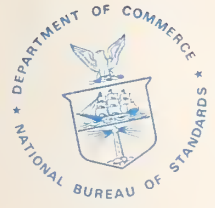

Standards Committee Activities of the National Bureau of Standards

1980 HIGHLIGHTS

NBS Special Publication 605

NATIONAL BUREAU OF STANDARDS

The National Bureau of Standards[1] was established by an act of Congress on March 3, 1901. The Bureau's overall goal is to strengthen and advance the Nation's science and technology and facilitate their effective application for public benefit. To this end, the Bureau conducts research and provides: (1) a basis for the Nation's physical measurement system, (2) scientific and technological services for industry and government, (3) a technical basis for equity in trade, and (4) technical services to promote public safety. The Bureau's technical work is performed by the National Measurement Laboratory, the National Engineering Laboratory, and the Institute for Computer Sciences and Technology.

THE NATIONAL MEASUREMENT LABORATORY provides the national system of physical and chemical and materials measurement; coordinates the system with measurement systems of other nations and furnishes essential services leading to accurate and uniform physical and chemical measurement throughout the Nation's scientific community, industry, and commerce; conducts materials research leading to improved methods of measurement, standards, and data on the properties of materials needed by industry, commerce, educational institutions, and Government; provides advisory and research services to other Government agencies; develops, produces, and distributes Standard Reference Materials; and provides calibration services. The Laboratory consists of the following centers:

Absolute Physical Quantities[2] — Radiation Research — Thermodynamics and Molecular Science — Analytical Chemistry — Materials Science.

THE NATIONAL ENGINEERING LABORATORY provides technology and technical services to the public and private sectors to address national needs and to solve national problems; conducts research in engineering and applied science in support of these efforts; builds and maintains competence in the necessary disciplines required to carry out this research and technical service; develops engineering data and measurement capabilities; provides engineering measurement traceability services; develops test methods and proposes engineering standards and code changes; develops and proposes new engineering practices; and develops and improves mechanisms to transfer results of its research to the ultimate user. The Laboratory consists of the following centers:

Applied Mathematics — Electronics and Electrical Engineering[2] — Mechanical Engineering and Process Technology[2] — Building Technology — Fire Research — Consumer Product Technology — Field Methods.

THE INSTITUTE FOR COMPUTER SCIENCES AND TECHNOLOGY conducts research and provides scientific and technical services to aid Federal agencies in the selection, acquisition, application, and use of computer technology to improve effectiveness and economy in Government operations in accordance with Public Law 89-306 (40 U.S.C. 759), relevant Executive Orders, and other directives; carries out this mission by managing the Federal Information Processing Standards Program, developing Federal ADP standards guidelines, and managing Federal participation in ADP voluntary standardization activities; provides scientific and technological advisory services and assistance to Federal agencies; and provides the technical foundation for computer-related policies of the Federal Government. The Institute consists of the following centers:

Programming Science and Technology — Computer Systems Engineering.

[1]Headquarters and Laboratories at Gaithersburg, MD, unless otherwise noted; mailing address Washington, DC 20234.
[2]Some divisions within the center are located at Boulder, CO 80303.

Standards Committee Activities of the National Bureau of Standards, 1980 Highlights*

JoAnne R. Debelius

Office of Standards Information, Analysis,
and Development
Office of Engineering Standards
National Engineering Laboratory
National Bureau of Standards
Washington, DC 20234

*Supersedes NBS Special Publication 573, issued March 1980.

U.S. DEPARTMENT OF COMMERCE, Malcolm Baldrige, Secretary
NATIONAL BUREAU OF STANDARDS, Ernest Ambler, Director

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FOREWORD

This is the second annual report on NBS staff participation on the standards development activities of other Government agencies and private sector organizations. The report contains only highlights of the Bureau's participation but it does, I feel, suggest the great depth and variety of NBS' contributions to national and international standardization efforts.

Since becoming Director of the NBS Office of Engineering Standards last summer, I have gained a greater appreciation for the dedication and skill which NBS staff bring to the difficult and sometimes thankless task of developing the Nation's and the world's standards. My predecessor, Dr. Lawrence D. Eicher, who is now Assistant Secretary-General of the International Organization for Standardization, had a great deal of respect for the U. S. standards system and the individuals who make up the system. I look forward to playing a part in that system and working toward greater cooperation between the Government and the private sector.

One of the purposes of this report is to encourage cooperation. On the one hand, I hope NBS staff will learn more about the standards activities of their colleagues and will consult with them on standards problems of mutual interest. On the other hand, I hope that outside groups will recognize the wealth of expertise available at NBS to assist in standards development.

It is only through cooperative effort, I believe, that we can successfully deal with the challenges facing the U.S. standards system, including the development of a clearer definition of the roles of Government and the private sector in standards development and the implementation by the U. S. Government of the Multilateral Trade Negotiations Agreement on technical barriers to trade.

Stanley I. Warshaw
Director
Office of Engineering Standards

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ABSTRACT

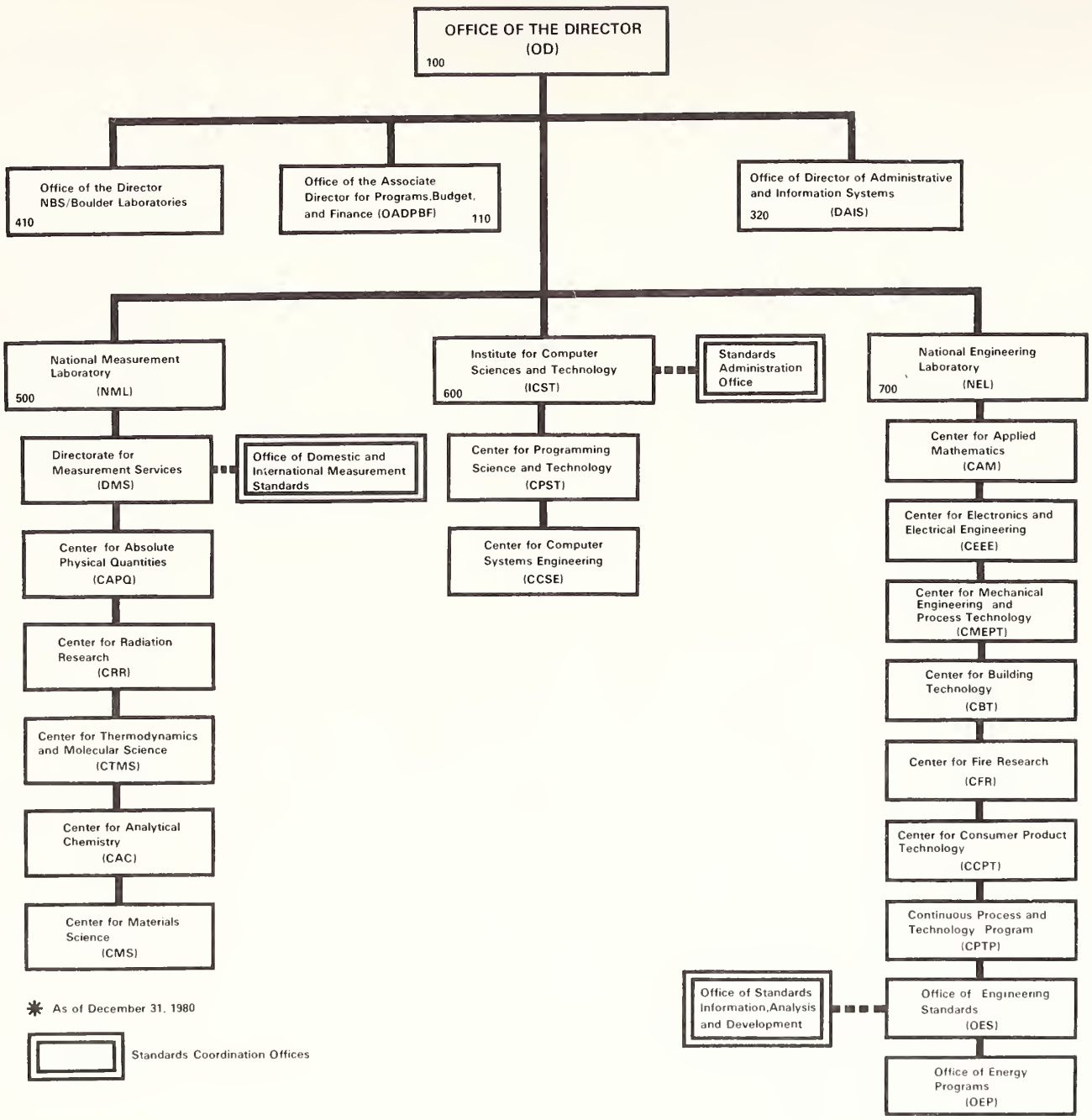
NBS uses a decentralized system for managing the participation of NBS representatives in outside standards committee activities. This type of management is governed by NBS policy; coordinated through standards offices in each NBS Major Operational Unit; and monitored and supported by the Office of Standards Information, Analysis, and Development (OSIAD).

