

cation of the character of the duties required by the positions. Furthermore, there is a surprising lack of uniformity in the entrance requirements for various positions, as illustrated by figure 1. This figure shows, for some 80 current civil service examinations for engineering positions in the Federal Government service, the years of preliminary experience, both with and without a technical degree, which are held as a prerequisite for admission to examination, the number of years in responsible charge of work which are required, and the credit in years of experience which are given for a technical degree.

The fundamental points to be considered in a classification of positions designed for the purpose of determining proper scales of compensation and other conditions pertaining to employment are:

1. The type of work, as indicated by the vocation in which the position falls.
2. The grade of work, as determined by the proficiency and responsibilities involved.

The type of work pertaining to a position, whether it represents a calling, a business, a trade, or other activities, including professional as well as mechanical operations, determines what is commonly termed the vocation or occupation of the individual holding the position. Vocations having similar characteristics may be grouped into services, such as engineering, scientific, clerical, artisan, etc.

In the professional engineering service, as the term is generally understood, the following vocations are found in the activities of the Federal Government:

Aeronautical Engineer
Architect
Chemical Engineer
Civil Engineer
Electrical Engineer
Forestry Engineer
Marine Engineer
Mechanical Engineer
Metallurgical Engineer
Mining Engineer
Naval Architect
Ordnance Engineer

Although positions in a vocation have similar characteristics in respect to the type of work, there are individual differences which depend on the responsibilities and proficiency involved. Such differences may be indicated by a system of grading that will be common to vocations in the same or similar services. In such a system of grading it is important to maintain the following principles:

1. That it shall provide a distinct means of comparing positions within the several vocations.
2. That it shall provide for comparison on an equitable basis of positions involving independent work with those involving administrative duties.
3. That it shall indicate a direct line of promotion from grade to grade and give an opportunity for regular advancement within a grade.

In the questionnaire used for collecting data for this report there were eight grades—four administrative and four nonadministrative. The data collected as summarized in Table 1, page 9 show that this system of grading was unsatisfactory in two respects:

1. It did not give a fair relative consideration of administrative and nonadministrative work.
2. It gave too wide a range of positions in Grade 8.

The study showed that the needs of the engineering services would be better served if the positions in the eighth grade were distributed among the first four and the definitions of the other grades extended to cover both administrative and nonadministrative positions. On this basis the following seven grades are proposed. This system of grading applies equally well to positions in any professional vocation.