

**DEPRECIATION: ADDRESS  
DELIVERED BEFORE THE  
CONVENTION OF CENTRAL  
WATER WORKS ASSOCIATION,  
DETROIT, MICH, SEPT. 25, 1912**

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**HALFORD ERICKSON**

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# DEPRECIATION

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BY

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## DEPRECIATION

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Depreciation is an old question in which of late a great deal of new interest has been aroused. The reasons which have brought this question to the front at this time may be traced partly to governmental action and partly to certain economic changes in our industrial and commercial life.

Our state and national governments, for instance, are greatly extending their activities. Among other things they are exercising much closer supervision over public utilities than formerly. They are also beginning to levy taxes on incomes and on net earnings. Activities of this kind, in order to be effectively as well as fairly carried out, require that both the earnings and operating expenses should be properly defined, classified and recorded. In the classifications and rules that have been promulgated in this connection depreciation is generally treated as an operating expense. It is taken out of earnings before the profits are stated.

Further interest therein has also been stimulated by the position in this respect of those who depend upon public utilities for the services they render. Such services have now become necessities. Customers for them therefore insist, as they have the right to do, that the plants be kept in good serviceable condition through adequate provisions for depreciation. They further demand that the money so set aside, especially when contributed by them, be honestly used for the purposes for which it was intended.

Investors are also scanning conditions more closely than formerly. When the units of capital employed in production were small and chiefly owned by the operators themselves there were but few reasons why anyone but the owner should care just how depreciation was provided or the capital kept up. These units, however, have increased in size and with this increase have also come radical changes in the ownerships. The

bonds and stocks of our public utility and industrial corporations are now held by investors in all parts of the country. These investors, far separated from their property, now want to know how the property behind these securities is kept up. In fact, they constantly demand information as to whether adequate provisions are made for such depreciation as is taking place in the property.

A correct treatment of depreciation in all its phases is also of the greatest importance to the public utilities themselves. It provides the means by which their property may be renewed when it has to be discarded. It enables them to place the burden of such maintenance or renewals where it properly belongs. It materially assists in establishing equitable relations between the utilities and their customers. It places the utilities in a sound position in this respect with reference to both the courts and so-called public utility laws. It is also in line with proper methods and sound practices from a commercial point of view.

There are also other reasons why proper treatment of depreciation is important. Public utilities for adequate service are ordinarily entitled to rates which will yield reasonable returns for operating expenses, including depreciation, and interest and profit on the investment. These items therefore constitute the cost of the service, the cost which becomes the basis for rates. Such amounts for operating expenses and depreciation may also be deducted from the gross earnings in arriving at the profits or net earnings upon which income and corporation taxes are assessed. Now, if depreciation is either omitted from or understated in the operating expenses, the result is that higher than the true net earnings or profit are shown. This, in turn, may easily lead to unjust reductions in rates as well as to unwarranted increases in taxes or other charges.

In fact, the conditions which have thus been outlined are bringing about a better realization of the importance and nature of depreciation. They are also resulting in inquiries into the forces by which it is caused, the methods by which it can be estimated, how it should be provided for, the methods of accounting connected with it, and many other phases of this question. Depreciation is not only an important subject, but it is too comprehensive for adequate treatment in a short paper. All I shall attempt to do, therefore, is to call attention to a few of its leading features and to outline how it is administered



under the Public Utilities Law in Wisconsin. In this connection I will first take up the law itself. The leading provisions in relation to depreciation read as follows:

"1. Every public utility shall carry a proper and adequate depreciation account whenever the commission after investigation shall determine that such depreciation account can be reasonably required. The commission shall ascertain and determine what are the proper and adequate rates of depreciation of the several classes of property of each utility. The rates shall be such as will provide the amounts required over and above the expense of maintenance to keep the property in a state of efficiency corresponding to the progress of the industry. Each public utility shall conform its depreciation accounts to such rates so ascertained and determined by the commission. The commission may make changes in such rates of depreciation from time to time as it may find to be necessary.

"2. The commission shall also prescribe rules, regulations, and forms of accounts regarding such depreciation which the public utility is required to carry into effect.

"3. The commission shall provide for such depreciation in fixing rates, tolls and charges to be paid by the public.