This report summarizes NBS standards committee activities during calendar year 1980. It contains highlights of significant technical and individual contributions made by NBS staff, a description of NBS standards management and information activities, and a directory of standards committees on which NBS staff serve. (Supersedes NBS Special Publication 573 (March 1980)).

For further information on NBS standards activities, contact OSIAD, National Bureau of Standards, Technology Building, Room B166, Washington, D.C. 20234, (301) 921-2092.

Key words: annual report; committee participation; standards committees.

NBS Organization *



INTRODUCTION

The National Bureau of Standards (NBS) commitment to assisting other Government agencies and private sector groups in the development of standards for products, processes, and materials was stronger than ever in 1980. Both the number of staff members participating on outside standards committees (521) and the number of total memberships on those committees (1,710) showed an increase over the 1979 figures. Participation in standards development activities is important to NBS because it provides an opportunity to disseminate the results of the research NBS carries out in its role as the Nation's central reference laboratory for measurements in the physical sciences and engineering. Standards committee activities, in turn, provide NBS with feedback on the Nation's measurement needs in such areas of concern as energy conservation, environmental protection, and public health and safety.

This report summarizes NBS staff participation in outside standards activities during calendar year 1980. It contains statistics on NBS staff participation on standards committees, highlights of significant technical and individual standards contributions made by NBS staff, a description of NBS standards management and information activities, and a directory of committee activities in which NBS staff participate.

NBS STANDARDS MANAGEMENT AND INFORMATION ACTIVITIES

NBS uses a decentralized system for managing the participation of NBS representatives in outside standards committees activities. This type of management is governed by NBS policy (Chapter 3.02, NBS Administrative Manual); coordinated through standards offices in each NBS Major Operational Unit (MOU); and monitored and supported by the Office of Standards Information, Analysis, and Development. Questions relating to NBS policy interpretation or development and standards activities coordination are reviewed by the NBS Standardization Advisory and Coordination Committee (SACC).

During 1980, SACC activities fell into three major categories: (1) those related to internal programs and structure/organization for participation in standards activities; (2) external relations with private sector standards organizations; and (3) relations with other Government agencies. Significant recommendations and accomplishments in these areas are described in Appendix I.

Members of the SACC committee are selected by the NBS Director. During 1980, the committee consisted of four NBS voting members: Dr. Edward L. Brady, Chairman, Associate Director for International Affairs, Office of the Director (OD); Dr. Arthur O. McCoubrey, Associate Director for Measurement Services, National Measurement Laboratory (NML); Dr. Stanley I. Warshaw, Director of the Office of Engineering Standards, National Engineering Laboratory (NEL); and M. Zane Thornton, Deputy Director of the Institute for Computer Sciences and Technology (ICST). James E. French, Special Assistant to the Director of the Office of Engineering Standards, served as Executive Secretary in a non-voting capacity. David Edgerly, Chief of NML's Office of Domestic and International Measurement Standards, served as alternate Secretary.

Information Activities

NBS technical work is carried out in three Major Operational Units. Each of these units has a standards coordination office which monitors its parent units standards activities: NML - Office of Domestic and International Measurement Standards; ICST - Standards Administration Office; and NEL - Office of Standards Information, Analysis, and Development (OSIAD). (See NBS organization chart pg. vii)

NEL's OSIAD has the further responsibility for collecting and disseminating information on all NBS staff participation in outside standards-writing activities. The Standards Assistance and Management Information (SAMI) project of OSIAD collects and disseminates information through a computerized data system to promote efficient participation by NBS staff members in standardization activities and to assist Bureau managers in making decisions about the allocation of NBS resources for these activities. During 1980, activities of the SAMI project staff included publishing three directories of NBS staff memberships on outside standards committees; preparing quarterly summary reports on standards-related travel; preparing annual reports on NBS and NEL standards committee activities; and administering the American Society for Testing and Materials (ASTM)/NBS contract for membership fees for 1981.

The Standards Impact Analysis (SIA) project of OSIAD stimulates and conducts research into the workings of the national and international standards system and the economic, social, legal, and other impacts of standardization. This program:

- identifies research needs in standardization and makes them known to the academic, economic, and standards communities;
- conducts or contracts for standards impact assessment and related research of specific interest to NBS programs and disseminates the findings to the NBS staff and others; and
- maintains close liaison with other NBS and outside groups involved in studies of standards systems worldwide and the impacts of standards. A reference collection of studies in this area is maintained.

During 1980, under an interagency agreement with the Bureau of Medical Devices (BMD) of the Food and Drug Administration, SIA staff conducted a study on consumer representation in medical device standards development. Four reports were published under contract to and with technical assistance from SIA staff: Standardization in France; The Economics of the Product Certification Industry: Some Research Needs; Economics Applied to Standards: A Guide to the Literature; and Performance vs. Design Standards. SIA staff wrote and published Need for Economic Information on Standards Used in Regulatory Programs: Problems and Recommendations, and provided technical assistance to a contractor (of the NBS Planning Office) developing a report on benefit-cost analysis of an engineering standard which NBS staff helped to develop.

Other NBS units involved in assessing impact of standards include:

- The Institute for Computer Sciences and Technology (ICST), which is responsible for developing Federal automatic data processing (ADP) standards for Federal agency use. A long-range plan adopted by ICST establishes priorities for the development of needed ADP standards and guidelines, and provides for studies of standards' impact and for forecasts of computer technology trends. ICST's Program Development Office works with Federal agency ADP and computer industry officials to identify the need for standards, set priorities based on needs, collect and evaluate data on standards usage by Federal agencies, and study the impact of standards on agencies and the computer industry. The information developed is used in preparing timely and technically sound future standards, and to also assess existing standards for their continued usefulness;

- NBS' Planning Office, Office of the Associate Director for Programs, Budget and Finance, which sponsors research and analyses to identify the broad economic impacts of standardization. An early focus has been the impacts of standardization on industrial innovation and productivity growth. The Planning Office staff works closely with NBS staff and outside individuals to provide information which can be used to assist in determining the allocation of funds among competing programs within the Bureau; and

- The Applied Economics Group, Center for Building Technology (CBT), which conducts research and provides technical assistance on economic problems, with an emphasis on the building and construction industry. This group developed a guide for the building community which describes how to estimate benefits and costs of building code changes. Many building requirements are based on voluntary standards. This group is studying the impacts of standards and certification on innovation in solar heating and cooling systems in buildings. CBT economists interact with SIA staff and other NBS units to develop various research reports in these and other areas.

The Standards Information Service (SIS) of OSIAD provides up-to-date information on published standards and standardization activities. During 1980, SIS responded to 7,750 inquiries from U.S. business and industrial organizations, all levels of government, foreign and international organizations, and the general public.

SIS has the capability to answer questions dealing with existing U.S. standards by means of a computer-produced Key-Word-In-Context Index. SIS maintains a reference collection of engineering and related standards, which includes over 240,000 standards, specifications, test methods, codes, and recommended practices issued by U.S. technical societies, professional organizations, and trade associations; State purchasing offices; U.S. Government agencies; and foreign national and international standardizing bodies. The collection also contains over 300 reference books; articles, pamphlets, reports, and handbooks on standardization; 150 periodicals and newsletters; and the Visual Search Microfilm Files on selected national and international standards.

