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Book Reviews

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THE ACCOUNTS OF AN OIL COMPANY, by H. G. HUMPHREYS, *American Institute Publishing Co., Inc.* New York. Pages XIII and 136.

In his introductory remarks to *The Accounts of an Oil Company* Mr. Humphreys specifies some of the internal and external conditions affecting the industry and expresses the need for their recognition in any formulation of accounts and accounting procedure. There is a plea for directness and simplification with due regard to all essential information required for executives, taxing authorities and others concerned. There are chapters dealing with balance-sheet and general accounts, departmental investment and income, forecast of income and various operating departments, together with an appendix relating to "code of fair competition" and "accounting procedure, unit and joint lease schedule."

The chapter dealing with "balance-sheet and general accounts" is decidedly restricted and, having regard to the title, is somewhat disappointing in its brevity, being confined particularly to the control of stocks of oil and references to the classification of accounts and apportionment of expenses. There is, however, an interesting series of illustrations of "summary of income," by departments, i. e., departmental operating accounts, leading up to a "general profit-and-loss account." Incidentally, one is rather surprised at the statement in the preamble of the chapter that "in normal times, the anticipated future earnings from settled crude-oil production for a three months' period shown as a current asset in a balance-sheet, specially prepared for bankers' information, has been allowed as such by bankers."

The chapters relating to operating departments contain much instructive and useful information regarding various classes of properties, the peculiarities respecting each class and the desired accounting treatment. Technical descriptions of the departmental operations are presented, together with interesting and useful illustrative and analytical statements covering various accounting phases of the operations, such as details of operations by processes, costs, yields, inventory accounts and so forth. The uninitiated would have welcomed a more extended discussion of the treatment of depreciation, depletion, abandonments, cancelled leases and the amortization of undeveloped leases from one who is so well-informed in the technical processes and related accounting procedure.

There will be general agreement, I believe, with the author's view which notes the advantages to business leaders and all concerned if arrangements could be made whereby the audit work of the independent accountant would be carried out at intervals during the year instead of having such work undertaken wholly at or after the close of the year, and a like concurrence in the further recommendation as to a greater employment of the independent accountant as a constant counsellor in the many problems that arise from time to time. This is all to the good. At the same time we should of course distinguish between the functions of the accountant in an advisory capacity and the contrasting functions of the auditor as such.

Informative and comprehensive in its scope *The Accounts of an Oil Company* may well be regarded as a worthwhile contribution to accounting literature in the designated field. It presupposes a substantial knowledge of general accounting and, whilst it is not easy reading, the subjects dealt with justify careful study. It should be of benefit to the corporation accountant engaged in the industry and instructive to public accountants.

A. Bowman

PUBLIC UTILITY VALUATION, by Willard J. Graham. *University of Chicago.* (95 pages, 8 vo.)

Public Utility Valuation is number 3 of volume 4 of the series known as *Studies in Business Administration*, written by members of the faculty of the school of business of the university of Chicago or by past or present students in the school. The subject of the study is indicated broadly by the sub-title: "Reproduction cost as a basis for depreciation and rate-base determination." The volume is presumably not intended as a text-book, but as a general discussion of the author's views on the subject. As a text-book it would be somewhat open to the criticism that it does not deal sufficiently definitely with existing practice. As a general discussion of the subject it suffers somewhat from the fact that the approach is very distinctly theoretical. A quotation from an introductory paragraph will serve to indicate what is in the author's mind:

"The acts, decisions, and rulings of legislatures, commissions and courts are here given only secondary consideration, under the assumption that if any one basis of 'valuation' is most desirable in terms of predictable results, any changes in existing laws and precedents that are necessary to establish that basis (including, conceivably, amendments to the constitution of the United States) can in time be brought about."

Lest it may seem unfair to the author to indicate that the study is theoretical in character, it should be added that it is chiefly open to this characterization because it assumes throughout that utility rates should be adjustable upward as well as downward at reasonably short intervals and with comparative facility, and this, not simply on the basis of changes in operating costs, but on the basis of fluctuations in plant-reproduction costs due to variations in the price level. It is hardly necessary to say that upward revisions of utility rates, certainly as applied to the electric industry, are practically unknown. During the war period there was some recognition of the need for higher rates arising from increased costs for wages and materials, but it would be too much to say that any such relief as was then obtained was predicated on increased reproduction values or more particularly on increased depreciation charges measured by such higher values. In the street-railway industry, moreover, where increases in rates have been allowed, the resultant net income has practically never even approximated a fair return on any basis of valuation of property. Professor Graham himself recognizes that in general the trend of rates is inexorably downward. He says in his discussion of general considerations:

"Actually, however, it appears that increases in rates, even when equitable, meet with greater opposition than does the maintenance of high rates when equity to all concerned demands their reduction. To the extent that this irrational public attitude prevails, original costs will meet with less opposition than will a reproduction-cost basis."

