115</sup> *Pacific Gas & Elec. Co. v. San Francisco*, 265 U. S. 403 at 406, 44 S. Ct. 537 (1924).

preferred to mere calculations based on averages and assumed probabilities."<sup>116</sup>

In regard to these decisions, the authors of *Depreciation*, published by the Wisconsin Public Service Commission, have the following to say:

"It appears to us that the decisions of the Court, as quoted above, apparently go no further than establishing the doctrine that actual estimates based on inspection are preferable to arbitrary measures such as assuming that property diminishes in value in the same proportion that its age bears to average service life of comparable properties without giving direct consideration to the quality of maintenance or the special circumstances affecting the property in question."<sup>117</sup>

If this interpretation is correct, the age-life methods would be acceptable if based on due consideration of the maintenance policy of the particular company and if periodic checks were made of the estimated service lives used in the calculations of depreciation of the property.

The problem of depreciation resolves itself into a valuation of expired service life without regard to second-hand or liquidation values.<sup>118</sup> Obviously "value" and "valuation," as used in regulation of rates of public utilities, have peculiar meanings. Value cannot here have the meaning the economist attaches to the term (capitalized future benefits or earnings) because it is the future earnings themselves which are to be determined and which will be based upon the valuation placed upon the property.<sup>119</sup> The United States Supreme Court has said the "value" sought in public utility regulation is "present fair value," but it has not worked out this valuation on an economic basis. As a result the term value, as used here, is somewhat misleading to one thinking in terms of the economist's nomenclature.

Disregarding for the time being the very serious objections to the implications of the fair value doctrine and its difficulties in application as it has been worked out,<sup>120</sup> the question may well be asked whether, in view of the well-known absurd differences which usually exist between the estimates of observed depreciation made by different parties in

<sup>116</sup> *McCardle v. Indianapolis Water Co.*, 272 U. S. 400 at 416, 47 S. Ct. 744 (1926).

<sup>117</sup> WISCONSIN PUBLIC SERVICE COMMISSION, *DEPRECIATION* 97 (1932).

<sup>118</sup> Part I, 38 MICH. L. REV. 160 at 182 (1939).

<sup>119</sup> See 2 BONBRIGHT, *THE VALUATION OF PROPERTY* 658-691 (1937).

<sup>120</sup> See Kauper, "Wanted: A New Definition of the Rate Base," 37 MICH. L. REV. 1209 (1939), for a summary of the objections to the "fair value" doctrine. All that is said there applies equally to the treatment of depreciation, which is merely one phase of public utility valuation.

attempting to determine fair value in a given case,<sup>121</sup> we should not be pretty well convinced that there is a fundamental weakness in such a system of determining depreciation.

It is unquestionably true that some lower federal courts and some state courts have interpreted the United States Supreme Court's views as requiring the determination of accrued depreciation by the observation method.<sup>122</sup> Bonbright says the most serious defect of the observation method is that it encourages commissions and lower courts to make deductions only for such depreciation as is visible to the inspecting engineer,<sup>123</sup> and cites *New York & Queens Gas Co. v. Prendergast*<sup>124</sup> as an example. Certainly in view of the lack of agreement between engineers and appraisers on their methods of observation and in the amounts of observed depreciation which different appraisers find in a given property, there is a serious temptation to the lower court to take the accrued depreciation figure which is least likely to cause its decision to be overruled, regardless of what figure is most probably correct in a given case.

It would seem that the language of the Supreme Court in the *San Francisco* and *Indianapolis Water Co.* cases is open to a construction which permits use of the age-life method of determining accrued depreciation. In the *United Railways* case<sup>125</sup> Justice Brandeis stated the question was still open. It is believed that the Court would approve such a method in a case properly presented in which the accrued depreciation was determined on an age-life basis, using the experience of the particular utility involved, if such determination is shown to have been

<sup>121</sup> In *Southern Bell Tel. & Tel. Co. v. Louisiana Public Service Comm.*, 187 La. 137, 174 So. 180 (1937), one estimate of observed depreciation was 22 per cent of reproduction cost new and another about 11 per cent. Re *Long Island Lighting Co.*, (N. Y. Dept. Pub. Serv., State Div., 1936) 18 P.U.R. (N. S.) 65, presents a good case showing the absurdities of this method of accruing depreciation, as does *Re Peoples Gas Light & Coke Co.*, (Ill. Commerce Comm. 1937) 19 P. U. R. (N. S.) 177. In the latter case observed depreciation on parts of the properties as found by one engineer was 14.57 per cent and by another 30.41 per cent. Still other properties were observed to be depreciated 20.81 per cent by one and 42.99 per cent by the other. Certainly these are delusive indications of accuracy in measurement.

<sup>122</sup> Several such cases are cited by Guernsey, "Some Depreciation Questions," 4 TEMPLE L. Q. 203 at 213-215 (1930). Additional cases are cited by WISCONSIN PUBLIC SERVICE COMMISSION, DEPRECIATION 100-101 (1933).

<sup>123</sup> 2 BONBRIGHT, THE VALUATION OF PROPERTY 1133 (1937). Other limitations are: (1) it ignores deterioration not perceptible to the eye of the appraiser, (2) observation itself gives no basis for an inference as to how long an asset which is still giving good service will continue to do so. 1 *ibid.*, 205.

<sup>124</sup> (D. C. N. Y. 1924) 1 F. (2d) 351.

<sup>125</sup> *United Railways & Elec. Co. of Baltimore v. West*, 280 U. S. 234, 50 S. Ct. 123 (1930).



subjected to periodic checks.<sup>126</sup> This would avoid the "mere calculations based on averages and assumed probabilities" to which objection is voiced in the two cases quoted from. If, as stated in the *Minnesota Rate Cases*<sup>127</sup> "the extent of the existing depreciation should be shown and deducted," and if the Court was right in its definition of depreciation in the *Lindheimer* case,<sup>128</sup> it would seem it could not deny the use of an age-life method of determining accrued depreciation. In fact it clearly approved that method in affirming the decree of the district court in the *Des Moines* case. The district court had confirmed the report of the special master in chancery in which, in regard to valuation of property, the master had said:

"It is not a question of what was actually expended therefor in the plant in question, but what it would cost to reproduce a similar plant at the present time. It is through this method we reach the present value of this plant new, and then when it is properly depreciated, according to the condition, life and age of its various parts, we reach the present value of the plant in its present condition."<sup>129</sup>

The only factor mentioned by the master here which the age-life methods could possibly fail to take into account is the condition of the property, and that would be covered by periodic checks upon the estimated life of the property.