As a signatory to the Multilateral Trade Negotiations Agreement on Technical Barriers to Trade (MTN/TBT), the United States is required to maintain an inquiry point where information on proposed and existing standards may be obtained. The SIS was designated as the U.S. inquiry point by the Department of Commerce which was given responsibility for this function in the Trade Agreements Act of 1979. The Act authorizes the implementation of the MTN/TBT in the United States. SIS is responsible for notifying the General Agreement on Tariffs and Trade (GATT) Secretariat of proposed Federal agency standards-related activities that affect agricultural and non-agricultural products imported to the United States. The GATT secretariat sends notifications from the United States and other countries to all MTN signatory countries. This enables countries which import products to the United States to comment on proposed regulations that may affect them and similarly gives U.S. exporters an opportunity to comment on foreign regulations that may affect them.

SIS answers all inquiries, both domestic and foreign, on GATT notifications and provides information on published standards of the United States and foreign signatory countries, as well as on international standards.

Standards Committees Participation and Travel

Memberships in standards-writing activities totaled 1,710 (1,528 U.S. and 182 international) during 1980. NBS staff participate in such organizations as the American National Standards Institute (ANSI), the American Society for Testing and Materials (ASTM), the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE), and the International Organization for Standardization (ISO). The most memberships are held in ASTM. Committee members traveled 3,232 days in 1980 to attend committee meetings and/or conferences. Specific details on participation and travel are discussed on page 29.

INDIVIDUAL HIGHLIGHTS

In 1980, a number of NBS staff received awards for significant contributions to standards development. In addition, staff served as delegates to important international standards activities and were appointed or elected to leadership positions on standards committees. Highlights of some of these individual accomplishments are described below. Individuals are listed alphabetically by Major Operational Unit.

OFFICE OF THE DIRECTOR

Dr. Ernest Ambler, NBS Director, served as the U.S. member of the International Committee for Weights and Measures (CIPM) and participated in a meeting of this committee at the International Bureau for Weights and Measures (BIPM) in Paris, October 6-10, 1980. Issues which were of importance to NBS discussed at this meeting included: a) work by the International Bureau of Time (BIH) on the International Atomic Time Scale, b) possible purchase by BIPM of a 14 MeV neutron generator, and c) the upcoming joint meeting of the Consultative Committee for Units and the Consultative Committee on the Definition of the Meter to consider the precise wording for a proposed new definition of the meter.

NATIONAL MEASUREMENT LABORATORY

John Barnes, CMS, was selected to chair ASTM Subcommittee F02.93 on Statistical Matters under ASTM F02, Flexible Barrier Materials.

Dr. Brian Belanger, DMS, was awarded the first "Andy Woodington Best Session Award" at the annual National Conference of Standards Laboratories. Belanger shared the award with three other participants for their workshop session, which dealt with traceability and measurement assurance programs. Belanger was also named to chair the Interface Subcommittee (E46.91) of ASTM Committee E46 on Quality Systems.

Louis Costrell, CRR, chaired an interlaboratory Nuclear Instrumentation Module (NIM) committee and NIM committee writing group that produced in July 1980 the tentative specification, "FASTBUS Modular High-Speed Data Acquisition System for High-Energy Physics and Other Applications."

Dr. John Cuthill, CMS, was awarded the ASTM Award of Merit "for distinquished and dedicated service in advancing voluntary standards for methods of surface analysis by leading the formation and dynamic growth of Committee E42 (Surface Analysis) from its establishment to its internationally recognized position in the surface science community." Cuthill was also named a Fellow of ASTM.

Dr. James Early, CMS, was reelected secretary of ASTM Committee E38, Resource Recovery. Early was also appointed vice chair of ASTM Subcommittee E38.02 on Ferrous Metals.

Dr. Ron Eby, CMS, received the ASTM Award of Appreciation for his contributions as chair of Committee D20, Plastics, the second largest committee in ASTM.

Joseph Fine, CTMS, was appointed chair of ASTM Subcommittee E42.09 on Standard Reference Materials.

Dr. W. F. Gerhold, CMS, was reelected to chair ASTM Committee E05 on Metallic-Coated Iron and Steel Products.

William P. Harris, CMS, was presented with an Award of Appreciation from ASTM for his contributions as chair of Committee D09 on Electrical Insulating Materials.

Dr. Arthur McCoubrey, DMS, was elected for a 6-year term as vice president of the International Committee of Legal Metrology (CIML). CIML is part of the International Organization of Legal Metrology (OIML), which was established for the purpose of reaching international agreements on International Recommendations (standards) for measuring instruments and methods of measurement, thus facilitating free commerce between countries. NBS is responsible for managing U.S. participation in OIML.

Dr. Robert Mehrabian, CMS, was elected to serve as chair of ASTM Committee B06, Die Cast Metals and Alloys. This committee serves the die-casting industry by promotion of knowledge in the field, stimulation of research, development of specifications and methods of test, and recommendation of practices relating to the different alloys used in die-casting.

Dr. Leonard Mordfin, ONDE, was appointed secretary of ASTM Subcommittee E07.08 on Leak Testing.

Dr. Cedric J. Powell, CTMS, was elected chair of ASTM Committee E42 on Surface Analysis.

Edward Pugh, CMS, was appointed vice chair of ASTM Subcommittee G01.06 on Stress Corrosion Cracking and Corrosion Fatigue.

Dr. John Tesk, CMS, was awarded a silver certificate from the American Society for Metals for his "valuable service to the society for the past 25 years." Tesk was also appointed chair of American National Standards (ANS) Committee MD 156, Dental Materials Instruments and Equipment.

Jacquelyn A. Wise, CAPQ, received the Robert D. Thompson Memorial Award from ASTM for her outstanding performance within ASTM Committee E20 on Temperature Measurement. Wise was cited for her "many years of outstanding service and active participation in the work of Committee E20."

INSTITUTE FOR COMPUTER SCIENCES AND TECHNOLOGY

Dr. Donald Deutsch, CPST, was appointed chair of ANS Subcommittee X3H2, Data Definition Language, which is preparing a national standard for a data definition language.

Dr. W. Terry Hardgrave, CPST, was appointed chair of the Data Base System Study Group under ANS Committee X3, Computers and Information Processing.

Belkis Leong-Hong, CPST, served as secretary of the newly formed ANS Subcommittee X3H4 on Information Resource Dictionary System, at the request of the convenor.

NATIONAL ENGINEERING LABORATORY

Dr. Gerald Berman, OES, was elected chair of ASTM Committee E36 on Criteria for the Evaluation of Testing and Inspection Agencies. Berman heads the 214-member committee concerned with the development of standards which will serve as criteria for the evaluation of testing and inspection agencies.

Roscoe Bloss, CCPT, received the ASTM Award of Merit in recognition of his "innovative leadership as chair of Subcommittee E28.01 on Calibration of Mechanical Testing Machines and Apparatus and his outstanding scientific contributions in force and strain measurement." Bloss was also named a Fellow in the Society.

Dr. W. Murray Bullis, CEEE, was presented the ASTM Award of Merit for "distinguished and exceptional contributions, particularly as Committee secretary, both to the operation of committee F01 on Electronics and to the technical and editorial quality of the standards developed by the Committee " Bullis also was named a Fellow of the Society.

Alan F. Clark, CEEE, was selected chair of ASTM Subcommittee B01.08 on Superconductors.

Myron Crawford, CEEE, received a Certificate of Achievement from IEEE's Electromagnetic Compatibility Society for his development of the tranverse electromagnetic (TEM) cell as an electromagnetic compatibility test device.

William Cullen, OES, was selected to receive Honorary Membership in ASTM for "long and distinguished service to the Society in promoting its aims, both domestically and internationally, and for outstanding leadership in, and significant contribution to, voluntary standardization leading to improved standards in the field of building materials."

Dr. Ray Dils, CPTP, was selected by ASTM Committee C16.23, Thermal Conduction Measurements, to head a task force to develop an ASTM Standard line source method for measuring thermal insulation.

John Dise, OES, was awarded the Delmar L. Bloem Distinquished Service Award of the American Concrete Institute for his effectiveness as chair of ACI Committee 116, Nomenclature, from 1972-1979.

Donald Etzen, CMEPT, was appointed vice chair of ASTM Work Group E07.04.02 on Acoustic Emission Sensors, under Committee E07, Nondestructive Testing.

James E. French, OES, was reelected vice chair of the ANSI Audit and Accreditation Board, which reports directly to the ANSI Board of Directors.

Martin Greenspan, CMEPT, received the IEEE's 1980 Harry Diamond Award for his contributions in the fields of acoustics and elasticity.

