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Ernest Johnston

American Gas Association

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AMERICAN GAS ASSOCIATION
130 EAST 15TH STREET, NEW YORK, N. Y.

CONTINUOUS INVENTORY OF FIXED CAPITAL.

Report of 1921 Committee.

ERNEST JOHNSTON, *Chairman*, Syracuse Lighting Company,
Syracuse, N. Y.

Your Committee on Continuous Inventory of Fixed Capital was organized under the Accounting Section as outlined at the first monthly meeting of the Managing Committee "to canvass the industry, setting forth the advantages of maintaining a Continuous Inventory of Fixed Capital giving costs in detail, and to promulgate a standard routine, etc., for keeping such a record."

It is well perhaps to discuss at the start what is meant by a "Continuous Inventory of Fixed Capital" that we may all have in mind the same mental picture. The Committee defines a continuous inventory of fixed capital as a record of the physical units of plant and property, in conjunction with the financial record of construction expenditures, kept in such detail as to set forth clearly the identity and location of each unit and of each item of cost thereof. It may be described as a continuous record showing a complete *description* of each item of construction expenditure comparable with the ledger record of *cost*, and compiled with the same thoroughness. It should be in such form as to enable an engineer to identify it readily with the physical property.

Probably every company has this information now in one form or another, but it is largely buried in underlying records, and the ledger figures, while classified in detail as to *amounts*, refer only to posting sources and not to specific articles, with the result that to determine the elements of cost included in a given figure, reference must be made to the records of intermediate or original entry where the data appear in detail.

A Continuous Inventory may originate with an analysis of the actual expenditures as shown by the books, verified with the physical property, resulting in an inventory in balance with the ledger figures of Fixed Capital, or may originate with an inventory and appraisal made independently of the books of account. The former we believe the more desirable method when it is possible, as it provides a detailed record of the property which may be used for all purposes involving original costs, and may also serve for purposes of reproduction value by the application of present prices. It is doubtful however if the conditions and records make such an analysis possible in more than a comparatively few companies, and we believe the majority of companies must rely on the latter method.

Pursuant to the plan of canvassing the industry, setting forth the advantages of maintaining a Continuous Inventory of Fixed Capital giving costs in detail, letters were sent to gas companies of 1,000,000 cubic feet or more daily capacity requesting information to determine the general attitude of the member companies respecting such an inventory, the extent to which it is already in use, and to assist the Committee in evolving, if possible, an economical and satisfactory routine which could be standardized, at least to some extent, for the purpose of the companies interested.

The results of the canvass were disappointing in the information received as to the experience and the forms and methods in use by the companies now maintaining such an inventory, but this was due chiefly to the fact that comparatively few companies—approximately 11% of those replying—have

actually in use a continuous record in full detail of their tangible property. These companies appear to have adopted the record in most instances as a result of capitalization cases to meet the requirements of the public regulatory bodies in the issuance of securities, or in the cases of mergers, etc., where the opening book figures of Fixed Capital were based upon an appraisal and the continuous inventory has been adopted to keep the original valuation up to date.

About 14% of the companies making reply were either just completing or were having made an inventory or appraisal, or both, of their properties, while only a few expressed themselves as unfavorable to the plan, chiefly on the ground of the expense involved.

The reports indicated, however, that an overwhelming majority of the gas companies recognize the importance and advantages of such a record and it is evident that a large number of companies are considering the matter although they may not yet have reached the point of definite decision.

For this reason, your Committee feels that the subject is one of particular importance at this time, and that there is opportunity for the Association to render real service to the industry, by assisting, at least in a general way, companies desiring to benefit from the experience of others upon this important matter which is now claiming their attention, and it is therefore highly desirable that a practical and satisfactory system be developed, one which can be easily understood, so that the Companies interested can avail themselves of it and save themselves unnecessary expense in the work of maintaining it.

In this period of numerous adjustments in gas rates the country over, which must continue until price levels have stabilized, the reproduction or present value of a company's property comes to the foreground as an important element in the establishment of a rate. The ability to prove that value promptly and successfully should greatly strengthen the case

either before a Commission or the Courts and also may save months of effort and expense in the determining of a rate. Furthermore, we think we are not going too far if we say that the very existence of such a record—if it be complete and accurate as to its detail—may in a large measure eliminate from the questions to be litigated the value of the tangible property. Certainly the advantages of the continuous inventory in connection with a rate case are obvious.

Similarly such a record is invaluable for any purpose for which proof of a company's investment is necessary. In an application for the issuance of securities, for instance, where evidence of the actual construction may be required by the State Commissions before approving the issue, the continuous inventory not only supplies such evidence but does so in a convincing manner. It enables the examining engineers to visualize at once the company's construction during the period under review, which otherwise may be identified only after slow and tedious analysis of the ledger accounts of construction. In this respect alone the Committee feels that a continuous inventory is an invaluable record.