We have seen that the question of accrued depreciation does not arise under the earlier view of the sinking-fund method of accounting for depreciation; so, while this method is based on age-life calculations, its approval by the Court is no authority for the use of age-life methods of determining *accrued depreciation*. This is not true of the straight-line method, which is also based on age-life calculations. Nevertheless, we find the United States Supreme Court dealing with rate cases in which straight-line methods were used and expressing no disagreement with this method. In the *Southwestern Bell Telephone Co.* case<sup>130</sup> the decision of the Missouri Supreme Court sustaining the commission's order was reversed, but no mention is made of any fault in the com-

<sup>126</sup> This, with the exception of the periodic check-up, is the suggestion of Alvin C. Reis, Chief Counsel of the Wisconsin Public Service Commission. 1934 PROC. NAT. ASSN. R. R. & UTIL. 215 at 225-226.

<sup>127</sup> 230 U. S. 352 at 457, 33 S. Ct. 729 (1913).

<sup>128</sup> *Lindheimer v. Illinois Bell Tel. Co.*, 292 U. S. 151, 54 S. Ct. 658 (1933).

<sup>129</sup> *Des Moines Gas Co. v. City of Des Moines*, 238 U. S. 153 at 168, 35 S. Ct. 811 (1915).

<sup>130</sup> *Missouri ex rel. Southwestern Bell Telephone Co. v. Public Service Comm.*, 262 U. S. 276, 43 S. Ct. 544 (1923).

mission's use of the straight-line method of determining depreciation. In the *Lindheimer* case<sup>131</sup> the Court held no confiscation was shown and criticized the company for its inconsistency in its claims with respect to existing depreciation as compared with the amounts it had taken for annual depreciation on the straight-line basis, and by implication, as compared with the reserve thus accumulated.

Whatever may be the view of the federal courts on the method of determining accrued depreciation, there is clear-cut recognition of age-life methods by the commissions<sup>132</sup> and by some state courts. The New York commission says:

"Depreciation measures the consumption of property in the rendition of service, i.e., the consumption of capacity to render useful service, not only when such consumption is completed but as it takes place. The consumption of service value is distributed over its entire life, and the value of property at any one time is best measured by the relation of the remaining service life to its total service life."<sup>133</sup>

The Wisconsin commission voices the same view when it says:

"We are of the opinion that the most satisfactory method of determining the necessary accrual [of depreciation] is on an age-life basis."<sup>134</sup>

Approval of the straight-line method of determining depreciation by the Appellate Division of the New York Supreme Court, Third Division, has already been noted.<sup>135</sup> The Virginia Supreme Court expresses definite disapproval of the observation method of ascertaining accrued depreciation, and says:

<sup>131</sup> *Lindheimer v. Illinois Bell Tel. Co.*, 292 U. S. 151, 54 S. Ct. 658 (1933).

<sup>132</sup> *Re Bronx Gas & Elec. Co.*, (N. Y. Dept. Pub. Serv., State Div., 1937) 24 P. U. R. (N. S.) 65; *Re Wisconsin Power & Light Co.*, (Wis. Pub. Serv. Comm. 1938) 24 P. U. R. (N. S.) 136; *Department of Public Works v. Oregon-Washington Water Service Co.*, (Wash. Dept. Pub. Works, 1934) 8 P. U. R. (N. S.) 293; *Re Southwestern Bell Tel. Co.*, (Okla. Corp. Comm. 1935) 9 P. U. R. (N. S.) 113; *Re Chesapeake & Potomac Tel. Co.*, (Md. Pub. Serv. Comm., 1933) 1 P. U. R. (N. S.) 346; *Re Home Gas & Elec. Co.*, (Colo. Pub. Util. Comm. 1934) 5 P. U. R. (N. S.) 107; *East Ohio Gas Co. v. City of Cleveland*, (Ohio Pub. Util. Comm. 1939) 27 P. U. R. (N. S.) 387; *Illinois Commerce Comm. v. Public Service Co. of Northern Illinois*, (Ill. Comm. Comm. 1934) 4 P. U. R. (N. S.) 1; *City of Blytheville v. Blytheville Water Co.*, (Ark. Dept. Pub. Util. 1936) 15 P. U. R. (N. S.) 177.

<sup>133</sup> *Re Bronx Gas & Elec. Co.*, (N. Y. Dept. Pub. Serv., State Div., 1937) 24 P. U. R. (N. S.) 65 at 94.

<sup>134</sup> *Re Wisconsin Power & Light Co.*, (Wis. Pub. Serv. Comm. 1938) 24 P. U. R. (N. S.) 136 at 149.

<sup>135</sup> Part I, 38 MICH. L. REV. 160 at 181, note 73 (1939).

“Observable physical deterioration is always an important factor in determining accrued depreciation; but due weight should also be given to every other existing factor which has the effect of reducing the present fair value of the property below its reproduction new cost. . . . There may be and often is present in units of a property . . . physical deterioration which is not observable but from common experience is known to exist. In many instances one of the best indications of such deterioration is the ratio of past service life to the total reasonably to be expected service life of the unit.”<sup>186</sup>

If it is contended that service life cannot be predicted with reasonable certainty for the practical purposes of regulation of rates, it may be noted that “the unpredictability of the survival of an individual human life is no less obvious and yet that fact has been no practical obstacle to the development of an extensive life insurance business based upon studies of life expectancy and tables developed therefrom. Similar studies of property lives have been made and mathematical predictions of life expectancy for various classes of property developed.”<sup>187</sup> Experience is of course not available for all classes of property which may be in use by a given utility. It is doubtful, however, whether errors in estimation of service life, when based upon knowledge of conditions of the particular company and when verified by current check on the property in use, will be as likely as under the observation method, which as previously indicated, results in widely disparate estimates.