"4. All moneys thus provided for shall be set aside out of the earnings and carried in a depreciation fund. The moneys in this fund may be expended in new constructions, extensions or additions to the property of such public utility, or invested, and if invested the income from the investments shall be carried in the depreciation fund. This fund and the proceeds thereof shall be used for no other purpose than as provided in this section and for depreciation."

This law clearly recognizes the fact that public utility property, the same as practically all other kinds of property, is gradually depreciating both in value and efficiency, and that these losses must be made good by regular renewals of the property if the investment is to be kept intact and the efficiency of the service maintained. It further recognizes the fact that the cost of depreciation is by its nature an operating expense and should be borne by the consumers in the form of rates that are high enough to cover this cost. In addition to this the law also provides that money so collected from the customers shall not be permanently diverted or used for any other purpose than for the renewal of the depreciated property.

This law is sound in theory and in line with public policy. Its provisions are simple and direct and seem to meet the requirements. To begin with it was not satisfactory to all.

Those, for instance, who for one reason or another desired heavy reductions in the rates charged by the utilities for their services found in full depreciation charges many obstacles to their plans. They discovered that what appeared to be high rates when depreciation was not included in the operating expenses, often turned out to be comparatively low rates when depreciation charges were properly treated. Plants which appear to be very prosperous when depreciation is omitted from consideration are often found to be only moderately so, if not actually losing propositions, when from one to more than five per cent on the investment, depending on the conditions, are allowed for depreciation.

Many operators of public utilities also objected to this law. It especially failed to find favor among those who in the past had been able to provide for renewals by new capital issues, and who expected to be able to do so in the future, and who, in this way, could devote the amount earned for depreciation to dividend payments and other purposes of this kind. It was also looked upon as an unjust innovation by those who hold that, for some utilities at least, there is an appreciation in the valuation of their property which tends to more or less fully offset the depreciation therein. As was to be expected, this law has also met with some opposition from those who object to the keeping of such exact records as are necessary in order that provisions for depreciation may be properly handled and cared for.

It is only just to say, however, that many of these objections now seem to be wearing away and that the provisions in the law are now more generally looked upon as just and fair both to the public and the utilities.

#### NATURE OF DEPRECIATION.

The Century Dictionary defines depreciation as

1. The act of lessening and bringing down value;
2. A fall in value; reduction of worth.

Significant as these definitions are, they hardly convey to one's mind everything that is implied in the term depreciation as understood by those who are in actual charge of the operation of public utilities and other industrial enterprises. To fully comprehend its meaning from this point of view, it would almost seem necessary to come into actual contact with operating

plants of this kind. As soon as the equipment has been placed in position and the plant put in operation, it begins to fall off in value. Buildings, machinery, and other equipment are subject to the destructive ravages of time, and sooner or later will become useless from wear and tear and from general decay. Because of new inventions and unexpected developments and growth in the business such equipment may even have to be replaced by better, more efficient, or more powerful units long before it is worn out. While some parts show greater resisting power and will serve their purpose longer than other parts, all are on the way to the scrap heap. Good upkeep and careful usage may prolong the useful life of many of these parts but cannot prevent their ultimate fate.

Depreciation is important for other reasons than those given above. It is one of the important elements that enter into the determination of the present value of the physical property of public utilities when it has to be ascertained for rate making, purchase and sale, capitalization, and other purposes.

Depreciation is generally due to causes which may be classified under ordinary wear and tear, general decay, obsolescence, and inadequacy.

Wear and tear, or minor renewals are ordinarily made up of repairing and replacing minor equipment as well as the smaller parts of the larger units of the equipment as these wear out, break, or in some way are lost. Examples of such repairs and renewals may be found in the wearing out of the bearings on machines, wheels on cars, tires on wagons, shoes on horses, commutators on dynamos. Such repairs in an operating plant are almost constantly going on and the expenses involved are therefore fairly regular. As these expenses are about the same from year to year, they can be charged directly into the operating expenses without causing serious fluctuations in the net earnings. While expenses of this kind are in the nature of depreciation, they are, as a rule, not included in depreciation allowances but charged separately into the operating expenses.

General decay is that part of wear and tear which is due to age and which cannot be made good through such ordinary repairs as those just described. This deterioration also begins as soon as the equipment is placed in operation and goes on until it becomes unsafe or useless. Wooden parts are certain to rot and decay; iron rusts, wears, and wastes away. Thus,