Likewise its advantages are evident in supplying information in connection with writing off, upon the books, property retired from service. We all know the difficulties of ascertaining correctly the cost of property withdrawn. The major item of a withdrawal—the machine or piece of apparatus itself—may be easily located in the company's records, but it is the cost of installation, connections, or special attachments which have been added, etc., that is difficult of identification, and probably every accounting officer here can look back and recall to mind expenditures in connection with retirements made on "Engineer's Estimate of Original Cost" where subsequent information has shown the estimate to have overlooked some of these items or erred in the amounts.

We all know, too, the difficulties—particularly in the larger companies—of getting the engineers or operating departments

to report all *withdrawals promptly, especially those arising out of repair or alteration jobs. Here again the continuous inventory can be utilized to great advantage in checking up periodically the actual existing apparatus and equipment to determine if property shown upon the books has gone out of service.*

The correctness of a company's withdrawals is equal in importance to the correctness of its additions to its Fixed Capital. In a recent case of one of the member gas companies the examiners of the public authorities, in connection with their examination of the company's property accounts, *scrutinized searchingly every withdrawal made in a period of fifteen years, both as to its correctness in amount and as to the promptness in making entry on the books concurrently with the actual taking out of use of the physical unit.*

The Continuous Inventory may further be of great value in the determination of insurance valuations, and some companies reported its installation to have been made for this purpose.

There are also many reports required by taxing and State authorities—such as State tax report and annual report to the Public Service Commission in New York State, and doubtless similar reports in other States—requiring not only financial statements of construction but also details as to quantities, capacity, etc., the preparation of which virtually requires at the time the same information as is currently compiled for the Continuous Inventory.

Some objections have been made to the Continuous Inventory on account of the expense involved. Once a complete inventory is available, however, we believe it will prove more economical over a period of years than the large expenditures necessary in the preparation of valuations at recurring intervals, or even more economical than the preparation of a single valuation, without any consideration whatever being given to the elapsed time of making such a valuation. How many companies represented here have had inventories or appraisals

made for one purpose or another in the last ten years, which have been largely discarded as far as present use is concerned, with the result that a complete new inventory would now be necessary to serve present needs?

The experience of those companies which have adopted the Continuous Inventory leads the Committee to believe that the *difficulties of maintaining the record* are more apparent than real, and that the experience of keeping the inventory, after it has been started, may become a comparatively small item when it is properly co-ordinated with the accounting methods in use. It has been found from the experience of some of the larger companies that the yearly cost of this work is not more than three or four hundred dollars.

In the study of the forms in use, or the forms or procedure which might be recommended for a continuous inventory, the Committee has found difficulty in working out within the time allowed any general standard which might be offered as a guide, as the continuous inventory is rather a result—a compilation of information—than an accounting form possible of standardization to be adaptable to all companies.

It may prove more desirable to maintain an inventory made independently of the books to show quantities only without values, depending upon the particular purposes for which it may be installed. A company may question the advisability of continuing as part of its official records an appraisal unless it has been accepted or sustained by a Court or a Commission, or it may feel that the application of values can best be made at a time when it may be required for some special purpose, demanding proof of that value. It may doubt the advantages of a continuous record which is a combination of an appraised valuation and additions based on cost, and believe that the usefulness of the appraisal value is lost as soon as price levels have changed. Also a company may not approve of establishing a continuous inventory with values showing a wide discrepancy from the book figures of Fixed Capital.

These suggestions are made not with the idea of discouraging companies from the application of values to an inventory originating with an appraisal, for there are doubtless many cases where such an inventory would render a distinct service, but rather to indicate the many problems of policy depending upon conditions individual with each company which must be considered before it is possible to arrive at any general conclusions.

There are also many points worthy of consideration relating to the practices to be followed in maintaining an inventory, in regard to which there appears to be no accepted standard, such as:

To what extent should the details be carried? Should the separate identity be kept of small items of plant? To what extent should piping and connections be classified? Should labor costs be allocated to each individual piece of apparatus? Should liability insurance applicable to construction labor be distributed to the individual units? To what extent should overheads be included? In the event of retirements, how should these overheads be treated? On what basis should labor of installation be credited, in connection with a portion of an installation being withdrawn?

We could go on further with such questions, all bearing on the practices and forms which might be recommended for a continuous inventory, but these can best be brought out in the discussion which it is expected will follow the presentation of this report.

The Committee has found it impossible within the time available to cover in a sufficiently comprehensive manner the widely diversified conditions existing in different companies, to enable it to draw conclusions at this time promulgating a standard routine which may be recommended. It strongly urges upon the companies however the adoption of a continuous inventory, in whatever form it may be maintained, as a record of the tangible property, which record will prove as useful and

essential in respect of the physical units as the ledger record in respect of cost; and which may obviate larger expenditures and delay at times when an inventory or an appraisal of the properties may be required; and it further recommends that a committee be appointed for the continuation of this work, to study present installations through personal investigation, if necessary, with the object,

First—of ascertaining to what extent standards may be adopted in each of the various plans followed in the preparation of continuous inventories (i.e., based on original cost, based on appraisal, etc.), and

Second—of determining the most economical and effective methods of maintaining the same and making report in detail of the forms and routine which may be most adaptable to each plan.