#### *Consistency Between Annual and Accrued Depreciation*

In the process of estimating service life of depreciable property, errors will inevitably occur. If the error is in underestimation of the life, and at some time prior to abandonment of the property the error is discovered and the depreciation reserve is thus shown to be in excess of the accrued depreciation, a question naturally arises as to how this may affect future annual depreciation allowances. Of course, if no need for consistency between the annual and the accrued depreciation is recognized, and the accrued depreciation is to be determined by the observation method, no new difficulty arises in these situations, since

<sup>186</sup> Alexandria Water Co. v. Alexandria, 163 Va. 512 at 563, 177 S. E. 454 (1934).

<sup>187</sup> See I BONBRIGHT, THE VALUATION OF PROPERTY 178, note 2 (1937), for citation of authorities. See also Report of Special Committee on Depreciation, “Depreciation Principles and Methods,” 1938 PROC. NAT. ASSN. R. R. AND UTIL. COMMRs. 438 at 502 et seq., for discussion of the actuarial method of estimating service life.

the reserve is no indication of the accrued depreciation. In any case, the United States Supreme Court has definitely resolved the issue where the reserve exceeds what is found to be the accrued depreciation (by whatever method the accrued depreciation is determined). The Court held<sup>138</sup> that the New Jersey commission could not use the excess reserve accumulated from past annual depreciation allowances to overcome deficits in present or future earnings or to sustain rates which would otherwise be confiscatory. The Court said:

“Constitutional protection against confiscation does not depend on the source of the money used to purchase the property. . . . The revenue paid by the customers for service belongs to the company. The amount, if any, remaining after paying taxes and operating expenses, including the expense of depreciation, is the company’s compensation for the use of its property. If there is no return, or if the amount is less than a reasonable return, the company must bear the loss. Past losses cannot be used to enhance the value of the property or to support a claim that rates for the future are confiscatory. . . . And the law does not require the company to give up for the benefit of future subscribers any part of its accumulations from past operations. Profits of the past cannot be used to sustain confiscatory rates for the future.”<sup>139</sup>

The New York commission seems to have applied an opposite view to that of the United States Supreme Court in a case involving the same New York Telephone Company when it says:

“it is inequitable to require the subscribers to pay over the entire life of the property more than the actual loss sustained when the property is retired. This being so, the proper basis upon which to fix an annual rate of depreciation is to make it such that over the remaining life of the property a sufficient additional amount

<sup>138</sup> Board of Public Utility Commrs. v. New York Tel. Co., 271 U. S. 23, 46 S. Ct. 363 (1926).

<sup>139</sup> *Ibid.*, 271 U. S. 23 at 31-32. Accord: State ex rel. Empire District Elec. Co. v. Public Service Comm., 339 Mo. 1188, 100 S. W. (2d) 509 (1936); Re Northwestern Bell Tel. Co., (Neb. St. Ry. Comm. 1935) 11 P. U. R. (N. S.) 337; Re Big Horn Oil & Gas Development Co., (Mont. Pub. Serv. Comm. 1938) 27 P. U. R. (N. S.) 41; Re Home Gas & Elec. Co., (Colo. Pub. Util. Comm. 1934) 5 P. U. R. (N. S.) 107. In Wisconsin Telephone Co. v. Public Service Comm., (Wis. 1939) 287 N. W. 167, the court, while recognizing that the public has no redress for contributions to capital arising from excessive depreciation charges, does go half way in seeking consistency when it says that excessive reserve indicates past annual depreciation has been calculated on too high a rate and upholds a reduced rate used by the commission.

will be accumulated so that the reserve at the time of retirement will equal the loss sustained at that time."<sup>140</sup>

Here past rates for annual depreciation had been too high in light of the evidence presented at the time of the hearing. The cause of the resulting excessive reserve was the slowing down of growth with the depression years, which resulted in a decrease in the amount of anticipated replacements as compared with earlier years. The implication from the case is that the annual rate of depreciation adopted by the commission was lower than would have been proper had there not been more in the reserve than present anticipations of retirements would require.<sup>141</sup>

The view of the New York commission is more in accord with the writer's contention for consistent treatment of annual and accrued depreciation, as expressed above, than is the position taken by the Supreme Court. Under the "fair value" theory, the Court has no alternative to its view; and in accordance with this theory the New York commission should be overruled by the Court, unless it could be argued that the utility is estopped because it took the annual depreciation allowance with notice of the commission's regulations requiring deduction for accrued depreciation purposes of whatever amounts were taken as annual depreciation. It would seem that the amount of depreciation to be deducted for rate base purposes should be considered as a matter of "fairness," and that nothing "fairer" to all parties concerned could be devised than to require deduction for rate base purposes of the same amount as was used for annual depreciation. It must be remembered that we are dealing with a peculiar meaning of "value" in public utility rate regulation, and this would seem to fit into such a meaning as is appropriate for the purpose.

Of course there may be an overestimation of service life as well as an underestimation. Here again the United States Supreme Court has passed upon the matter, though not in as conclusive fashion as in the case of underestimation of service life. In *Pacific Gas & Electric Co. v. San Francisco*<sup>142</sup> the company had acquired rights to the use of certain inventions which would involve abandonment of equipment and

<sup>140</sup> Re New York Telephone Co., (N. Y. Dept. Pub. Serv., State Div., 1936) 14 P. U. R. (N. S.) 443 at 450.

<sup>141</sup> See Berkson, "Excess Depreciation Reserve and Rate Control," 36 COL. L. REV. 250 (1936), for discussion of cases where the reserve exceeds "actual" depreciation.

