

rent control. When the auditor has made out his detailed reports according to the accounting classification, the Planning and Statistics Section issues comparison letters for the various estimators. This is done so that the estimators may have the lump sum actual totals for the month, in the same form in which they estimate by items for future estimates; and also in order that they may know how far their actual figures vary from the estimate. When some exceptional condition causes the variation between the actual and the estimate, this is explained by the Planning and Statistics Section, but ordinarily the estimator is expected to find the reason for himself and to send in his own explanation.

Perhaps the thing that is most significant in our budgetary system is the simplicity with which it has been possible to operate it. The present work is carried on by three clerks in the general office. The budget is of such a nature that it groups itself into two rush periods during the month, and this makes it possible for the same group of clerks to do the necessary research study when the actual budget work is not pressing. It has not yet been necessary to search for figures that were not readily available from the accounting system as it had been developed with a view to budgetary control. With the records accruing from the initial accounting, it has required but little rearrangement and interpretation of the facts at hand to present them in form for application to budgetary needs. Yet this is one of the greatest benefits to be derived from the budgetary procedure.

It is quite generally conceded by those who first had objections to estimating for the Master Budget that they would not now consider giving it up. One of these executives, who had thought that time given to budget estimating would be wasted, has since said that he now realizes that he never before had a real grip on his job. The requirements upon him to estimate the future have forced him to analyze the present. There can be no question that every executive of our company has a knowledge of his duties that he never had before.

VI. Conclusion

Were I unfamiliar with a control system of this type and reading a crude outline of this kind, I am conscious that I should be saying to myself, "All this is very well, but what does it accomplish? This may be a good recipe, but 'the proof of the pudding is in the eating.' What has the budget really accomplished for the Walworth Manufacturing Company?"

Here are the results for the year 1922: Our actual

sales came within .5 per cent of our estimate. Cumulatively the first six months were 8 per cent in excess of the estimate; the first nine months were 4.3 per cent, but the full year's figures were so close to the estimate as to be a coincidence. We do not expect again to equal this particular record. We have reason to believe that the earlier months of the year were thrown out of line because of our increased ability to ship promptly. Having advance information, we were able to decide on a production plan that would give us an even flow of material throughout the year, building up our stocks in the spring and summer months to meet the fall demand. This accomplished not only better service to our customers but greater economy of production, more even employment for our workmen, and a great decrease in labor turnover. It enabled us to anticipate our material requirements and to take advantage of low price conditions. It gave our treasurer exact information as to financial requirements. It made it possible for me to place before our directors a definite estimate of the amount of money that would be involved in producing in advance the excess stock necessary for fall delivery, and it justified them in adopting the program because I could assure them that this investment could be liquidated before the end of the year. It enabled us to set up an ideal inventory for the end of the year and to work toward final liquidation to this ideal point. It proved that this inventory control was practicable because we came within the limit set by my office.

Of all these benefits, probably the greatest has been our ability to operate on an even basis throughout the year. Under the old conditions we would have produced 16 per cent of our total requirements in the first quarter; 22 per cent in the second quarter; 28 per cent in the third quarter; and 34 per cent in the fourth quarter. In 1922 it was possible to approximately equalize the quarterly production figures. In these days when seasonal employment is one of the country's greatest problems, when labor turnover is great and when an actual shortage of labor has occurred, continuous employment at fair wages is the stimulus to the good workman that no temporary attraction can equal. Carried over a period of years it will secure the type of labor that makes for economy and efficiency. This does not mean of course that we can counteract the cyclical fluctuations. The fact that we are able to take care of this problem within each calendar year is a substantial step in the right direction.

Budgetary control is now one of the fundamental policies of the Walworth Company.

THE TIE-UP OF SALES AND PRODUCTION¹

By L. J. CONGER²

THE subject under discussion, the tie-up between sales and production, is one which has so many ramifications and is approachable from so many different angles and under such varying conditions that it seems obvious that for our purposes we shall be obliged to confine ourselves to one or two special phases rather than to attempt to treat the entire field. You will understand to what I refer when I call your attention to the fact that general production policies vary with relation to the article or articles manufactured in that some are made only to order, some are made only for stock, some factories of necessity adopt both policies, and even then we have not covered the immense field presented by manufacturers of staple commodities rather than specialties. For our purpose I have taken the liberty of confining what I have to say on the subject to a general consideration of the whole field rather than specific consideration of the various production policies cited.

The proper solution of a practicable and efficient tie-up between sales and production presents three distinct problems. First, a satisfactory and scientific budgeting of sales possibilities; second, an efficient and workable budgeting of production; and third, a proper control of the balance between the sales and production budgets. It seems to me that a logical treatment of the subject under discussion necessitates consideration of the first two problems separately, and of the third as to satisfactory coordination of the solutions reached under the first two heads. This conclusion is logical because it is obvious that unless we know something about sales possibilities we cannot reach any definite conclusions as to sales requirements and unless we have a proper control of production we cannot satisfy sales requirements. It is evident that there can be no coordination between budgets if there are no budgets, and it is equally evident that unless our budgeting methods are reliable the conclusions drawn from them will be worse than none at

all. I shall, therefore, in the following discussion consider sales and production budgets and their relationship in the order named, and I shall take the liberty of laying particular emphasis on the selling phase for two reasons; first, because I am more familiar with it than I am the production; and second, because methods for obtaining production budgets are pretty well standardized and need no extended treatment. Because of my unfamiliarity with the methods used by concerns other than the Corona Typewriter Company, I shall take the liberty of basing whatever conclusions are reached largely on Corona's experience with the hope that you will possibly be able to apply some of our ideas and methods to your own problems.

Methods for the scientific analysis of sales possibilities and potential markets have been so poorly developed that they admit of practically no discussion in the light of experience. In fact, they are far behind production analysis methods. The industrial world owes an immense debt to the Taylor Society for the development of practical solutions of production problems, and if the work which the Society is now starting with respect to a similar development in sales work is reasonably successful, the debt will be increased many fold. In fact, one of the most encouraging phases of the whole matter is the recognition by members of the Taylor Society of the need of sales analysis, because it is obviously impossible to strike a proper balance between two considerations or two parts of a problem when much is known of one and practically nothing is known of the other. But sales interests fortunately are recognizing their utter ignorance of scientific analysis and are groping for light. The tie-up of sales and production depends almost entirely for its solution on the development of analytical sales methods, and not until data for such analysis is developed to a point at least approaching that of production analysis can we hope for a satisfactory solution of the sales and production tie-up.

Sales interests are fortunate in having a foundation on which to build analytical methods. The Taylor

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