

which the Wisconsin commission reports to average for electric lighting properties 17.46 years, telephone plants 11.24 years, and electric railways 18.02 years.

Original Cost.—This refers to the actual amount of money paid for the physical property including original construction plus all additions since that time.

Cost to Reproduce New, or Cost of Reproduction.—These terms refer to an estimated value based on the cost of reproducing the physical property new, on the basis of prices current at the time of estimate—prices that fluctuate considerably are averaged for five years preceding—and includes everything that can be inventoried.

Scrap Value.—All physical property unless offset in whole or in part by cost of removal, has a certain scrap or junk value beyond which there is no depreciation.

Wearing Value.—If from the cost—taken on whatever basis is determined to be the correct one—there is subtracted "scrap" or "salvage" value of given physical property, the remainder is a value known as "wearing value," which will deteriorate and entirely pass away.

Service Value.—Physical property honestly and intelligently purchased with a view to its suitability for the service intended, aside from some hidden defect or untoward accident, maintains its original value practically throughout its life except for such deterioration as results from wear and tear or deferred maintenance. Going value may or may not accrue in addition to and over and above service value. Going value relates to establishment of earnings while service value exists regardless of earnings.

Present Value.—The more frequent application of the term is to that value obtained by deducing from "original cost" or "cost to reproduce new" the accrued depreciation, which may be either absolute depreciation or the sum of both absolute and theoretical depreciation. Appreciation as well as depreciation must be considered in determining "present value" as indicated by the Supreme Court. (*Wilcox vs. Consolidated Gas Company*, 212 U. S., page 52.)

Going Value.—This refers to an estimated worth recognized by the highest courts and ingeniously figured and allowed for by at least one State commission in connection with a wise expenditure made in increasing the business of an established plant.

Good Will.—A monopoly, as is generally admitted, has no good will which can be valued, and the courts have sustained this view.

Franchises.—The present tendency, largely by reason of legislative enactments, is to prohibit the capitalization of franchises beyond the absolute expenditures made in good faith in obtaining said franchises.

Classes of Depreciation.

The subject of depreciation from an engineering standpoint practically divides itself as follows:—

Wear and Tear, or Maintenance.—This includes such depreciation as may ordinarily be removed or offset by proper expenditures at such times as the worn-out parts may be economically replaced.

Age of Decrepitude.—Depreciation of this sort is due to the ageing of apparatus that usually has a life extending over a period of years.

Inadequacy of Supersession.—When street railway service has increased to such an extent that many and frequent small single-truck cars are required to do the work that can be done by larger double-truck cars at less cost and with less interference with street traffic, both economy and necessity compel superseding the smaller equipment by the larger, and thus, through inadequacy, investment in the smaller equipment is depreciated before the property is

worn out or becomes decrepit. Furthermore, the introduction of heavier cars may make inadequate the rails and car-houses.

Obsolescence.—Obsolescence means the depreciation of property through the development of something newer and either more economical or more of a fad. By reason of rapid advance and development in the art, obsolescence has heretofore probably caused the greatest expenditure for depreciation account, unless it is wear and tear; but as time goes on obsolescence may become a less important factor, though it would probably be at the cost of improvements and development.

Deferred Maintenance.—The several classes of depreciation hereinbefore referred to assume that the property will be kept in good operating condition and efficiency. Deferred maintenance is only another term for neglect and always reflects to the discredit of the management or the financial ability of a corporation.

"Absolute" and "Theoretical" Depreciation.

Where property is no longer of service it must be depreciated down to the value at which it may be sold, even though that value is as low as scrap value. On the other hand, apparatus that is in use and rendering a service economically may, for the purpose for which it was intended, be as valuable as when originally installed, although its age may be approaching the limit of its life.

The erroneous application of rates of depreciation in the attempt to determine present commercial values is fairly common, one of the most notable cases, because of the large amounts of money involved, being that of the Public Service Commission of New York, First District, in the matter of the Third Avenue Railroad reorganization.

The "straight line" method of depreciation has been more largely used than any other, probably because the life of much apparatus is brief; and, furthermore, the application of this method is the most simple, direct and easily understood, and hence favored by the legal fraternity and a large proportion of the members of public utility commissions, many of whom, not technical men, naturally incline toward the more easily appreciated elements of the questions which they are compelled to consider and discuss.

As indicating the possible error in determining to estimate "theoretical" depreciation, it is frequently found that the length of life assumed has been greatly surpassed by apparatus which is still giving reliable and satisfactory service. For apparatus still giving satisfactory service after the expiration of its assumed life it is only fair in estimating theoretical depreciation to allow a value greater than scrap value. The minimum value of all types of engines, boilers, pumps, heaters, condensers, line transformers and shafting is, at present being taken by the Wisconsin commission, for example, at 25 per cent.; generators, motors, rotaries, arc lamps, wood and iron poles, 20 per cent.; station transformers, 40 per cent.; storage batteries, 35 per cent., and switch-board instruments and electric meters, which must be kept in a high state of repair, 80 per cent., as the minimum percentage of reduction cost for apparatus still in use though theoretically "dead."

Depreciation Accounts or Reserve Funds.

For a small company or where relatively large proportions of the invested capital are locked up in few or single pieces of property, it is preferable to accumulate, in advance out of operating income, reserve funds from which to provide for all classes of depreciation. But such method may be unnecessary and possibly an inexpedient accounting complexity with large corporations, where the investments in