Dr. James A. Lechner, CAM, was appointed chair of ASTM Subcommittee C26.06 on Statistical Applications, under C26, Nuclear Fuel Cycle.

Dr. Preston McNall, CBT, was appointed vice chair of ASHRAE's Standards Committee.

Clinton Phillips, CPTP, was reelected vice president of the ASHRAE for a second term.

Dr. Alexander F. Robertson, CFR, received the Meritorious Public Service Award from the Coast Guard in recognition of his extraordinary service as a member of the U.S. SOLAS Advisory Working Group on Fire Protection and the Inter-governmental Maritime Consultative Organization (IMCO) Subcommittee on Fire Protection, Working Group on Fire Test Procedure. Robertson contributed to the development of several IMCO Resolutions on test procedures.

Robert Scace, CEEE, was elected first vice chair of ASTM Committee F01, Electronics. As vice chair, Scace will be responsible for liaison with other groups, standard reference material activity, and document management. Scace also received an Award of Merit from ASTM for "his leadership in the development of standards for the electron device industry "and was named a Fellow of the Society.

Harry Schaft, CEEE, led a Task Group on Planning for ASTM Subcommittee E44.09 on Photo Voltaics.

Dr. Myroslav R. Serbyn, CMEPT, was appointed chair of ANSI's Technical Advisory Group ISO/TC108/SC3 for Use and Calibration of Vibration and Shock Measuring Instruments.

Dr. James R. Wright, OD/NEL, was reelected for a third 5-year term (1980-1985) as RILEM Delegate for the United States. As RILEM vice president, Wright headed a RILEM delegation to the International Laboratory Accreditation Conference in Paris. Wright completed his appointment to the ASTM Board of Directors and as chair of the Committee on Society Development in 1980. Under Wright's leadership, the Committee developed a draft long-range plan for the eighties which outlines specific goals and objectives for the Society and presents a generic long-range planning process for use in future planning activities.

DEPARTMENT OF COMMERCE/NATIONAL BUREAU OF STANDARDS AWARDS

Bronze Medal Award - This award is given for significant contribution to science, technology, or administration; for demonstration of unusual initiative or creative ability in the development and improvement of methods, procedures, or devices; or for highly competent performance of assigned tasks for at least 5 years. The awards listed below were given specifically for contributions to standards-related programs and research.

David E. Edgerly, ODIM (NML), for displaying outstanding ability in organizing the U.S. Advisory Committee for Legal Metrology and managing its Secretariat. Through the operations of this broad-based advisory committee, the United States is able to bring a high level of leadership to the development of standards of practice in measurements by the Internal Organization for Legal Metrology.

Joan A. Koenig, OES (NEL), for her significant contributions to the NBS Standards Assistance and Management Information (SAMI) program and her leadership of the Standards Impact Analysis (SIA) program of the Office of Engineering Standards.

Edward Bennett Rosa Award

The Rosa Award recognizes outstanding achievements in the development of meaningful and significant standards of practice in the measurement field. The award is named after Dr. Edward B. Rosa, a physicist, who set the pace for the high level of achievement in the early years of the Bureau.

In 1980, the Rosa Award was presented to Dr. W. Murray Bullis, Center for Electronics and Electrical Engineering, National Engineering Laboratory. He was cited for making significant contributions to the development of electronics standards. In particular, the work of Dr. Bullis on ASTM Committee F01 on Electronics was recognized as advancing the state-of-the-art of measurement in his field with corresponding benefit to the semiconductor electronics industry as a whole.

TECHNICAL HIGHLIGHTS

These significant highlights of NBS technical contributions to standards activities were selected by NBS Divisions as representative of their various research areas and do not reflect all of NBS' standards activities.

OFFICE OF THE DIRECTOR

The 16th General Conference on Weights and Measures established an ad hoc working group to review proposals made by the member states for changes in the Convention of the Meter and in some of the working regulations of the organization. The U.S. Delegation to this group, which met in Paris, October 14-16, consisted of Dr. Edward L. Brady, Associate Director for International Affairs, and Frank Lancetti, Department of State.

NATIONAL MEASUREMENT LABORATORY

Office of the Director (OD)

NBS hosted the 1980 Workshop and Symposium of the National Conference of Standards Laboratories (NCSL), September 22-25, 1980. Nearly 300 attendees, 11 from outside the United States, participated. NBS Director Dr. Ernest Ambler welcomed the delegates and Loren Walsh, editor and publisher of Quality magazine, presented the keynote address on "Management's Role in Measurement Quality." Papers were presented by NBS staff on several NBS programs: Standard Reference Materials--Stan Rasberry, Office of Standard Reference Materials; Nondestructive Evaluation--Harold Berger, Office of Nondestructive Evaluation; Electromagnetic Interference, Dr. Howard Clark, Office of the Director, NML; and International Standards/OIML--David Edgerly, Office of Domestic and International Measurement Standards.

Directorate for Measurement Services (DMS)

ASTM and NBS have cooperated in a number of areas for many years. In 1980, several additional areas of cooperation were agreed upon: calibration services, Measurement Assurance Program (MAP) services and legal metrology. In April, Drs. Arthur McCoubrey, Associate Director for Measurement and Services, and Brian Belanger, Office of Measurement Services, met with ASTM staff to discuss specific actions that could be taken to implement the agreement. In support of this agreement, Belanger met with ASTM Committee E28, Mechanical Testing, to brief them on NBS work to investigate the feasibility of developing a MAP for force measurements with load cells and to solicit input for NBS planning in this area from industry and government laboratories that require accurate force measurements.

DMS manages the participation of all U.S. individuals and organizations in all International Organization of Legal Metrology (OIML) activities. DMS distributes draft recommendations for comment and vote, determines possible interests in U.S. participation in secretariats, and serves as a focal point for communications both within the United States and with the International

Bureau of Legal Metrology (BIML), Secretariat for OIML. DMS also provides policy guidance to those secretariats for which the U.S. has taken responsibility. The Associate Director of Measurement Services, Dr. Arthur McCoubrey, serves as the U.S. member of the International Committee of Legal Metrology (CIML).

In 1980, NBS participated in several OIML standards activities. The 6th International Conference of Legal Metrology was held at the Department of State, June 16-20, 1980. This conference is held every 4 years to give formal approval on recommended standards drafted by OIML technical secretariats and to decide upon the OIML budget for the ensuing 4-year period. NBS Director Dr. Ernest Ambler presented a statement to the conference which set the framework for the forthcoming discussions, pointed out the significance of the organization's activities, and formally opened the conference. Dr. Edward L. Brady, Associate Director for International Affairs, served as head of the U.S. delegation and was elected chair of the Conference. He presided over plenary sessions of the conference and gave brief opening and closing statements on its work. In addition to Brady, other NBS staff on the U.S. delegation were Dr. Arthur McCoubrey, DMS/NML, and David Edgerly, Office of Domestic and International Measurement Standards/NML.

A draft International Document dealing with the application of measurement assurance principles to legal metrology was developed during 1980 for Reporting Secretariat (RS) 6 of Pilot Secretariat (PS) 22 of OIML. NBS holds the secretariat for Pilot Secretariat 22, which is chaired by Bascom Birmingham, Chief, Office of the Director, Boulder Laboratories. Dr. Brian Belanger, Chief of the Office of Measurement Services and chair of the U.S. National Working Group for OIML PS22, RS6, served as drafter and editor for the document. Other NBS staff contributing to the draft included Otto K. Warnlof and David Edgerly. NBS coordinated this document with the concerned parties in industry and other Government agencies through the U.S. National Working Group. Having obtained a consensus within the United States, NBS submitted the draft document to the collaborating countries and discussed it with them at a meeting in Paris, France in April 1980. While suggested revisions were proposed by the other countries during this meeting, there is every reason to believe that a final document can be developed with an international consensus.

A second draft International Recommendation on load cells was developed by the U.S. National Working Group responsible for the PS7/RS8 secretariat on load cells within OIML. The U.S. National Working Group for load cells is a committee of approximately 20 persons representing manufacturers, users, and government officials interested in the developing load cell technology. David Edgerly, Chief of the Office of Domestic and International Measurement Standards, is the Committee secretary. The draft was circulated in early 1980 to the 21 OIML member nations who are members of the International Working Group. An international meeting was held in October 1980, at the Physikalisch-Technische Bundesanstalt (PTB) in Braunschweig, Federal Republic of Germany, at which the second draft was reviewed and major changes were adopted. A third draft will be prepared in early 1981 and it appears likely

that this draft will be considered final and can be processed for balloting as a final International Recommendation of OIML. The draft is important because it establishes uniform international performance requirements and test methods for load cells used as primary measuring components for electronic weighing systems. The United States has the technological lead in load cells and this OIML International Recommendation is fully compatible with our interests in increasing the sales of these devices abroad.

