

the Superintendent of Documents has received more than 150 paid subscriptions to it. This case might well be taken as an example of the trend towards which the evolution of governmental publication of

scientific research should proceed. It may be expected that specialized periodicals of this type may eventually provide a self-supporting means of publishing all research originating in governmental laboratories.

THE PUBLICATIONS OF THE NATIONAL BUREAU OF STANDARDS

By J. L. MATHUSA and K. S. GIBSON

A. NUMBER AND CHARACTER OF PUBLICATIONS, INCLUDING JOURNALS, SERIALS AND MISCELLANEOUS

Nine series of publications are issued by the National Bureau of Standards, including the *Journal of Research of the National Bureau of Standards*, Research Papers, Circulars, Handbooks, *Technical News Bulletin*, Commercial Standards, Simplified Practice Recommendations, Building Materials and Structures Reports and Miscellaneous Publications.

1. *Journal of Research, NBS*

The *Journal* is issued monthly and makes available the results of fundamental research (other than confidential work for the Army, Navy and war agencies) in progress in the Bureau's laboratories, including new developments in science and technology.

2. *Research Papers*

These are separate reprints of the articles appearing in the *Journal of Research*. Since the *Journal* covers a variety of subjects, technical groups, research workers and others find it advantageous to obtain the separate papers relating to the subjects in which they are interested. The research papers serve an administrative need in discussing programs of research and in furnishing technical information.

3. *Technical News Bulletin*

This is issued monthly. It contains short articles reporting progress of work, abstracts of articles that appear in the *Journal of Research*, accounts of scientific and technical meetings in which the Bureau staff has participated, and lists of articles by members of the Bureau staff, whether printed in the Bureau's own series or in scientific and technical journals.

4. *Circulars*

The Circulars are compilations of information on various subjects associated with the Bureau's scientific, technical and engineering activities. They include not merely the results of work done at the Bureau, but give information from many other sources. Examples are the National Petroleum Oil Tables; Polarimetry, Saccharimetry, and the Sugars; Static Electricity; Testing Volumetric Glassware; A Test of Lens Resolution for the Photographer. Over 400 of these Circulars have been issued.

5. *Commercial Standards; and 6, Simplified Practice Recommendations*

These are pamphlets issued and revised from time to time as a record of agreements reached with industrial organizations on the qualities, types, and styles of manufactured products. The distinction between the two series is that the Commercial Standards are primarily recommended specifications of quality or performance, whereas the Simplified Practice Recommendations represent voluntary agreements to reduce the number of types and varieties to be given preference in trade practice. Both are developed cooperatively with the industries concerned, through standing committees working with the Bureau on the various projects. During the present emergency the War Production Board and the Office of Price Administration are incorporating the provisions of many of these recommended standards in their mandatory limitation and control requirements, thus conserving strategic materials and manpower.

7. *Handbooks*

These are recommended codes of engineering practice, such as the National Electrical Safety Code, Code for Protection Against Lightning, Protection of Radium During Air Raids, Safety Rules for Electric Fences, Safe Handling of Radioactive Luminous Compounds. They are developed jointly with the industries, engineering standardization groups and national organizations concerned. Over 30 such codes have been issued. In many cases these recommended requirements are given legal status through incorporation in local ordinances by State and municipal regulatory bodies.

8. *Building Materials and Structures Reports*

This series was begun in 1938. It reports the results of work on funds specially appropriated by Congress for the investigation of materials and methods of construction for low-cost housing, including the Government's program of defense housing. The investigations have furnished the Government, the building industry and others concerned information from practically every available source on the engineering properties of materials as incorporated in structural elements and equipment. Recent reports

deal with water-distribution systems for buildings; asphalt-prepared roll roofings and shingles; floor coverings; plumbing; moisture condensation in building walls; water permeability of walls built of masonry units; and a large number of reports on the structural properties of walls, partitions, and floors. Over 90 such reports have been printed.

