

§ 200.102

funded by direct appropriations, and are aimed at meeting broad general needs. NIST may also undertake investigations or developments to meet some specialized physical measurement problem of another Government agency, industrial group, or manufacturing firm, using funds supplied by the requesting organization.

§ 200.102 Types of calibration and test services.

(a) NIST has developed instrumentation and techniques for realizing standards for the seven base units of the International System of Units, as agreed upon by the General Conference of Weights and Measures. Reference standards have been established not only for these seven base units, but also for many derived quantities and their multiples and submultiples. Such reference standards, or equivalent working standards, are used to calibrate laboratory and plant standards for other organizations. Accuracy is maintained by stability checks, by comparison with the standards of other national and international laboratories, and by the exploration of alternative techniques as a means of reducing possible systematic error.

(b) Calibrations for many types of instruments and ranges of physical quantities are described in the NIST Special Publication 250 (SP 250). (See § 200.115 for details relating to the description of service items and listing of fees.)

(c) In recent years NIST has offered to the public new measurement services called measurement assurance programs. These programs are designed for laboratories whose measurement process involves the calibration of other standards. A measurement assurance program is a measurement quality control process. By use of carefully designed redundant measurements and measurements made on NIST transport standards a total uncertainty of the laboratories measurement process can be determined by NIST. The results of these tests are then reported to the customer as uncertainties of the customer's measurements relative to national standards.

(d) Special measurements not listed in SP 250 may be made upon request. These might involve unusual physical

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quantities, upper or lower extremes of range, higher levels of accuracy, fast response speeds, short durations, broader ranges of associated parameters, or special environmental conditions. Such inquiries should describe clearly the measurement desired. Indication of the scientific or economic basis for the requirements to be satisfied will be helpful in determining future NIST programs. Fees for work accepted will be based upon actual costs incurred.

(e) The principal emphasis of NIST is on those calibrations and other tests requiring such accuracy as can be obtained only by direct comparison with its standards.

(f) Other services which may be obtained include:

(1) Tests of measuring instruments to determine compliance with specifications or claims, when the evaluation is critical in national scientific or technical operations, and when suitable facilities are not available elsewhere; and

(2) Referee tests in important cases when clients are unable to agree upon the method of measurement, the results of tests, or the interpretation of these results, but have agreed in advance in writing to accept and abide by the findings of NIST.

(g) NIST reserves the right to decline any request for services if the work would interfere with other activities deemed by the Director to be of greater importance. In general, measurement services are not provided when available from commercial laboratories.

(h) Suggestions will be offered on measurement techniques and on other sources of assistance on calibration or measurement problems when the equipment and personnel of NIST are unable to undertake the work. The National Conference of Standards Laboratories issues a Directory of Standards Laboratories in the United States which perform calibration work (obtainable from NCSL Secretariat, c/o National Institute of Standards & Technology, Boulder, CO 80303). Those laboratories which perform testing are listed in the ASTM Directory of Testing Laboratories, Commercial and Institutional. (Directory available from the American Society for Testing and

Materials, 1916 Race Street, Philadelphia, PA 19103.) Similar listings appear in buyer's guides for commercial products and in technical journals concerned with physical measurement.

§ 200.103 Consulting and advisory services.

(a) In areas of its special competence, NIST offers consulting and advisory services on various problems related to measurement, e.g., details of design and construction, operational aspects, unusual or extreme conditions, methods of statistical control of the measurement process, automated acquisition of laboratory data, and data reduction and analysis by computer. Brief consultation may be obtained at no charge; the fee for extended effort will be based upon actual costs incurred. The services outlined in this paragraph do not include services in connection with legal proceedings not involving the United States as a named party, nor to testimony or the production of data, information, or records in such legal proceedings which is governed by the policies and procedures set forth in Subchapter H, Chapter II, Part 275, of this title.

(b) To enhance the competence of standards laboratory personnel, NIST conducts at irregular intervals several group seminars on the precision measurement of specific types of physical quantities, offering the opportunity of laboratory observation and informal discussion. A brochure describing the current series of seminars can be obtained by writing the Office of Measurement Services, National Institute of Standards & Technology, Washington, DC 20234.

§ 200.104 Standard reference materials.

Often the performance of a device or structure can be evaluated at the user's laboratory by comparing its response to unknown materials with its response to a stable, homogeneous reference specimen which has been well-characterized with regard to the physical or chemical property being measured. For information regarding carefully characterized materials see Subchapter B, Chapter II, Part 230, of this title. The Office of Standard Reference

Materials in the NIST National Measurement Laboratory administers a program to provide many types of well-characterized materials that are needed to calibrate a measurement system or to produce scientific data that can be readily referred to a common base. NIST SP 260 is a catalog of Standard Reference Materials available from NIST.

§ 200.105 Standard reference data.

Data on the physical and chemical properties of the large variety of substances used in science and technology need to be compiled and evaluated for application in research, development, engineering design, and commerce. The Office of Standard Reference Data (OSRD) in the NIST National Measurement Laboratory provides coordination of and access to a number of governmental and nongovernmental data centers throughout this country and the world which are responsive to user needs for data. The OSRD's present program is assembled under a series of tasks which include data for application in energy, environment and health, industrial process design, materials durability, and resource recovery. The subject data are disseminated as hard-copy information in the Journal of Physical and Chemical Reference Data, published jointly with the American Chemical Society and the American Institute of Physics, in the National Standard Reference Data System reports as the NSRDS-NIST series, and as NIST special reports. Magnetic tapes of data on selected topics are also issued through the OSRD and the National Technical Information Service. A newsletter, "Reference Data Report," is issued bimonthly describing current activities. Information concerning the above is available upon request from the OSRD.

§ 200.106 Publications.

Publications provide the primary means of communicating the results of the NIST programs and services to its varied technical audiences, as well as to the general public. NIST issues some fifteen categories of publications including three periodicals, ten non-periodicals series, interagency reports, and