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Correspondence: Replacement Reserve Funds

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Correspondence

REPLACEMENT RESERVE FUNDS

Editor, The Journal of Accountancy:

SIR: The comments by a public-utility official on replacement funds, on pages 41 and 42 of the July issue of the JOURNAL OF ACCOUNTANCY, should be of interest to many of your readers and the subject is worthy of further discussion. In general, the writer agrees with the views expressed by the officer of the public-utility company, but there are certain phases of the situation which were not brought out in the latter's comments and which are important from the point of view of the public.

It is well settled that a public-utility company is entitled to a fair return upon the fair value of property used in the public service, and this return is usually fixed at 7 per cent., or 8 per cent., the rate varying in different states. But the writer does not feel that the utility is necessarily entitled to the fixed rate of return upon money held in a replacement fund. At first thought it may seem that if the company is forced by commission order to create a replacement fund instead of investing that same money in property, the commission should allow the company to recoup the loss in earning power by exacting larger payments from consumers. But the public has an equitable interest in the money received by the utility as provision for renewals and replacements, whether or not that money is set aside in a separate fund, and this interest of the public applies particularly to a provision for renewals and replacements calculated on the straight-line basis. Instead of the term "renewals and replacements" we may use the word "depreciation" or the term "retirement expense," the latter expression being the one selected by the National Association of Railway and Utilities Commissioners for use in the uniform classifications of accounts prepared by them.

Let us study the example given by the public-utility official of a wooden pole, having in place a fair value of $10 and an estimated life of ten years. On the straight-line method the annual provision for retirement expense would be $1. But if it were conceivable that the consumers should band together for the purpose of guaranteeing replacements of property and should themselves accumulate a fund for making replacements, it is evident that they would not have to set aside $1 a year for that purpose. Using the sinking-fund method and assuming an interest rate of 3½ per cent., the annual provision would be approximately 85 cents.

The variation between the straight-line method and the sinking-fund method becomes more marked, of course, as the estimated life of the property increases. If we assume that the depreciable property of a certain water company has a composite life of fifty years, the straight-line method will show that 2 per cent. a year should be set aside, whereas a sinking fund with interest at 3½ per cent. will require approximately ¾ of 1 per cent. per annum. The above rate of 3½ per cent. is not fixed by any hard and fast rule, but is used in the above illustration merely because it has sometimes been selected in settling rate problems.

The writer is not arguing in favor of the sinking-fund method of calculating retirement expense, as he believes that the straight-line plan is the most practical and desirable. But if the straight-line calculations are used, why should the public not receive at least some benefit from the annual payments which they make to the utility for this purpose? The creation of a replacement fund will not accomplish this result because, as will be pointed out later, such a fund would actually necessitate higher rates. The simplest and most practical plan, in the writer's opinion, is to permit the utility company to invest all its available funds in plant additions and betterments, and to give the consumers credit for an amount calculated by assuming earnings at an arbitrary rate of 3 or 3½ per cent. on the average balance of the retirement reserve.

If we take as an example a company which has property valued at $500,000 and a retirement reserve of $60,000 created by the straight-line method, the problem would be worked out as follows:

Fair return of 7%	$35,000.00
Deduct — Theoretical earnings of 3½% on retirement reserve	2,100.00
Amount required to be paid by consumers	$32,900.00

To the above amount of $32,900 there must be added the allowance for operating expenses in order to determine the gross revenue allowable. The above calculations merely show that the consumers can be given credit for at least a portion of the earnings resulting from the funds which they have paid in for retirements, by using the retirement reserve as a basis for the credit. Thus the company gets the benefit of investing its available funds in plant additions instead of having them tied up in bank deposits, and the consumers receive the benefit of slightly lower rates.

No new principle is being proposed in this article and the writer is only presenting anew the theories which have been suggested by other students of public-utility accounting. However, in order to compare the results of operations with and without a replacement fund, it may be well to make a more detailed study of these two methods. In the following examples it is assumed that the fair value of property is taken to be the book value without the deduction of the retirement reserve. It will not be attempted in this article to go into the relative arguments for and against the deduction of the retirement reserve and the writer will merely state that, in his opinion, a reserve created by the straight-line method is not a measure of the true decline in value of the property.

Let us assume that two public-utility companies, A and B, have each commenced business with fixed capital of $500,000, financed by the issuance of capital stock of the same amount. During the course of operations each company has accumulated a retirement reserve of $50,000 by the straight-line method, and each one has also made additions of $50,000 to fixed capital. Company A has been forced by public-service commission order to fund its retirement reserve, and, consequently, it has been obliged to finance its fixed capital additions by issuing $50,000 six per cent. bonds at face value. Company B, which operates in another state, has been permitted to invest its available funds in property additions instead of creating a replacement fund.

Omitting all accounts which do not have a direct bearing on the questions involved here, for the sake of simplicity, the balance-sheet of Company A will show:

Fixed capital	$550,000.00
Replacement fund	50,000.00
	$600,000.00
Capital stock	$500,000.00
Funded debt	50,000.00
Retirement reserve	50,000.00
	$600,000.00

Company A will be entitled to collect from its consumers an amount equal to its operating expenses (including retirement expense) plus a fair return on the fair value of property. Assuming a return of 7 per cent., the company's income account (after the deduction of operating expenses) will show:

Operating income (7 per cent. on $550,000). This amount must be collected from consumers.	$38,500.00
Add — Interest on replacement fund (at assumed rate of 3 per cent.)	1,500.00
Gross income	$40,000.00
Deduct — Interest on funded debt	3,000.00
Balance available for dividends	$37,000.00

The balance-sheet of Company B will appear as follows:

Fixed capital	$550,000.00
Capital stock	$500,000.00
Retirement reserve	50,000.00
	$550,000.00

Company B will be entitled to collect from consumers the usual allowance for operating expenses plus fair return. At this point the total allowable gross revenue will be apparently the same as in the case of Company A. However, if the consumers of Company B are given credit for an amount equivalent to interest on the retirement-reserve balance, the result will be a smaller gross revenue to be collected from them, and, consequently, lower rates.

Ordinarily, the credit would be applied as a direct deduction from allowable operating expenses, offsetting the amount included therein for retirement expense. By so doing we are adopting a modified sinking-fund method, in which the amounts allowed for retirement expense are reduced by theoretical interest earnings, and which does not require the creation of an actual replacement fund. In the following table, in order to simplify the calculations, the credit

for theoretical interest earnings will be applied "below the line" with exactly the same final result as if it were deducted from expenses:

Operating income of Company B — 7 per cent. on $550,000	$38,500.00
Deduct — 3 per cent. on balance of retirement reserve	1,500.00
Balance available for dividends. (This amount must be collected from consumers.)	$37,000.00

If we assume slightly higher or lower rates than the 3 per cent. shown above for earnings on the replacement fund and the retirement reserve, the results will, of course, vary to some extent. But in any case the company which is forced to create a replacement fund must necessarily collect from consumers a larger amount than the company which can use its funds to the best advantage by investing them in additions and betterments. From a practical business standpoint, the writer can see no justification for public-service commission orders requiring replacement funds. This letter is written, not only to point out the disadvantages of such funds, but also to enter a plea that the consumer should be entitled to some of the cream which may be skimmed from the proper investment of funds received through allowances for retirement expense.

Yours truly,

GEORGE SHIRAS CALL.

Harrisburg, Pennsylvania, July 7, 1926.