9. Miscellaneous Publications

These are items which do not fit into any other Bureau publication series. In many cases they are charts or other material which has to be of a different size for appropriate printing. Examples are the metric chart, the encyclopedias of specifications, reports of the National Conferences on Weights and Measures and pamphlets more distinctly of an administrative nature.

B. DIVERSITY OF SCIENTIFIC FIELDS COVERED IN EACH

Publications of a scientific, technical and engineering nature emanate from all the scientific and engineering divisions of the Bureau; these cover the fields of electricity, weights and measures, heat and thermometry, optics, chemistry, mechanics and sound, organic and fibrous materials, metallurgy, and clay and silicates. A few of the specialties within these fields relate to electrochemistry, radio and magnetic measurements; length, time and mass; heat measurements, automotive power plants and thermometry; polarimetry, photometry and radioactivity; pH standards, gas and paints; aeronautic instruments and hydraulics; rubber, textiles and plastics; metallurgy of various kinds; and cements and glasses. Over seventy such sections are represented in the organization of the scientific and technical divisions. The Commercial Standardization Group includes the activities on the development and use of specifications, the Commercial Standards and Simplified Practice projects, and the building and engineering code services.

C. SIZE OF EDITIONS AND LIMITATIONS ON DISTRIBUTION

In most cases, the official editions of the Bureau's publications are limited to 1,000 copies. In addition, the Superintendent of Documents prints such copies for sales purposes as the extent of interest in the subject may seem to warrant. The Bureau's distribution of official copies is restricted to the libraries of leading scientific, engineering, and technical organizations, and to educational institutions, where it is expected that they will be available for general reference use. In many cases, the publications are forwarded in exchange for the technical periodicals issued by these organizations. The Superintendent of Documents also distributes free copies of Bureau publications to

the several hundred Government depository libraries throughout the United States. Recent figures show over 1,400 subscriptions to the monthly *Journal of Research* and *Technical News Bulletin*. Over 40,000 copies of the Handbook on Screw Thread Standards have been sold, and the purchase of the recently issued parts of the National Electrical Safety Code has exceeded 33,000 copies. Sixteen thousand copies of the Simplified Practice Recommendation on Machine Carriage and Lag Bolts have been sold. The current Circulars on Synthetic Rubber and Properties of Dental Materials have had several reprintings.

D. INTERESTS AND ACTIVITIES OF THE INSTITUTIONS AND INDIVIDUALS ON THE MAILING LISTS

As indicated above, the distribution of the Bureau's publications is to public libraries, standardization and technical research groups, leading national research societies and the libraries of other organizations doing research work in physics, chemistry and engineering, or concerned with problems of research and standardization on which the Bureau is engaged. No individual mailing lists are maintained. In many cases cooperative programs of research are in progress, and the Bureau's staff in many instances are members of the society or association engaged in the development of specifications and standards of practice and in the securing of basic research information. Examples are the American Standards Association, American Society for Testing Materials, American Society of Mechanical Engineers, Society of Automotive Engineers, etc. In many cases the research associates representing these organizations are working in the Bureau's laboratories, and their results are printed by the Bureau.

E. PROPORTION SENT OUTSIDE THE UNITED STATES

Because of censorship limitations and procedure, the official distribution of Bureau publications to countries other than Canada has been suspended. The mailing to many European countries was abandoned in 1940. Before the war, the distribution of the *Journal of Research* to foreign countries exceeded 600 copies, many in exchange for foreign scientific and technical periodicals.

F. EXTENT TO WHICH INSTITUTIONS OR PERSONS IN OTHER COUNTRIES CAN OBTAIN OR GAIN ACCESS TO BUREAU PUBLICATIONS

Except for the present limitations indicated in E, the publications of the Bureau have been available in many of the leading foreign libraries. The sale of Bureau publications by the Superintendent of Documents makes them generally available.