C. How long has each man been engaged on the job?

D. If available, give average weekly production figures. State total productive hours per week.

E. What is the present total work scheduled? How is it divided? Why?

F. State responsibilities of workman.

G. What is the present unit labor cost?

X. Selection of Workers to be Studied

A. From IX A, tabulate workmen in order of their hourly earning capacity.

B. How does the foreman rate them as to workmanship? Skill? Speed?

C. Whom does he recommend for observation and study? Why?

D. Whom do workmen recommend? Why?

E. Whom do you recommend? Why?

XI. Cost Data

A. What data are available in the Cost Department on this job as to:

1. Labor cost?
2. Material cost?
3. Overhead?

XII. The Planning Department

A. Is the Planning Department controlling this operation through time tickets? Is the work planned? By whom?

B. If not, how will the job be affected when planning is instituted? What elements?

C. Are back time tickets (Planning) available? If so, tabulate over-all times from them.

Pennsylvania State College Industrial Management Conference

August 22—September 3, 1927.

The twelfth annual summer conference for industrial executives will be held under the joint auspices of the departments of Industrial Engineering and Engineering Extension of the Pennsylvania State College from August 22 to September 3. Professor C. W. Beese, Head of the Industrial Engineering Department, The Pennsylvania State College, State College, Pa., should be addressed for details concerning the program, which deals with problems of organization affecting all executives from the foreman to the president.

News of the Sections

Central New York

The Central New York Section of the Taylor Society completed its program for the year with a field day June 10, the invitations for which included the ladies. After having luncheon together at the Hotel Oneida the group visited the Sherrill plant of Oneida Community, Limited, through the courtesy of Mr. E. F. Kitendaugh, auditor of the company. Following the plant visit and dinner at the Oneida Community Administration Building, Mr. M. E. Robertson, general manager of the company, gave a talk on "Marketing and Distribution Problems of the Oneida Community, Limited."

New York Southern Tier

The final meeting of the Southern Tier Section was held on June 13, when Mr. Robert Andersen, Production Manager of the Bowen Products Corporation, Auburn, N. Y., and Chairman of the Central New York Section, was the speaker. His subject was "Pride of Achievement Under Present Incentive Methods of Wage Payment."

Reviews

Wage Scales and Job Evaluation. By Merrill R. Lott, The Ronald Press, New York, 1926, pages x, 161.

Mr. Lott's purpose is well expressed in the subtitle of his book, "Scientific determination of wage rates on the basis of services rendered." In the preface he states that he does not intend to deal with theories of wages or the economics of compensation, but rather to present the results of actual experiments in developing an equitable wage program for a manufacturing concern.

The first step in making a wage program is to make a job analysis and prepare specifications of each job. A list must then be made of the various factors that exert an influence over jobs. The author proposes fifteen such factors: length of time required to learn; time required to adapt skill; scarcity of labor supply; difficulty in locating elsewhere; educational requirment; prevailing rate; degree of accuracy and skill; ingenuity; possible loss to company through unintentional errors; dependence that must be placed on the integrity and honesty of effort; dirtiness of working conditions; exposure to accident hazard; physical effort required; monotony of work. Giving these a total value of one hundred the author weights each factor in accordance with the combined judgments of several supervisors and workmen. Thus the first item, time required to learn the occupation, is given a weight of twenty-three points while the last four mentioned are given a weight of three points each.

In rating any single occupation, objectivity is sought as follows: An occupation requiring ten years or more to learn would receive all the points assigned to that item; one requiring only one to two years of apprenticeship would receive only one-tenth of the possible number of points assigned to the item, and so on.

Having established degrees to which each factor may enter in, one may give a rating to an occupation by summing up the weights attached to the fifteen factors as they affect that occupation. For example, in one plant where the system was applied, the occupation of tool maker received ninety-five points; that of electro-plater received seventy-one points; that of common laborer received fifty-three points.

The next step is to translate value in points into wages. In doing this the author points out that his scheme is designed not to establish absolute values of occupations but only relative values. Accordingly his procedure is to take all the money available for paying wages in a concern and distribute it among the various occupations according to their several values. The rate given to the common laborer is considered as a basic rate; the amount assigned him being the lowest that can be regarded as sufficient to support a family. Thus the rate paid to a common laborer in one concern was fifty-three cents an hour, and that paid to a tool-maker was ninety cents. On a specially constructed diagram, rates for intermediate jobs may be determined by means of drawing intersecting lines.

To meet the natural demand that this system be flexible enough to allow for recognition of unusually valuable workers, the author has established four grades of value that a man might have in an occupation represented by the letters A, B, C, D. An A man would receive the maximum rate as set according to the procedure just described; the men graded B, C, and D would receive graduated amounts. It should be remarked that a worker is not rated according to a single inclusive judgment, but with respect to four points: Experience, Knowledge, Use of Knowledge and General Value, and Physical Suitability. For example, four tool-makers with total value of 89.2, 75.8, 87.5, and 74.6 points respectively would receive hourly rates as follows: eighty-three, eighty, eighty-three, and seventy-seven cents. Of course a man can raise himself from one level to another by improving himself in various respects.

By citing concrete examples the author presents the advantages inherent in this plan, among which are a more accurate recognition of merit and a stimulation toward the development of greater skill and knowledge. He also points out the ease with which a new organization can set rates for jobs that involve the manufacture of a new product. He also proposes his plan, or a modification of it, as a substitute for the "prevailing wage rate" which is the concept most frequently found among industrial employers. By means of such a plan he hopes that each establishment in a given industry can set its own house in order; only after this can be expected uniformity of conditions within the industry. "Furthermore some industries are so large and varied in the occupations which they include in their own organization that their experience in equalizing the wage scales may serve to open the way to a determination of the relative worth of work between trades that are widely separated."

Perhaps the most ambitious outcome proposed for the plan is in settling industrial disputes. For according to Mr. Lott's plan, the weight given to the various factors in a job may be determined by workers as well as by managers, and to grant the workers a voice in determining wages will remove their grounds for dispute.

Thoughtful employers and workmen must recognize the need for some systematic plan that will relieve the chaos of present wage payments. All must agree with Mr. Lott that equity requires the analysis of occupational activities as the basic procedure. A critical reader, however, might question the validity of some of his methods, particularly the almost exclusive use of opinions in weighting the various factors affecting a job. Surely objective data can be found with which to make some of these weightings. Instead of relying on conflicting opinions as to the "time usually required to become skilled," why not observe a number of apprentices and measure the time actually spent in learning the skills involved? Instead of asking a foreman to guess concerning the punctuality and absenteeism of an individual, why not obtain objective records from the personnel department?

Another limitation of the plan which will surely impress the average employer is the small part allowed for the factor of competition in wages. Under urgent need of certain classes of workers an employer may be obliged to raise the wages regardless of the relative "intrinsic" worth of their jobs. It is true that Mr. Lott's plan gives to the "prevailing rate of pay in a locality" a weight of five points out of one hundred; nevertheless, that would seem small under certain circumstances.

Regardless of the limitations, the general thesis with which Mr. Lott opens his book is surely sound; namely, we must by analysis determine the factors involved in any given piece of work; compute the extent to which each of these factors enters, and express these differences in quantitative terms which can be translated into dollars and cents. While scientific techniques for the accomplishment of these ends are still imperfect, we may hope that as objective methods of analyzing human activities develop and as employers become enlightened we shall reach levels of increasing fairness.

An appendix of twenty pages contains sample Job Specifications for the operations of common laborer, bench lathe operator, engine lathe operator and toolmaker.

In a future printing, an error in the chart on page 114 should be corrected: "Organization" should read "Occupation."

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