First pre-draft International Recommendations on general specifications for materials testing were distributed for comment in August 1980 to the members of the International Working Group of PS19/RS2 of OIML. These draft Recommendations were developed by a U.S. National Working Group of which David Edgerly is secretary. At the present time, ASTM Committee E28, Mechanical Testing, is engaged in preparing standard test methods for various types of materials (steel, concrete, etc.). A similar activity is going on within the International Organization for Standardization (ISO)/Technical Committee 164 on mechanical testing. Neither ASTM nor ISO are, however, involved in developing standards for the testing machine itself which prescribe necessary technical specifications and performance requirements. These draft OIML Recommendations are intended to apply to the fields of technology and industry where the control or surveillance of the performance of testing machines used to determine mechanical properties of materials is a government function. An example in the U.S. is the Nuclear Regulatory Commission's insistence that testing machines used to determine mechanical properties of materials for reactors be verified as to their performance. These proposed OIML Recommendations will provide uniform performance requirements and test methods for such purposes.

Based upon a proposal from the Physikalisch-Technische Bundesanstalt, representatives of the OIML, the ISO, and the International Electrotechnical Commission (IEC), met in Geneva, Switzerland, in April 1980, and decided to jointly undertake the preparation of an International Vocabulary of basic and general terms of metrology. A Joint Working Group composed of from three - five members each from ISO, IEC, and OIML has been established to oversee the activity. Dr. Hal Altschuler, Office of Domestic and International Measurement, will be the U.S. member of the OIML contingent to the Joint Working Group. A list of terms (proposed without definitions) has been recommended for the new International Vocabulary and was circulated during June 1980 for comment to the members of the Joint Working Group. Beginning early in 1981, work will commence on proposing definitions for the terms (some 200 or so) that have been accepted by the respective organizations.

A first draft International Recommendation on electronic weighing devices was developed by the U.S. National Working Group responsible for the PS7/RS2 secretariat on electronic weighing devices within OIML. Otto Warnlof, Office of Weights and Measures is the secretary of the USNWG. The first draft Recommendation was developed within a relatively short time (8 months) in order to take advantage of the opportunity presented by the inability of the Common Market (EEC) to resolve differences of opinion regarding the need for requirements pertaining to the "self checking" aspects of electronic devices.

It is hoped that the draft OIML Recommendation will be successful in resolving international differences of opinion on performance requirements and test methods for electronic weighing devices and that the draft will eventually be adopted by OIML and accepted by the EEC as the basis for a Technical Directive within the European Community.

Center for Absolute Physical Quantities (CAPQ)

The Temperature and Pressure Measurements and Standards Division performed tests and conducted a measurement round robin during 1980 in support of ASTM Test Method for Compacted Thermocouple Materials. George W. Burns was primarily responsible for this activity, which was carried out under ASTM Subcommittee E20.04, Thermocouples, part of E20, Temperature Measurement.

Center for Radiation Research (CRR)

During 1980, members of the Nuclear Radiation Division contributed significantly to two procedural standards for the calibration of radioactivity assay instruments which were approved by ANS Subcommittee N42.2, Procedural Standards for Calibration of Detectors for Radioactive Measurements. Dr. J. M. Robin Hutchison served as secretary for N42.2. The two standards are: Calibration and Usage of Sodium Iodide Detector Systems; and Performance Verification of Liquid-Scintillation Counting Systems. The purpose of the first standard is to provide a standardized basis for the calibration and usage of sodium iodide detector systems for the measurement of gamma-ray emission rates of radionuclides. Typical applications include radionuclide identification and assay in industrial, environmental, and medical applications. Dr. Hutchison served on the working group for this standard. The second standard is intended for use in verification of performance of commercial liquid-scintillation counting systems which are used in biology and life sciences for assay of radionuclidic tracers, and also for environmental monitoring for tritium and carbon-14. Dr. Bert M. Coursey served on the working group for this standard.

Dale McGarry and Dr. James Grundl, Nuclear Radiation Division, participated in the drafting of ASTM Standard E706-80, Master Matrix for Light-Water-Reactor (LWR) Pressure Vessel Surveillance, which describes the content and relationship of 16 ASTM standards in various stages of completion. The standard was developed under ASTM Subcommittee E10.05, Nuclear Radiation Metrology. NBS is a primary participant in the Light-Water-Reactor Pressure Vessel Dosimetry Improvement program. In this role, NBS is helping prepare a set of ASTM standards to be adopted by industry in order to improve and standardize the procedures for dosimetry and metal damage correlation associated with the operational neutron exposure for U.S. power reactor pressure vessels.

The Radiation Physics Division supplied the materials for the round robin testing that was conducted prior to the adoption on June 1980, of ASTM E746-80, Standard Method for Determining the Relative Image Quality Response of Industrial Radiographic Film. Daniel Polansky and Dr. Robert C. Placious coordinated all the tests. NBS is expected to fabricate the test device for this standard and make it available to users through NBS' Office of Standard Reference Materials.

ASTM Subcommittee E10.07, Radiation Effects on Electronic Materials and Components, developed and had adopted in 1980 three standards addressing testing of electronic components for hardness after neutron radiation exposure. Jimmy C. Humphreys, Center for Radiation Research, was the principal editor of these standards, which will be cited by Department of Defense agencies in procurement of electronic components in appropriate contracts. Subcommittee E10.07 was chaired by Samuel Chappell, Office of Domestic and International Measurement Services.

Center for Thermodynamics and Molecular Science (CTMS)

A workshop on quantitative surface analysis was organized by Dr. Cedric J. Powell, Surface Science Division, during a symposium sponsored by ASTM Committee F42 on Surface Analysis. The symposium was part of the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy held in Atlantic City, in March 1980. The workshop addressed key questions which affect the accuracy of practical surface analyses (e.g., specific practical problems with particular analysis techniques, problems with the associated methodology, needs for additional reference data and materials, extent of sample damage during analysis, and sources of errors and mistakes).

Center for Materials Science (CMS)

In May 1980, an ASTM standard, Recommended Practice for Thermal Neutron Radiography of Materials (E748), Part II-1981 Book of Standards, was completed and adopted. It is intended as a guide for the production of neutron radiographs which possess consistent quality characteristics as well as to aid the user in considering the applicability of thermal neutron radiography inspection. Donald Garrett, Reactor Radiation Division, and Harry Berger, Office of Nondestructive Evaluation, co-authored the standard. (The standard was published in January 1981.)

David T. Read, Fracture and Deformation Division, coordinated a round robin in support of proposed ASTM Standard Method for Measurement of the J_I-R Curve. Read tested specimens, reduced data, and provided a test report according to proposed standard procedures. NBS provided the necessary machine shop, test apparatus, and computational facilities for this activity. This work was done for a working group on J_I-R curve under ASTM Subcommittee E24.08, Elastic-Plastic and Fully Plastic Mechanics Terminology.

From the inception of ASTM Committee E38, Resource Recovery, NBS has played a role in the development of standards dealing with ferrous scrap separated from municipal solid waste. In January 1980, ASTM Standard E701-80, Standard Method of Testing Municipal Ferrous Scrap, was adopted. Dr. James Early, Fracture and Deformation Division, participated in the test development and provided the test facility. Experiments conducted at NBS provided in part the data base for a method of test for the determination of the combustible content of municipal ferrous scrap.

Dr. Bruce Christ, Fracture and Deformation Division, participated in the development of a precracked charpy fracture toughness test method under ASTM Subcommittee E24.03, Alternative Fracture Test Methods. NBS staff promoted and aided in the development of a new ASTM standard test method, New Standard Method of Test for the Crack Strength of Slow Bend Precracked Charpy Specimens of High Strength Metallic Materials. Dr. Christ also participated in the development and writing of ASTM standard test method, New Standard Practices for Verification of Specimen Alignment Under Tensile Loading, under ASTM Subcommittee E28.04, Tensile Testing.