<sup>142</sup> 265 U. S. 403, 44 S. Ct. 537 (1924).

substitution of other much more economical equipment, worked out in the company's plant by salaried engineers and proved by use on reconstructed gas generators. The company contended the inventions were to be included in the rate base at the capitalized value of the savings their use would occasion. The commission allowed only their cost, and refused to permit amortization of the remaining value of the abandoned equipment over future periods out of the savings from the use of the patents. The United States Supreme Court reversed the decision of the district court, which had sustained the commission's order. In so doing, the Court mentioned two possible means available to save the company from actual ultimate loss from its action in adopting the inventions: (1) fix the rate base by adding some fair value for the patent rights to the inventory, or (2) allow prompt recoupment of the obsolescence caused by the introduction of the patents. It did not prescribe which method should be followed by the lower court, to which the case was remanded. The case is therefore not clear authority for carrying forward obsolescence which could not reasonably have been foreseen and provided for. A consistent treatment of annual and accrued depreciation would seem to justify carrying forward the unrecovered cost as provided for in the second suggestion made by the Supreme Court. Otherwise the utility suffers loss from the very action which it took in order to give the more economical and efficient service. Obvious danger lurks within extension of this privilege unless adequate supervision of abandonments is exercised.

The Arkansas commission has the following to say about abandonments resulting from obsolescence or inadequacy:

"The installation of a new machine, whether caused by obsolescence or inadequacy of the old, usually means lower operating costs or greater revenues, which in turn means lower rates or better service. Those who get the benefit of these lower rates or better service should pay for the improvements that made them possible. This can be accomplished only through the plan indicated [an abandoned property account to be amortized over future periods]. Changes and removals at the instance of public authorities do not ordinarily improve the service, increase the revenues, or lower operating costs. They are usually made because of a civic improvement, such as removing poles and wires from streets to alleys or underground, or for the purpose of widening or paving streets or highways. Theoretically, at least, these changes make the community in which they take place a better place in which to live or result in greater convenience to the public. The cost of such

changes should be borne by those who will enjoy and receive the benefits thereof.”<sup>143</sup>

This perhaps supplies an explanation why it may not be an undue burden on the consumers of the future periods to carry forward the loss caused by sudden obsolescence.<sup>144</sup> It does not alter the fact that the loss was a loss chargeable to the service rendered by the retired property, since it is that property which is lost. The new property has cost no more simply because the old had a limited life not accurately predictable in advance.

One further question remains in connection with the “duty” to provide for annual depreciation as laid down in the *Knoxville* case.<sup>145</sup> Suppose the utility has incurred losses in the past or has not earned sufficient income to cover depreciation. Does this justify the company in charging more depreciation in the future than would otherwise be permissible? In those states that follow the prudent investment theory of valuation, it is recognized that unearned depreciation need not be deducted for rate base purposes so long as there has been no mismanagement and no improper payment of dividends.<sup>146</sup> This does not mean that future annual depreciation charges may be increased. The United States Supreme Court has held that such losses cannot be made the basis for increased depreciation charges. In the *Galveston* case the Court said:

“The fact that a utility may reach financial success only in time or not at all, is a reason for allowing a liberal return on the money invested in the enterprise; but it does not make past losses an element to be considered in deciding what the base value is and whether the rate is confiscatory. A company which has failed to secure from year to year sufficient earnings to keep the investment

<sup>143</sup> *City of Blytheville v. Blytheville Water Co.*, (Ark. Dept. Pub. Util. 1936) 15 P. U. R. (N. S.) 177 at 199.

<sup>144</sup> For further approval of the carry-over of sudden and unexpected obsolescence, see *Re Michigan Bell Tel. Co.*, (Mich. Pub. Util. Comm. 1935) 10 P. U. R. (N. S.) 149.

<sup>145</sup> *Knoxville v. Knoxville Water Co.*, 212 U. S. 1, 29 S. Ct. 148 (1909), discussed in Part I, 38 MICH. L. REV. 160 at 167 (1939).

<sup>146</sup> *Re Blue Hill St. Ry.*, (Mass. Pub. Serv. Comm.) P. U. R. 1915E 370; *Bay State Rate Case*, (Mass. Pub. Serv. Comm.) P. U. R. 1916F 221. In the latter case the commission required restoration of depreciation losses to be taken care of before paying dividends, however.

In an Idaho case the commission permitted an undepreciated rate base, where the company had never earned a return on the investment, even though the prudent investment theory is not followed in Idaho. *Re Pocatello Gas & Power Co.*, (Idaho Pub. Util. Comm. 1922) P. U. R. 1923C 25.

unimpaired and to pay a fair return, whether its failure was the result of imprudence in engaging in the enterprise, or of errors in management, or of omission to exact proper prices for its output, cannot erect out of past deficits a legal basis for holding confiscatory for the future, rates which would, on the basis of present reproduction value, otherwise be compensatory. . . . Past losses obviously do not tend to prove present values."<sup>147</sup>

The above case involved development losses. In the *Georgia Railways* case<sup>148</sup> it was held that the insufficiency of previous rates as a reason for failure to take depreciation presented an even clearer case for refusal to allow increased future depreciation allowance.<sup>149</sup>

Strict adherence to the consistent theory of depreciation suggested by the writer<sup>150</sup> would require a utility to deduct depreciation for rate base purposes even where the depreciation applied to prior years in which earnings were insufficient to cover such a charge. It would also deny the right to charge added amounts of depreciation in future periods to offset failure to earn depreciation in earlier years. It does not follow, however, that the commission, in the exercise of its discretion, could not permit the utility as a matter of privilege rather than right to deduct only such depreciation as has been earned, and to carry forward the remainder for inclusion in the future annual allowances. It would seem that the view taken by the Supreme Court on this matter is not contrary to a consistent treatment of depreciation. The proper solution to this problem is to allow the utilities a reasonable rate in the first place in order that they may assume the risk of not earning their depreciation. In case this is done, it would not be necessary to permit carrying forward any loss which might result from providing for depreciation.

Consistency between the annual depreciation and the accrued depreciation is impossible under the observation method of determining accrued depreciation. Observed depreciation is determined only at the time when rates are set or approved by the commission. This must inevitably occur only at intervals, more or less extended. The annual depreciation charges, on the other hand, must be determined from period to period between such dates of determination of accrued de-

<sup>147</sup> *Galveston Electric Co. v. City of Galveston*, 258 U. S. 388 at 395, 42 S. Ct. 351 (1922).

<sup>148</sup> *Georgia Ry. & Power Co. v. Railroad Commission of Georgia*, 262 U. S. 625, 43 S. Ct. 680 (1923).

