

**ELECTRICAL
METERMEN'S
HANDBOOK**

**SIXTH
EDITION**

ELECTRICAL METERMEN'S HANDBOOK

Revised and Edited by
Handbook Revision Committee of the
Meter and Service Committee
Edison Electric Institute

Sixth Edition

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PREFACE TO THE SIXTH EDITION

The *Electrical Metermen's Handbook* is intended to serve as a practical guide to experienced metermen in solving the great variety of problems encountered in their daily work, and to provide essential material in a complete, concise, orderly text which may prove useful in the training and development of new metermen. It also will serve supervisors and executives in giving them an overall view of the requirements for organizing and directing a modern meter department.

The first edition of the *Electrical Metermen's Handbook* was published under the direction of the Meter Committee of the National Electric Light Association in 1912. The original work was revised and published as the second edition in 1915. The third edition, a further revision of the original, containing considerable additional material, was published in 1917. The fourth edition, also revised, was published in 1923. In the fifth edition the previous material was rearranged in a more useful form, including new reference tables, and much of the data concerning meters manufactured prior to 1924 was omitted.

In the sixth edition, much new material has been added to show the most modern equipment, methods, and engineering practices. In addition, an appendix taken from the 1923 edition has been provided showing the essential data required in the maintenance of older meters which are still in general use. Except for this appendix, the material is, wherever practicable, in accordance with the latest standards of the Edison Electric Institute, Association of Edison Illuminating Companies, and American Standards Association.

Recognition is given to the splendid work done by those who prepared the earlier editions of this Handbook. Much which they have done has been carried forward into this latest edition and stands as a monument to their efforts.

Credit is given to the meter manufacturers for their cooperation in providing information on their products, to our fellow-workers who have assisted the Committee members in the preparation of the material, and to the editorial staff at EEI headquarters who assisted in the publication of the book.

It is anticipated that future editions will be prepared as new developments make it necessary. If any user of this Handbook has any suggestions which he believes would make future editions more useful or useable, such suggestions or comments or criticisms will be welcomed and should be sent to the *Editing Committee, Electrical Metermen's Handbook, Edison Electric Institute, 480 Lexington Avenue, New York 17, N. Y.*

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SECTION 1

THE METER DEPARTMENT

The meter department, as an important division of a utility company organization, must exemplify those fundamentals of service which inspire confidence. It must develop methods and train its personnel to assure customers, stockholders, executives, and the general public that all assigned functions will be performed in an orderly manner, with accuracy, brevity, safety, and economy.

FUNCTIONS

The meter department will cover some or all of the following functions: making service connections; installing, testing and maintaining meters; reading meters and calculating the units to be billed; investigating service irregularities and customers' complaints; operating the meter shop; operating laboratories for standardizing purposes or the testing of materials. Variations in functions and even in name may occur, depending largely on the organization of the company with which the meter department is connected and the lines along which the organization has been developed.

The functions of the meter department involve considerable detail, much of which is handled directly with the customer. The ability to handle these details and the experiences gained in dealing with customers result in many instances in other responsibilities being placed on the meter department, or in other related functions being grouped in or around its organization. These additional functions in some cases include wiring inspection; the running of service drops; the design, construction and maintenance in connection with the company's service performed on customers' premises; and the testing of utilization equipment. These items are enumerated since they indicate the channels of development open to metermen. As the company develops, careful consideration will usually result in increasing the responsibilities of the meter department.

The necessity for accuracy in all of the operations connected with metering has led to the development of standardizing and testing laboratories under the jurisdiction of the meter department. The laboratories of some companies are completely equipped in the field of electrical, steam, chemical, and mechanical testing and research.

ORGANIZATION

In developing a meter department the fundamentals of good organization must be observed, and efficient supervision provided. The head of the meter department should have a recognized assistant capable of being developed as the head of the department. It will be found desirable to separate the functions into groups and to have a designated supervisor in charge of each group, in order that the responsibilities for the various functions of the meter department may be fixed, and a foundation be established for future development.

PUBLIC RELATIONS

All meter department employees must convince themselves, other company employees, and the public of the important fact that all operations are performed in an ethical manner and with sincerity and accuracy. Pride in equipment and knowledge of the many and various methods in use inspire the confidence of others. If errors are made in carrying out instructions, a prompt admission makes for an easy and equitable settlement with customers. It must be the aim of every employee of the meter department to maintain the good will and confidence of the public.

Meter department employees are responsible servants of the public and must be constantly aware of their duties as such. All service must be rendered with an attitude which invites commendation from all concerned. Keen interest in public welfare, and prompt and