Dr. John Barnes, Polymer Science and Standards Division, organized and presented a workshop on Interlaboratory Evaluations at an ASTM meeting held in San Diego, California, February, 1980. The major objective of the workshop was to implement the ASTM requirement for an assessment of precision in all ASTM test methods. Approximately 120 representatives of manufacturers, government, and consumer interest groups attended. Dr. John Mandel, Scientific Consultant to the NML Director, was the featured speaker. ASTM Committees D20, Plastics; F02, Flexible Barrier Materials; and F17, Plastic Pipe, sponsored the workshop.

Scientists in the Polymer Science and Standards Division developed in 1980, an improved test for environmental stress-cracking of ethylene plastics. The new test method, which was presented to and favorably received by ASTM Committee D20, Plastics, represents an improvement over existing test methods in three ways: 1) the specimens are held in a state of constant stress in order to minimize the influence on test results caused by stress-relaxation characteristics that may vary among polymeric materials; 2) the difficult step of notching specimens in a specified manner is avoided; and 3) testing time is reduced. This test method will aid the plastics packaging industry in applications ranging from liquid soap bottles to large shipping containers used for hazardous materials transportation.

A draft standard for the solid particle erosion testing of materials was developed in 1980 by the Metallurgy Division for ASTM Committee G02 on Erosion and Wear. NBS staff started the third round of a round robin series on erosion measurements and have supplied materials and specimens for the necessary measurements to six laboratories. Measurement results will be analyzed and reported to the Committee by NBS staff.

A conference was organized and held at NBS on May 1-2, 1980 concerning the retrieval and analysis of synthetic implants cosponsored by ASTM Committee F04 on Medical and Surgical Materials and Devices. The meeting attracted about 100 scientists and physicians from the U.S. and foreign countries concerned with implant device retrieval. NBS staff participated in the conference planning and provided the conference co-chair. The proceedings will be available in early 1981 and will include materials science considerations (metals, polymers, ceramics), as well as biological findings on compatibility and long term success of implants. Also several round robin tests were conducted in 1980 in support of ASTM Committee F04's proposed standard, "Method of Test for Pitting or Crevice Corrosion of Metallic Surgical Implant Materials."

NBS staff contributed significantly to the preparation of the ASTM standard recommended practice entitled Dry Sand/Rubber Wheel Abrasion Test, by conducting several round robin test activities over the past five years. This activity was done for ASTM Committee G02 on Erosion and Wear. This standard was approved in 1980 and has led to an NBS supported project to develop one or more Standard Reference Materials for calibration of the test method.

INSTITUTE FOR COMPUTER SCIENCES AND TECHNOLOGY

The Institute for Computer Sciences and Technology (ICST) manages a major program aimed at improved procurement and utilization of computers within the Federal Government. Under the Brooks Act (P.L. 89-306), ICST is responsible for providing Federal agencies and the Administrator of General Services with scientific and technological advisory services related to automatic data processing (ADP) and related systems; recommending the establishment of uniform Federal ADP standards; and undertaking necessary research in computer science and technology.

ADP standards are developed by ICST, approved by the Secretary of Commerce, and issued as Federal Information Processing Standards (FIPS) for implementation by Federal agencies. The FIPS publication series also includes guidelines which are recommended practices for managing and using ADP. FIPS cover computer system and network interfaces, software, data, and ADP operations.

ICST ties its ADP standards development activities closely to voluntary industry standards development in order to serve both Federal needs and the public interest. Staff members participate in and lead voluntary standards committees and subcommittees, prepare technical reports and analyses related to standards development, and participate in planning and organizing standards efforts. Whenever feasible, standards developed by voluntary groups are issued as FIPS along with specific Federal applicability provisions.

The FIPS publication series includes 83 documents including the following which were issued in 1980:

FIPS PUB 68, Minimal BASIC (September 1980), defines the syntax of the Minimal BASIC programming language and the semantics for its interpretation. This standard adopts ANS X3.60-1978 and is recommended for the solution of small, nonrecurring problems, particularly in a time-sharing environment. It is to be used as the reference authority in developing compilers, interpreters, or other forms of high-level language processors. It is used by computer professionals whose work depends on the precise syntactic and semantic rules adopted by the ANSI for BASIC language. Minimal BASIC is intended to serve both as a core language which could be included in any BASIC implementation, and as a foundation for an expanded language to be specified by subsequent standards.

FIPS PUB 69, Fortran (September 1980), defines the syntax for the programming language Fortran and the semantics for its interpretation. This standard, which adopts ANS X3.9-1978, will be used by implementers as the reference authority for the development of Fortran language processors and by computer professionals whose work demands a detailed knowledge of the syntactic and semantic rules of the language standard. Fortran is recommended for use in solving numeric, scientific, and engineering problems. The standards consist of a full language and a subset language and includes a requirement that processors "flag" or identify all statements in the source program that do not conform to the standard.

Representation of Geographic Point Locations for Information Interchange, FIPS PUB 70 (October 1980), adopts ANS X3.61-1978 with modifications to meet special Federal requirements. The standard specifies uniform formats for representing geographic point locations that are to be used by Federal agencies in the interchange of data. Its implementation in Federal ADP systems will help to avoid unnecessary and costly incompatibilities in the collection, processing and dissemination of data.

FIPS PUB 71 (May 1980), Advanced Data Communication Control Procedures, defines the data link control procedures to be used by automatic data processing (ADP) equipment and services employing bit-oriented synchronous data communications links. The procedures provide: 1) transfer of information across a data link; 2) minimal exposure to errors and to the loss or duplication of information; 3) control functions relating to beginning, suspending, and terminating the flow of information across a link; and 4) operation on any type of synchronous data transmission facility. This FIPS PUB adopts, with three exceptions, the ANS X3.66-1979.

Guidelines for the Measurement of Remote Batch Computer Service, FIPS PUB 72 (May 1980), defines measures and describes methodologies for measuring remote batch computer network services. These guidelines are for use by persons who have the responsibility for the specification, measurement, operation, evaluation, and selection of remote batch computer service (RBS). They should also aid both consumers and providers of RBS in measuring and evaluating the delivery of network services.

FIPS PUB 73, Guidelines for Security of Computer Applications (June 1980), describes the technical and managerial controls needed to protect new and existing computer applications from natural and human-made hazards and to assure that critical functions are performed correctly and with no harmful side effects. The guidelines describe the different security objectives for a computer application, explain the control measures that can be used, and identify the decisions that should be made at each stage in the life cycle of a sensitive computer operation.

FIPS PUB 75, Guideline on Constructing Benchmarks for ADP System Acquisitions (September 1980), describes a step-by-step procedure for constructing benchmarks for use in the acquisition of ADP systems. Ten steps in the benchmark construction process are identified involving such areas as workload analysis and forecasting, construction of the benchmark mix, and documentation and testing of the benchmark package. The guideline should be useful to technical and management staff as well as to those in private industry who are also involved in constructing benchmarks for use in the evaluation of alternative vendor systems.

Guideline for Planning and Using a Data Dictionary System, FIPS PUB 76 (August 1980), provides assistance in planning and using Data Dictionary Systems (DDS's). A DDS is a computer software system that is used to assist in organization-wide data management, without restriction to computer data. This document describes the capabilities of a DDS; addresses selection

consideration; provides guidance for preimplementation planning, including such management issues as DDS policies and budgeting, data standardization and control, and coordination of the DDS contents. The document also presents initiation and operation considerations for using a DDS.

FIPS PUB 77, Guideline for Planning and Management of Database Applications (September 1980), is a technical primer or basic reference for Federal managers and applications analysts who are responsible for computer applications and associated software and project decisions. It explains alternative software capabilities and recommended development practices for database application, with specific advice on applications planning and management, and on software selection.

FIPS PUB 78, Guideline for Implementing Advanced Data Communication Control Procedures (September 1980), assists agencies in implementing the ADCCP standard, FIPS 71 (see preceding page).

FIPS PUB 79, Magnetic Tape Labels and File Structure for Information Interchange (October 1980), adopts ANS X3.27-1978 for four levels of labeling, label formats, blocking structure, and tape mark relationships on magnetically recorded tapes. This standard is expected to reduce the difficulties of interchanging information recorded on magnetic tape between different users and different computing systems.

FIPS PUB 80, Guide for the Implementation of FIPS in Acquisitions and Design of Computer Products and Services (December 1980), will assist agencies in determining which FIPS apply to their computer system acquisition and design projects.