<sup>149</sup> Accord, on failure to charge depreciation in early years: *State ex rel. Laclede Gas Light Co. v. Public Service Comm.*, 341 Mo. 920, 110 S. W. (2d) 749 (1937).

<sup>150</sup> Part I, 38 MICH. L. REV. 160 at 184 (1939).



preciation. Obviously the utility commissions cannot themselves conduct investigations each period to determine the increase in observed depreciation during that period, nor can they prescribe any form of regulation whereby the utility may be required to do this in the same way in which the commission would have done it. In any case, an observation of depreciation as of any given date would not be concerned with depreciation which had been presumed to have occurred in prior periods and which was therefore taken up in operating expense. By the application of an age-life method both to the determination of annual depreciation and to the calculation of accrued depreciation, a logical consistency is maintained and fair treatment is accorded both the utility investors and the consumers.

The need for consistency between annual depreciation and accrued depreciation is recognized by the commissions<sup>151</sup> and by some courts.<sup>152</sup> The problem usually arises in connection with a claim by the utility that its property is in a certain per cent condition, such as ninety per cent, though it has accumulated a depreciation reserve through annual depreciation charged to operating expenses of possibly as much as twenty-five per cent to forty or fifty per cent of the depreciable value of the property. On the whole the decisions of the courts are unsatisfactory on this issue. Most of them hold that no relationship need exist between the depreciation reserve built up through the annual depreciation charges and the accrued depreciation which is deducted for rate base purposes.<sup>153</sup> Thus they permit the utility to adopt the inconsistent

<sup>151</sup> *Re Long Island Lighting Co.*, (N. Y. Dept. Pub. Serv., State Div., 1936) 18 P. U. R. (N. S.) 65; *Mayor of Monroe v. Georgia Continental Tel. Co.*, (Ga. Pub. Serv. Comm. 1938) 25 P. U. R. (N. S.) 95; *Certain Persons of Elmira v. Elmira Light, Heat & Power Corp.*, (N. Y. Dept. Pub. Serv., State Div., 1937) 22 P. U. R. (N. S.) 99; *Re Oregon-Washington Tel. Co.*, (Ore. Pub. Util. Comm. 1937) 17 P. U. R. (N. S.) 133; *Lone Star Gas Co. v. Fort Worth*, (Tex. R. R. Comm. 1937) 20 P. U. R. (N. S.) 89; *Illinois Commerce Comm. v. Public Service Co. of Northern Illinois*, (Ill. Comm. Comm. 1934) 4 P. U. R. (N. S.) 1; *City of Blytheville v. Blytheville Water Co.*, (Ark. Dept. Pub. Util. 1936) 15 P. U. R. (N. S.) 177; *Department of Public Works v. Oregon-Washington Tel. Co.*, (Wash. Dept. Pub. Works, 1934) 8 P. U. R. (N. S.) 293; *Re Wisconsin Telephone Co.*, (Wis. Pub. Serv. Comm. 1934) 6 P. U. R. (N. S.) 389; *Re Reedsburg Tel. Co.*, (Wis. Pub. Serv. Comm. 1934) 7 P. U. R. (N. S.) 389.

<sup>152</sup> *Carey v. Corporation Comm.*, 168 Okla. 487, 33 P. (2d) 788 (1934); *New York Tel. Co., v. Prendergast*, (D. C. N. Y. 1929) 36 F. (2d) 54; *Chesapeake & Potomac Tel. Co. v. Whitman*, (D. C. Md. 1925) 3 F. (2d) 938, P. U. R. 1925D 407.

<sup>153</sup> *State ex rel. Laclede Gas Light Co. v. Public Service Comm.*, 341 Mo. 920, 110 S. W. (2d) 749 (1937); *Pacific Tel. & Tel. Co. v. Whitcomb*, (D. C. Wash. 1926) 12 F. (2d) 279; *Arkansas-Louisiana Gas Co. v. Texarkana*, (D. C. Ark. 1936)

policy of "blowing hot by its insistence on having a practically undepreciated rate base and blowing cold at the same time in wanting to charge a rate high enough to absorb this enormous annual depreciation expense."<sup>154</sup>

However, an awareness of the relation between annual and accrued depreciation is evident in some opinions. The federal district court in *New York Telephone Co. v. Prendergast*<sup>155</sup> definitely held that the book reserve was the best evidence of accrued depreciation. Moreover, the United States Supreme Court in the *Lindheimer* case took the view that there is such a logical relationship between accrued and annual depreciation that if the company makes a claim for inconsistent amounts it must assume the burden of proving its contentions. It is true that the book figure for the reserve was not accepted as the accrued depreciation in the *Lindheimer* case. However, the amount taken for accrued depreciation seemed to govern the Court's conclusion as to the annual depreciation, and to indicate the Court's recognition of the need for consistency.<sup>156</sup>

The commissions seem to have a clearer understanding of the problem. Thus the Illinois commission calculated accrued depreciation on the basis of the amount set aside by the company for annual depreciation on a straight-line basis instead of accepting observed depreciation as found by the company's engineers.<sup>157</sup> This resulted in 18.98 per cent accrued depreciation instead of the 8.45 per cent claimed by the company as observed depreciation. The commission said:

"While we recognize the fact that observed depreciation has been accorded greater weight as a rule by the courts than computations of straight-line depreciation based upon the age of the property, still we think it is obvious that a reasonably logical relation must exist between the annual amount charged as an operating expense (taken in conjunction with the age of the property) and the amount of accrued depreciation found at any particular time."<sup>158</sup>

17 F. Supp. 447; *Cheltenham & Abington Sewerage Co. v. Public Service Comm.*, 122 Pa. Super. 252, 186 A. 149 (1936).

<sup>154</sup> *Lone Star Gas Co. v. Fort Worth*, (Texas R. R. Comm. 1937) 20 P. U. R. (N. S.) 89 at 125-126.

<sup>155</sup> (D. C. N. Y. 1929) 36 F. (2d) 54.

<sup>156</sup> The Wisconsin Supreme Court seems to take a similar view in two companion cases, *Wisconsin Telephone Co. v. Public Service Comm.*, (Wis. 1939) 287 N. W. 122 and 287 N. W. 167.