There is, of course, in practice the coal-price factor, written into most contracts for the sale of industrial power, which has the effect of increasing or reducing the unit rate in proportion to certain stipulated changes in the price of coal. Even in clauses of this character, however, there is no provision for adjustment of rates in relation to the general construction cost price level.

The subject dealt with by Professor Graham is one of great importance. A reader unfamiliar with public-utility accounts might not realize from the present study the full significance of the question. Professor Graham does not bring out the fact that investment in property and plant will run from $5 per dollar of gross revenue in the case of electric companies with steam generation to as high as $8 or more per dollar of gross revenue in the case of hydro-electric plants. These figures represent the amount of necessary investment in normal times and do not reflect the higher ratios which may be shown at the present time as the result, not so much of increase in property and plant, as of decrease in gross revenue. Taking, however, the figure of $5 investment per dollar of gross revenue as fairly typical, it will be apparent that a 7% rate of return plus a 3% rate of depreciation would mean that 50% of the rates charged would be dependent upon these two factors alone. On Professor Graham's basis, an increase of 20% in the construction cost price level would necessitate a 10% increase in rates, apart altogether from the increased operating costs which might be expected to be incurred at the same time. As a practical matter during periods in which increases in construction cost price level have taken place, utility rates have not been increased but have on the contrary been reduced.

The determination of rates and, particularly, in the electric industry, of residential and commercial as distinguished from industrial rates is not an exact science. So much depends on the load factor. The effect of so-called promotional rates, that is to say, of graduated rates for consumption in excess of certain specified amounts, intended to encourage the more extensive use of devices which consume electricity and gas, or the greater use of transportation facilities (as in the case of commutation tickets on railroads and weekly passes on street cars), is largely unpredictable. There must be a certain degree of compromise, of give and take between the regulatory body and the utility. A large proportion of the rate reductions made are initiated by the utilities themselves and the cases which become the subject of litigation and are carried up on appeal to higher courts are as often as not appealed by the commission rather than by the utility. These facts may have no direct bearing on the theoretical case which Professor Graham seeks to make for a system of accounting for depreciation and determination of rates responsive to any measurable fluctuation in the construction cost price level, but they do pose the question as to whether such a degree of refinement in accounting, with the rather burdensome detail which it involves, would be justified. The problem is somewhat analogous to that which has to be considered in installing a cost system for any industry, namely, Is it necessary to have a fully detailed system or is it practicable to work on specification costs? Rate cases arise more or less infrequently, and when they do, the development of accounts reflecting any particular theory, either of valuation or of depreciation, is entirely practicable. The fact must not be overlooked that in the chief cases on which the adherents to the reproduction-cost principle depend, reproduction cost is only one of several factors which the court has decided must be taken into consideration.

The by-products of economy which Professor Graham believes would result from the adoption of the principles which he advocates are somewhat open to question. He makes the statement in his study that the present methods of rate determination encourage construction during periods of high costs rather than during periods of low prices. The fact is that utilities are necessarily controlled to some extent by short-term business trends. They are not in a position to follow the doctor's prescription of taking the pill half an hour before the pain comes on. Very frequently during periods of low prices the volume of business is at a low ebb and the raising of capital for extensions to property and plant is expensive and difficult, if not impracticable. Adequate capacity must be provided in advance of actual needs, and actual needs frequently develop with rapidity during a period of high prices and active business. During such periods, moreover, there is necessarily heavy expenditure for distribution systems.

Professor Graham touches upon a number of debatable points in his paper, more particularly that relating to deduction of depreciation reserve from property and plant in determining the rate base. He takes the position, which has been frequently denied in the courts, that the depreciation reserve, having been set up out of revenue, in some way belongs to the consumers. There is no justification for this point of view.

It would be interesting to know Professor Graham's authority for the statement that the Massachusetts rule excludes from the rate base the balance of earnings carried to surplus. The recent decision by the Massachusetts commission in the *Lynn Gas* case makes it clear that surplus has to be taken into consideration. A minor error appears in a footnote on page 70, where it is stated that "the city of Washington in its contract with the electric light and power company provides that dividends may be increased in proportion as the rates for electricity are reduced." The arrangement in Washington does not follow the provisions governing the South London Gas Company as closely as this. It provides, not by contract but under the terms of a consent decree, for a reduction in rates for the ensuing year to an amount estimated to absorb a certain proportion of the excess of the earnings for the year just closed over an agreed percentage on the investment in property and plant.

The volume is provided with a bibliography and a reference to cases, each of which is fairly comprehensive in relation to the size of the volume and the particular phase of the subject matter which it covers. The study is a useful one for those who already possess a reasonable knowledge of the subject.

HERBERT C. FREEMAN