FIPS PUB 81, DES Modes of Operation (December 1980), describes four alternative modes of operation for using the Data Encryption Standard (FIPS PUB 46). This standard specifies how data will be encrypted and decrypted in each mode of operation to facilitate compatibility between connected devices.

FIPS PUB 82, Guideline for Inspection and Quality Control for Alphanumeric Computer Output Microforms (September 1980), adopts a National Micrographic Association (NMA) recommended industry practice that provides basic information on generating microforms by computers and describes test procedures to insure that the output is high quality.

FIPS PUB 83, Guideline on User Authentication Techniques for Computer Network Access Control (September 1980), describes recommended techniques for access control with emphasis on the use of passwords to verify the identity of persons using remote communications terminals.

FIPS PUBS 84 and 85 deal with microfilm readers and optical character recognition (OCR) inks, respectively. Defining the minimum acceptable image quality for microfilm reading devices used for display of computer output microforms, FIPS PUB 84, Microfilm Readers (October 1980), is designed to facilitate information interchange when the information is recorded on the

microforms generated by computer systems. This standard, which adopts ANS/NMA MS20-1979, sets requirements for heat and noise factors associated with the safe use of such reading devices. FIPS PUB 85, Optical Character Recognition (OCR) Inks (November 1980), addresses the need of OCR systems for a high contrast between the data characters to be read and the paper. The standard, which adopts ANS 3.86M-1980, defines the spectral band for read inks and provides spectrophotometric curves for red and blue nonread inks. The nonread inks allow the printing of human readable instructions that will not interfere with machine recognition.

Center for Programming Science and Technology (CPST)

The Applications Systems Division sponsored a 3-day workshop on a Family of Database Management Standards, September 8-10, 1980 at NBS. The workshop reviewed the status of national and international projects developing standards for computer database software. Participants represented government, industry and academic contributors in ANSI, CODASYL, ISO, International Federation of Information Processing (IFIP) committees as well as interests of database software users. The workshop proceedings will be published by NBS.

CPST hosted a meeting of the joint ANS X3J9-IEEE PASCAL Committee on April 14-15, 1980. The principal activity of the meeting was the preparation of recommended revisions to ISO draft proposal 7185 for an international standard for the language PASCAL. PASCAL is a high-level language for numerical application with more powerful structures than available in existing or proposed Federal standard languages.

CPST assisted in organizing ANS X3T1, Technical Subcommittee on Data Encryption. Michael J. O'Brien and Dennis K. Branstad prepared the initial task development plan for the DES Modes of Operation Standard and prepared several drafts of the standard for committee review.

Center for Computer Systems Engineering (CCSE)

Systems and Network Architecture Division (SNAD) staff hosted a meeting of ANS Subcommittee X4A12, Word Processing, on October 22-24, 1980 at NBS. Topics discussed at the meeting included changing the committee name from "Word Processing" to "Office Systems" and revision of the Scope and Program of Work for X4A12 which includes user needs in all major areas of office automation. SNAD staff also hosted a meeting of ISO/TC97/SC16, Open Systems Interconnection, on June 2-6, 1980, and a meeting of ANS Subcommittee X3J6, Computer Language for Processing of Text, on October 20-24, 1980.

SNAD staff submitted NBS draft reports dealing with specifications and features of network protocols to ANS Subcommittees X3H1, Operating System Command and Response Language; X3S3, Data Communication; X3T5, Open System Interconnection; and ISO/TC97/SC16, Open System Interconnection Technical Committees. The ICST program to develop computer network protocol standards is being coordinated closely with voluntary standards efforts.

System Components Division staff hosted several ANS committee meetings at the Department of Commerce in 1980: ANS Subcommittee X3S34, Task Group on Data Communication Link Control Procedures, June 10-12, 1980; ANS X3T9.3, Work Group on Device Level Interfaces, April 14-15, 1980; and ANS X3T9, I/O Interface Standards, April 18, 1980.

Research and development was performed by the System Components Division staff in support of ANS Subcommittee X3B1, Magnetic Tape, and the ISO Committee TC97/SC11, Flexible Magnetic Media for Digital Data Interchange. This research and development has led to the production and issuance of an NBS Secondary Standard High Density Magnetic Tape-Standard Reference Material (SRM) 6250 (August 1980). This new SRM was endorsed by the U.S. and Japan, and at the October 1980 meeting of ISO/TC97/SC11 in Italy the following resolution was passed unanimously relative to SRM 6250:

> "ISO/TC97/S11 endorses the work of the National Bureau of Standards in establishing a Master Standard Reference Tape for signal amplitude at the physical recording density of 356 ft. pmm (9042 ftpi) and recognizes this Master Standard as the unique International Master Standard for the 356 ft. pmm (9042 ftpi) physical recording density."

Sidney Giller and Amory Ericson were responsible for the technical development and construction of the system, and many required documentation activities associated with the issuance of SRM 6250.

In October 1980, the System Components Division completed the development of standards for communications in the common International Civil Aviation Organization (ICAO) data interchange network (CIDIN) for initial implementation. George Clark and Eric Scace prepared numerous technical papers outlining the applications of the developing international architecture for open systems interconnections to the CIDIN, as well as the specific documents on which the final Standards and Recommended Practices and Guidance Material were based.

NATIONAL ENGINEERING LABORATORY

Center for Electronics and Electrical Engineering (CEEE)

Kathryn O. Leedy and Robert I. Scace of the Electron Devices Division developed three semiconductor device test methods which were adopted by the military for inclusion in Military-Standard (MIL-STD) 883B, Test Methods and Procedures for Microelectronics. The test methods went into effect November 4, 1980.

W. Robert Thurber, Dr. James Ehrstein and Dr. W. Murray Bullis, Electron Devices Division, contributed to the writing of ASTM Recommended Practice for the Conversion of Resistivity to Dopant Density for Boron--and Phosphorus--Doped Silicon being developed by ASTM Committee F01 on Electronics. This document, which was included in the December 1, 1980, Committee Letter Ballot, is the culmination of a major NBS project to reevaluate, at the request of Committee F01, the relationship between resistivity and dopant density for silicon. Thurber and Richard Mattis were responsible for the experimental work needed to obtain the new data which form the basis of the document.

In August 1980, Revision 3 of MIL-STD-883B, Test Methods for Microcircuits, was issued. This standard is based on the nondestructive wire bond pull test developed by George G. Harman, Electron Devices Division and was approved by the Department of Defense as mandatory for integrated circuits and hybrid circuits designated for space use, the highest reliability class. The revised test specifications, based on extensive experience with the original tests, were coordinated with the industry through the Joint Electron Devices Engineering Council Committee JC13, Government Liaison. The revisions related to the pull test apparatus specification and to a simplified table of test force as a function of bonding wire diameter.

Staff members of the Electron Devices Division developed two ASTM standards for preparation and use of an optical microscope for dimensional measurements. The standards are being considered by ASTM Committee F01 on Electronics, Subcommittee F01.08 on Microelectronic Imaging. The first standard, Standard Practice for Preparation of an Optical Microscope for Dimensional Measurements, includes adjusting the microscope for Kohler illumination to provide uniform illumination of the specimen, reduce stray light, and give bright images with good contrast. A draft of this practice was approved by the Subcommittee on February 6, 1980, and is awaiting balloting by Committee F01.
The second standard, Standard Test Method for Calibration of an Optical Microscope for Linewidth Measurement, includes the adjustment and calibration of optical microscopes for measuring line spacings and linewidths in the 0.5 to 12 μm regime on integrated-circuit (IC) hard-surface photomasks. The first draft of this standard was reviewed by F01.08 on June 4, 1980, and a second draft is currently being prepared. NBS Standard Reference Material 474, Optical Linewidth Measurement Standard, and the ASTM standards are

benefiting the microelectronics industry by offering accurate and precise linewidth measurements on IC photomasks which are used for comparison with design values and for determining the quality control of the fabrication processes.

On July 3, 1980, ASTM adopted F614-80, Distortion of Optical Lenses Used in Photomask Fabrication. This test method, used for determining the optical distortion of optical systems used in the fabrication of photomasks for semiconductor device manufacturing, was developed by John Jerke, of the Electron Devices Division.