<sup>157</sup> *Illinois Commerce Comm. v. Public Service Co. of Northern Illinois*, (Ill. Comm. Comm. 1934) 4 P. U. R. (N. S.) 1.

<sup>158</sup> *Ibid.*, at 33. In the end the commission used an amount of accrued deprecia-

Again, in *Department of Public Works v. Oregon-Washington Water Service Company*<sup>159</sup> the company made the usual claims of a high per cent condition of the property and at the same time claimed such annual rates for depreciation as would clearly have resulted in reserves inconsistent with its claims as to the per cent condition. The Washington commission instead adopted a per cent condition which approximated the reserve accumulation. In another case<sup>160</sup> the Wisconsin commission took as accrued depreciation the amount of the reserve as of a given date prior to the investigation period, at a time when the company was operating under rates previously determined, plus net additions calculated on an assumption of annual accruals at an accepted rate during the period involved in the investigation.<sup>161</sup> Taking the same view, the Georgia commission has said:

“If the same basis is used in determining depreciation accruals as is used for establishing the accrued depreciation a great deal of the controversy over the proper rate is removed. If the rate of accrual is claimed to be too high there will be a higher operating expense leaving a lower net revenue, but at the same time the accrued depreciation of the fixed capital should likewise be higher than if the accruing depreciation were not so large. If on the other hand the annual accrual is not so large, a higher net revenue will be left after depreciation charges but the accrued depreciation should be smaller. The effect of this will yield approximately the same return on the depreciated value of the property even with some variation in the depreciation rate so long as it is reasonably close to the correct amount.”<sup>162</sup>

Here the company had estimated annual depreciation on certain property at 5.41 per cent on a composite basis. Over five years this totalled \$12,435 in excess of retirements charged to the reserve. The commission rejected the company's claim that observed depreciation had increased only \$2,614 during this same period.

The view expressed by the Georgia commission presents an added argument for consistency between annual and accrued depreciation. If

tion determined by the engineers as the basis for a temporary order made without prejudice.

<sup>159</sup> (*Wash. Dept. Pub. Works, 1934*) 8 P. U. R. (N. S.) 293.

<sup>160</sup> *Re Wisconsin Telephone Co., (Wis. Pub. Serv. Comm. 1934)* 6 P. U. R. (N. S.) 389.

<sup>161</sup> This same procedure was followed by the Ohio commission in *East Ohio Gas Co. v. City of Cleveland, (Ohio Pub. Util. Comm. 1939)* 27 P. U. R. (N. S.) 387.

<sup>162</sup> *Mayor of City of Monroe v. Georgia Continental Tel. Co., (Ga. Pub. Serv. Comm. 1938)* 25 P. U. R. (N. S.) 95 at 99.

the rate of annual depreciation selected is reasonably correct and a consistent accrued depreciation is deducted for rate base purposes, any slight errors in the rate will have no ill effects on either utility investors or consumers. The same cannot be said of errors in calculating either the annual or the accrued depreciation when inconsistent methods, such as the observation method, are followed.

In many cases the commissions' approach to the problem of attaining consistency in the treatment of annual and accrued depreciation is from the opposite angle. The past is treated as a closed book during which a certain existing depreciation accumulated. This existing depreciation may be taken as indicated by the reserve carried on the books of the company and future allowances made to accord therewith. Thus in a New York case<sup>163</sup> the balance in the retirement reserve account was said to be too high to be consistent with the "accruals for retirement expense" claimed by the company as annual depreciation. The average age of the property was from eight to nine years and the amount in the reserve was \$761,257. The commission reduced the annual allowance from the \$155,000 claimed by the company to \$100,000, an amount which it said would be consistent with the reserve and the age of the property.<sup>164</sup> In this case there was no indication that an excess of reserve was being used to justify an annual allowance otherwise insufficient. In another case<sup>165</sup> the New York commission did adjust future annual allowances because of an excess accumulation in the reserve. As stated above,<sup>166</sup> this is probably indefensible in a court proceeding in view of the decision in the case of *Board of Public Utility Commissioners v. New York Telephone Co.*,<sup>167</sup> in the absence of established regulations under which the reserve was accumulated subject to the requirement that it should be used for rate base purposes. The more recent New York case does, however, indicate the recognition by the commission of the inequitable nature of the company's inconsistent claims. Moreover, it shows one method whereby the commissions attempt to bring the amounts into accord.<sup>168</sup>

<sup>163</sup> *Certain Persons of Elmira v. Elmira Light, Heat & Power Corp.*, (N. Y. Dept. Pub. Serv., State Div., 1937) 22 P. U. R. (N. S.) 99.

<sup>164</sup> Other cases adopting a similar procedure are: *Re Central Arizona Light & Power Co.*, (Ariz. Corp. Comm. 1934) 6 P. U. R. (N. S.) 49; *Carey v. Corporation Comm.*, 168 Okla. 487, 33 P. (2d) 788 (1934).

<sup>165</sup> *In re New York Tel. Co.*, (N. Y. Pub. Serv. Comm., State Div., 1936) 14 P. U. R. (N. S.) 443.

<sup>166</sup> *Supra*, p. 489.

<sup>167</sup> 271 U. S. 23, 46 S. Ct. 363 (1926).

<sup>168</sup> In the NEW YORK COMMISSION ON REVISION OF THE PUBLIC SERVICE COMMISSIONS LAW, MINORITY REPORT 353-355 (1930) (N. Y. Leg. Doc. 75), the minority

From the above discussion it appears that commissions definitely recognize the need for consistency between annual and accrued depreciation. It is also apparent that in seeking to reach consistency the commissions have found it best to adopt age-life methods for determination of the amount of depreciation, annual or accrued. In this the courts have not fully agreed with the commissions and have taken what appears to the writer to be an unrealistic and impractical attitude towards depreciation in rate regulation. Some courts have accepted the same views as the majority of the commissions and the decisions of such courts are worthy of particular study by the student of public utility depreciation. The existing state of affairs is to be viewed in the light of what was said earlier in this paper concerning the character of the depreciation problem in public utility regulation as a matter essentially for the regulatory commissions. Certainly the rules and practices of the commissions with respect to this difficult problem of public utility depreciation are better indications of the most desirable methods to be used; and compared with the present body of vague and confusing judicial decisions on these questions, they probably represent a closer approach to the principles and procedures which will ultimately prevail.

