

TABLE 5A

CLASS OF CUSTOMER	REVENUE	OPERATING EXPENSE	REVENUE LESS OPERATING EXPENSE
A	—	\$1,258.55	—
B	—	19.12	—
C	—	4,882.07	—
J	—	16.73	—
K	—	169.00	—
P	—	1,337.21	—
R	—	9,828.29	—
S	—	65.51	—
W	—	32.24	—
TOTAL		\$17,708.72	

it can generally be charged directly to the division in which the expense was incurred. There are very few interdivision charges in this department. While in a manner this condition indicates that it would be rather easy to allocate the distribution department costs, it was found that it was more difficult to secure a fair allocation of costs for that department than for the production and transmission departments. The difficulty arose from the fact that distribution department expense was so varied in character that it could not be handled on a current consumption basis. It was found that part of the costs was incurred for all customers and part for individual classes. Therefore, it was necessary for accounting purposes to separate the charge symbols into two groups: (1) cost of maintenance of poles, cross arms, conductors and similar items used for primary lines which served all customers; and (2) cost of maintenance of poles, cross arms, conductors, transformers, individual services, meters and similar items which could be charged directly to class of customers.

The first class was prorated on a basis of number of customers. The second class required no proration as it was charged directly. The method stated above is of course only a general one. It is possible to go into the individual items of expense and secure a finer division of expense of classes. That method was given a trial, but it was found that for all practical purposes the difference in the total charged to each class varied but little from the results secured by using the general method. Therefore, this more complicated method was abandoned.

Commercial Expense

Commercial expense, that is, all expense incurred in connection with customers' accounts including such items as meter reading, billing, collecting, cashiers, etc., could, with the exception of the general collection office, be charged directly to each district office.

These direct charges, plus the portion of the general collection office prorated on the basis of the customers in each district, was in turn prorated to divisions and then to classes of customers. In prorating the charges to classes of customers, the allocation was based upon the proportion shared by each class.

Expenses incurred directly for one class of customers, such as those resulting from the use of automobiles in connection with the reading of power customers' meters in outlying districts and the time required to figure the bills of power customers, were charged directly to that class of service.

General Expense

General expense can be divided into two distinct classes: (1) salaries and expense of conducting the general office of the property, such as salaries and expenses of the general officers, general office expense, legal expense, publicity, and similar items; and (2) auxiliary department expense for planning and time keeping, store keeping, purchasing, machine shops, and conveyance departments and other expense specifically incurred for the operating departments.

The first class of expense, that of the general officers and general office expense, is incurred for the property as a whole, that is for all of the customers. As such, it should be allocated to the various districts based upon the number of customers in each division.

The second class of general expense is incurred for specific departments of the various divisions. The expense of these departments can be charged directly to the division departments based upon the unit of proration adopted, viz: planning and time keeping, by payroll; stores expense, by stores issued; purchasing, by stores issued; machine shop, by hourly rate of shop; conveyance department, by hourly rate of each car used.

The expense of the second class was carried under sundries on the cost ledgers and could be

readily analyzed by consulting the proration sheet of each auxiliary department at the end of each month.

New Business Expense

New business expense, that is, cost of securing new business, was prorated upon the basis of new business secured. The cost of new business expense was separated into power and lighting divisions. Such a division of this expense permitted a fair allocation to both classes of service.

Utilization Expense

As this class of expense was incurred for specific classes of customers in specific divisions, there was no allocation of this expense required.

The complete spread of expense by departments is shown for the EIP division in Table 5, page 97. The total expense for each class of customer was then grouped and compared with the revenue as shown in Table 5A, page 98.

III. Conclusion

In conclusion it should be noted that there is no intention to claim that this is the last word to be said as to cost finding for an electric utility—far from it. The writer knows of no more profitable field for research. But in view of the fifteen years experience in operating this system it can be confidently asserted that the resulting costs afford not only dependable data for rate making purposes but, what is even more important, a very effective device for controlling and reducing costs.²

Discussion

John Bauer.³ As an economist and rate analyst, I am in sympathy with every effort to establish better accounting classifications for the determination of costs, especially for the purpose of rate-making. I have been greatly interested in Mr. Reed's effort to establish a cost system by which he could show periodically the cost of the various classes of service in the different districts served by his company.

²The figures used in this paper are not actual operating costs. They are used simply to illustrate the method of cost distribution.

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I have listened carefully to his explanations, to grasp clearly the several steps in his allocations and to weigh their significance from the standpoint of rate making. I have personally struggled far too often in rate cases against lack of adequate costs to be over critical when one so well qualified as Mr. Reed presents a system intended for complete cost showing. Nevertheless, I do not feel convinced that the plan presented is a practicable one, either from the general administrative standpoint or for the purpose of effective rate control. While my interest is principally on the rate side, the administrative considerations are equally important. It seems to me that if all the costs were necessarily to be allocated in the great detail presented by Mr. Reed the very cost of the work would be prohibitive, and I do not see just what corresponding advantages would be attained for executive purposes. What greater control would be achieved from the numerous apportionments that is not readily available under the existing classifications, either as to regular budgetary supervision or as to functional comparison of costs?

From the rate standpoint, I feel particularly dubious as to the usefulness of Mr. Reed's system. The objective is to present the complete cost of service for each group of consumers, in each community, according to the rate schedule. First, observe that practically none of the costs in any territory are directly chargeable to any class of consumers; they are jointly incurred for the various groups, and in large part jointly for the entire territory. As directly incurred, they are first classified according to the general system of accounts prescribed by the commission; then they are separated or prorated between the different localities served, and finally, as between the different classes of consumers. The line of allocation varies according to the character of the cost, and the basis of apportionment depends upon the nature of the cost, conditions of operation, as well as the classification of service.

Please note, therefore, the great variety in the steps and processes of prorating. It is well known that in any method of apportionment there is a large element of judgment or guess, which affects the reliability of the results. The more steps and variations there are in allocation, the greater is the uncertainty in the final quantities, either for executive or for rate making purposes. Even if the