Charles E. Hughes, now Chief Justice, while acting as referee in *Brooklyn Borough Gas Co. v. Public Service Commission*<sup>169</sup> made the following statement:

“The amount of the depreciation reserve has not been held in a separate fund, but has been invested in the plant and business, and the assets in which the depreciation reserve is invested are embraced in those which have been valued for the purpose of determining the rate base. Plaintiff thus has credit for all the property it uses in the public service, and there is simply deducted the amount of its own estimate of the accrued depreciation in its plant, which is the equivalent of its reserve maintained by collections from customers. . . . In the absence of any countervailing evidence, the depreciation in the plant may fairly be taken at the amount shown in the books. . . .”<sup>170</sup>

Alvin C. Reis, chief counsel of the Wisconsin Public Service Commis-

members of the commission discuss the insurmountable difficulties encountered by the commissions in attempting to prevent inequitable annual depreciation charges and accrued depreciation deductions for rate base purposes under the existing regulatory system as restricted by court decisions. Particular reference is made to the New York Telephone Company and attempts to regulate its depreciation practices.

<sup>169</sup> (N. Y. S. Ct.) P. U. R. 1918F 335.

<sup>170</sup> *Ibid.*, at 352, 353.

sion, in an address before the National Association of Railroad and Utility Commissioners,<sup>171</sup> said these words may be history making and cited the *Lindheimer* case, in which Chief Justice Hughes gave the opinion of the Court, as opening the way for such a deduction. In this same address the speaker enunciated the following arguments to support the practice of deducting the accumulations in the reserve as accrued depreciation for rate base purposes: (1) the reserve represents the recovered investment, (2) the customers have contributed this amount as a substitute for the decline in value of the depreciating property, (3) the company should be estopped to deny that which it has itself claimed as depreciation is the correct amount, (4) the reserve is the "best measure" of expired service life.<sup>172</sup>

Attention is also called to the following passage from the statement of Commissioner Joseph B. Eastman, now chairman of the Interstate Commerce Commission, read at an earlier convention of the same body:

"One other conviction which I shall mention is that the principles are identical which govern the estimating of depreciation for both accounting and valuation purposes. The depreciation which property has suffered is the same depreciation for which annual depreciation charges are intended to compensate. Otherwise there is no sense in such charges. It would be preposterous to permit a reserve to be built up as a part of the expense of operation for the purpose of protecting against a deterioration in the property which is never found to exist when that property is valued. . . .

"While I recognize that the depreciation reserve which has been built up may not correspond with the depreciation actually existing in the property, because the annual charge may have been either too small or too large, it may ultimately be found that a sound, workable plan, fair to all concerned, is to deduct the amount of the depreciation reserve in ascertaining the rate base, rather than the actual depreciation."<sup>173</sup>

<sup>171</sup> 1934 PROC. NAT. ASSN. R. R. & UTIL. COMMRS. 215.

<sup>172</sup> The reserve requirement, which is the amount which would be the correct accrued depreciation on an age-life, straight-line method of calculating depreciation if all the property was dealt with on a unit basis, may be more than the reserve accumulated on a group basis, which is the most commonly followed method because of the fact that retirements of units before the average life of such items had expired since its acquisition is not offset by retirement of other items which outline the average life until after such average life has been passed by the entire group. For this reason there may be some grounds for correction of the reserve in certain cases. For consideration of this subject, see WISCONSIN PUBLIC SERVICE COMMISSION, DEPRECIATION 186-196 (1933).

<sup>173</sup> 1932 PROC. NAT. ASSN. R. R. & UTIL. COMMRS. 446 at 449, 450.

The commissioner admitted there was no basis for such a plan in existing court decisions (1932), but said he had confidence in the willingness of the courts to change their views as experience threw new light on the problems they encountered, citing as proof the dissenting opinion of Justice Brandeis in the *San Francisco* case.<sup>174</sup>

It should be noted at this point that various persons, in discussing public utility depreciation, speak of *actual depreciation*, just as Commissioner Eastman does, as though it is some absolute quantitative fact which may be determined in any case by some method or formula which is not made obvious. As a matter of fact, as the writer has attempted to show in this paper, depreciation is, at least in public utility rate regulation, a matter of fairness and justice to all the parties concerned and must be thought of in connection with the peculiar meaning of "value" used for this purpose. As a result, depreciation of public utility properties is not an absolute fact *to be found*, but is rather that which, in view of all the circumstances of the case, should be allowed for annual depreciation purposes and deducted for rate base purposes.

It may be legally impossible, as well as inequitable, to require the immediate application of consistent theories of annual and accrued depreciation in determining the amounts to be deducted for accrued depreciation where the necessity for consistency has not been insisted upon by the commission in the past. The advance knowlege of regulatory restraints, mentioned earlier as a ground for holding the utility investors bound to consistent depreciation practices and policies, is missing in such case. It may well be that the annual depreciation practice of the company followed in the past, and approved by the commission either expressly or by implication, has resulted in improper charges to operating expense when judged by the application of age-life rates to be presently adopted. Some equitable basis for transfer to a consistent theory based on age-life calculations would have to be provided to meet this situation. It would seem that in adopting a straight-line method based on original cost, used both as a rate base and as a depreciation base (which the writer believes to be the most equitable and workable plan available), some such plan might be worked out as that required by the Federal Communications Commission regarding the telephone plant adjustment account. This account is to take care of the amount by which cost to the accounting companies is greater than, or less than, original cost to other telephone utilities from which the accounting company may have purchased the property. Disposition of

<sup>174</sup> *Pacific Gas & Elec. Co. v. San Francisco*, 265 U. S. 403, 44 S. Ct. 537 (1924).

the balance in this account is to be made in accordance with commission regulations. There is no constitutional objection to this.<sup>175</sup>

In transferring to the consistent method of handling annual and accrued depreciation suggested herein, the rate base previously approved by the commission might be divided into two parts. The first part would be that valuation which would be proper on the straight-line, age-life method of determination of accrued depreciation as applied at the date of the change. Record of this could be brought on the books by increasing the reserve for depreciation to accord with the accrued depreciation so determined. Cost less the resulting reserve would indicate this part of the rate base and straight-line annual depreciation based on original cost could be applied thereto in the future. Consistent accrued depreciation as shown by the increased reserve and subsequent accumulations from the annual charge would be used for this portion of the rate base. The second part of the previously approved rate base would be that not included in the apportionment given above, and would be measured by the amount which had to be added to the reserve for depreciation at the time of the change in method. This might be considered as a temporary part of the rate base to be amortized over a reasonable period in the future.

The fairness of requiring consistent policies as to annual and accrued depreciation in the future is recognized even by those who advocate the observation method of determining accrued depreciation. Professor Riggs, referring to the Interstate Commerce Commission's adoption of the straight-line plan and its holding that the full amount of the reserve so accumulated should be deducted for rate base purposes, says:

"No exception can be taken to this view of the commission in the case of properties which have used this form of accounting for a long period as the charge to operating expenses and the credit to the reserve results in holding this amount from net earnings and leaving it in the cash drawer of the company. It is collected from the patrons for the purpose of filling an assumed hole in the plant, and on valuation the company can hardly sustain the claim that it is entitled to an undepreciated property and also to the reserve collected to make good what the company itself has estimated as depreciation."<sup>176</sup>

The Missouri Supreme Court has taken about the same view as that expressed by Professor Riggs. In *State ex rel. Empire Electric Co. v.*

<sup>175</sup> *American Tel. & Tel. Co. v. United States*, 299 U. S. 232, 57 S. Ct. 170 (1936).

<sup>176</sup> Riggs, "Facts and Fallacies about 'Straight-line' Depreciation Methods," 12 *PUB. UTIL. FORTN.* 393 at 394 (1933).



*Public Service Commission*<sup>177</sup> there was before the court a statute authorizing the commission to establish depreciation rates and to direct the use of the funds thereby retained out of profits and also the treatment of the resulting depreciation reserve. The commission had taken no action under this statute, and the company had built up a reserve in excess of its needs for immediate retirement. \$1,600,000 of such reserves had been transferred—\$800,000 direct to surplus and used for dividends, and \$800,000 to "special surplus reserve." Thereafter the commission ordered the company to restore the \$1,600,000 to the "depreciation reserve fund." The court held that the statute permitted only prospective action by the commission, and that in the absence of any exercise of authority under the statute the commission could not require the company to take any particular action relative to the excess reserve or the fund. The court said that the depreciation reserve belonged to the company and that it could not be forced to give up the reserve not needed to keep the property in proper condition for the benefit of future customers. However, the important feature of the case is the fact that the court seemed to have no objection to the principle on which the statute rested in so far as its prospective application by the commission was concerned. The statute itself indicates a progressive attitude on the part of the legislature. In the opinion of the writer, other courts would take the same attitude as the Missouri court relative to prospective application of either a statute or a regulation of which there is advance notice to all parties concerned.

It may be possible that some form of legislation, such as that suggested by Donald Cook,<sup>178</sup> would be a more satisfactory solution to the depreciation base problem than attempts to rely upon commission regulations made known to the parties in advance. The form of statute proposed by Cook might itself cover the depreciation base, but, of course, this alone would not require consistent methods of determination of the annual and accrued depreciation. Commission action would have the advantage of being more expeditious. In any case, it must be recognized that the particular form of regulation to be prescribed even under direct statutory authorization can be applied prospectively only.

#### CONCLUSIONS

The Report of the Special Committee on Depreciation of the National Association of Railroad and Utility Commissioners, sub-

<sup>177</sup> 339 Mo. 1188, 100 S. W. (2d) 509 (1936).

<sup>178</sup> Cook, "A Statutory Definition of Fair Value: A Proposal," 7 GEO. WASH. L. REV. 475 (1939).

mitted at the 1938 convention, embodies in effect the principles stated herein by the writer. The fact that a group of persons so intimately connected with the affairs of utility regulation have indicated their belief in the fundamental soundness of the principles of consistency in annual and accrued depreciation, and in the propriety of straight-line methods based upon original cost as a means of achieving that consistency, gives the writer added faith in the conclusions he has drawn from this study.<sup>179</sup> The conclusions are:

(1) Fairness to utility investors and to the patrons of utility companies, which is the aim in rate regulation, requires the application of consistent principles in the determination of annual and accrued depreciation.

(2) The requisite consistency can be attained only by the adoption of original cost as the basis for calculation of both annual depreciation and accrued depreciation and by the acceptance of the amount indicated by the reserve accumulated from the annual depreciation charges as the accrued depreciation on any given date.

(3) The straight-line method of calculating annual depreciation and accrued depreciation should be adopted as the most practical for use. The observation method results in false measures of accrued depreciation which are inconsistent with annual depreciation, and the method has no merit in greater accuracy than the age-life methods.

(4) The principles laid down in conclusion (2) are being presently adopted by the regulatory commissions and thus those principles are becoming the practical basis of rate regulation, although some commissions still follow inconsistent theories propounded and supported by the utilities and sanctioned by a considerable weight of judicial opinion.

(5) As to future annual depreciation, and accrued depreciation accumulating from time of promulgation, there is no constitutional obstacle to commission enforcement of regulations in line with the principles in conclusions (2) and (3) where those regulations are made known in advance of application.

(6) In shifting from existing methods of depreciation accounting to the consistent theory here suggested, the commissions should give due regard to practices permitted by them in the past. Any such change should be given a prospective effect only. It should not be retroactively applied so as to force a reduction in rate bases heretofore approved by the commissions, since any such effort at retroactive application would probably meet judicial condemnation.

<sup>179</sup> The NEW YORK COMMISSION ON REVISION OF THE PUBLIC SERVICE COMMISSIONS LAW, MINORITY REPORT (1930) (N. Y. Leg. Doc. 75), confirms this faith.