A round robin evaluation of ASTM Method F583, Photoresist Cleanness-Filterability, was completed on June 3, 1980. Samples of photoresist of unknown cleanness were sent to eight participating industrial laboratories along with test method instructions. The data results were returned to NBS where they were statistically analyzed and reported to ASTM Committee F01 on Electronics. The round robin was conducted by Donald Novotny, Electron Devices Division.

On February 6, 1980, ASTM Committee F01 on Electronics accepted the analysis of a round robin evaluation of ASTM Standard Method F374, Sheet Resistance of Silicon Epitaxial Layers Using a Collinear Four-Probe Array. The analysis of the round robin results were carried out by Dr. James Ehrstein, Electron Devices Division, who conducted the round robin, and John Orban, Statistical Engineering Division. ASTM also adopted F674-80, a Standard Practice for Preparing High-Resistivity n-Type Silicon for Spreading Resistance Measurements, based on work done by Dr. Ehrstein.

Stanley Ruthberg, Electron Devices Division, revised and expanded ASTM Standard F78, Method for Calibration of Helium Leak Detectors by Use of Secondary Standards. The method, developed in cooperation with ASTM Committee F01, Electronics, and published in January 1980, now includes more complete procedures for carrying out the calibration. It was published by ASTM in January 1980.

Dr. Ramon C. Baird, Electromagnetic Fields Division, directed the development of Recommended Practice for the Measurement of Hazardous Electromagnetic Fields--RP and Microwave for ANS Subcommittee C95.I, Techniques, Procedures, and Instrumentation, under Committee C95, Radio Frequency Radiation Hazards. The document was prepared as an aid to the rapidly growing community working with or exposed to non-ionizing electromagnetic radiation. This Recommended Practice provides guidance on both the instruments and techniques to be used in measuring potentially hazardous electromagnetic fields over the frequency range of approximately 1 MH_z to 100 GH_z for both near- and far-field situations. A final draft was submitted to ANSI for approval in April 1980.

A round robin measurement comparison, started in April 1980, was conducted among several U.S. optical fiber manufacturers by the Electromagnetic Technology Division, acting through the Electronic Industries Association (EIA) Committee P6.6, on fibers and materials. The round robin tested the

ability of participants to measure optical fiber attenuation, bandwidth, and numerical aperture on four graded index fibers. For the attenuation and numerical aperture comparisons, the procedures being tested are those currently pending before EIA Committee P6.6.

A meeting, solely devoted to aspects of optical fiber measurement including standards, was hosted by the Electromagnetic Technology Division in cooperation with the IEEE and the Optical Society of America (OSA). The Symposium on Optical Fiber Measurements was held October 28 and 29, 1980 at NBS Boulder. The general chair was Douglas Franzen and the program chair was Gordon Day. Topics included attenuation, bandwidth, index profile, geometric measurements, single mode fibers, and joint/defect characterization. Representatives of the IEC, International Telephone and Telegraph Consultative Committee (CCITT) and Electronic Industries Association (EIA) reported on standards progress in their respective organizations.

Center for Mechanical Engineering and Process Technology (CMEPT)

In May 1980, ANSI voted to issue the Initial Graphics Exchange Specification (IGES) as the first three parts of a five-part draft standard. The Specification, which was developed under the direction of staff from the Industrial Systems Division, is directed towards the exchange and archiving of data found in computer-aided design and manufacturing systems. With the advent of this specification, a company or organization can now develop codes to translate data between their systems and IGES. Data can then be archived or moved between any two computer systems through the intermediate steps of IGES. The previous lack of a method for the exchange of data was viewed as a major problem in the realization of the full potential of computer technology. The title of the standard will be ANSI Y14.26M, Digital Representation for Communication of Product Definition Data.

In a joint effort during 1980, the Automated Production Technology Division and the Air Force Logistics Command developed a method of data preparation for numerical control machine tools which is more efficient and allows data to be quickly and easily shared among different machines. Numerical control refers to the technology of directing the motions of a machine tool from information prerecorded in digital form, usually a punched tape. The project, under ANS Committee X3JF on Automatically Programmed Tools (APT) programming language, developed a rigorous specification of the APT postprocessor language based upon the new American National Standard for APT and coupled this with a comprehensive definition of the machining functions which result from the use of each APT language statement.
On January 22-23, 1980, the technique was successfully demonstrated in production at Sacramento Air Logistics Center by processing a single APT data package on three different machine tools. The concept produces savings in labor, leadtime, and the cost of part programming. It also allows jobs to be shifted quickly from one machine to another without expensive reprogramming, giving shops greater flexibility in their work schedules. The pilot implementation has shown a 23 percent increase in numerical control process efficiency through application of these guidelines and a $160,000 per year cost saving is projected after full implementation.

Center for Building Technology (CBT)

Research performed under the direction of Dr. Paul Brown, Structures and Materials Division, has contributed to the development of two new standards for evaluating materials used in contact with heat transfer fluids. The first, Standard Practice for Laboratory Screening of Metallic Containment Materials for Use with Liquids in Solar Heating and Cooling, was accepted by ASTM in 1980 and will be published as ASTM E712-80. The second, Recommended Practice for Simulated Service Testing for Corrosion of Metallic Containment Materials for Use with Heat Transfer Fluids in Solar Heating and Cooling Systems, was approved by ASTM Committee E44, Solar Energy Conversion, in 1980 and forwarded for Society ballot. The two standards will aid in reducing the problems stemming from metallic corrosion in solar energy systems, thereby aiding in the development of systems with improved durability and reliability.

During 1980, Hunter Fanney and John Jenkins, Building Equipment Division, lead several substantial laboratory investigations in support of the development of ASHRAE 95P, Method of Testing to Determine the Thermal Performance of Packaged Solar Domestic Water Heating Systems and the adoption of ASHRAE Standard 96-1980, Methods of Testing to Determine the Thermal Performance of Unglazed Flat-Plate Liquid-Type Solar Collectors. Dr. James Hill, Chief of the Division, serves as chair of Standards Project Committee 95P and as a member of Standards Project Committee 96P, which produced 96-1980. Fanney's laboratory investigations, completed during 1980, are the first and only to date in which the hot water system test procedure has been verified. In controlled experiments conducted in accordance with the proposed test procedure, laboratory results have been compared with actual performance of an operating system. The concept of testing unglazed flat-plate solar collectors outlined in 96-1980 is based substantially on an earlier ASHRAE Standard and proposed NBS procedures. Jenkins' experimental investigations during 1980 involved testing two unglazed solar collectors in accordance with the proposed procedures, as well as alternate procedures currently under consideration in Europe. The recommendations were informally provided to the Committee.

In June 1980, American National Standards Committee A112, Standardization of Plumbing Materials and Equipment, approved NBS recommended test procedures for evaluation of hydraulic parameters for water closets. The standard, ANS A112.19.2.M-1980, Vitreous China Plumbing Fixtures, was developed under the direction of Dr. Lawrence Galowin and Fred Winter, Building Equipment Division, in conjunction with the Stevens Institute of Technology, Hoboken, New Jersey. Research conducted on the low-flow water closets resulted in the development of test methods for evaluating the performance of these devices. Rational performance requirements, methods of evaluation, and measurement techniques were developed and presented to ANSI.

In August 1980, ASTM approved a standard test method on structures and foundations performance. Louis Cattaneo, Structures and Materials Division, developed the test method that led to the standard ASTM E754-80, Standard Test Method for Pullout Resistance of Ties and Anchors Embedded in Masonry Mortar Joints. This activity was performed under the jurisdiction of ASTM

Subcommittee E06.13 on Structural Performance of Joining and Fastening in Building Construction.

Center for Fire Research (CFR)

In 1980, CFR staff made several contributions to the 1980 Edition of the Life Safety Code (National Fire Protection Administration (NFPA) 101) adopted by NFPA at its November 1980 meeting. The new edition includes the Fire Safety Evaluation System (FSES) for Health Care Facilities, which allows alternative, cost effective methods of providing the level of fire safety required by the Code. It is expected to lead to large savings in the upgrading of existing health care facilities and the construction of new facilities. Inclusion in the widely used Life Safety Code makes the FSES readily available for adoption by authorities in a wide range of jurisdictions. This system was developed under the direction of Harold Nelson, Fire Safety Engineering Division. Other additions made to the Code by CFR were: 1) a new chapter on Detention and Correctional Occupancies, based in part on work carried out for the Department of Justice; and 2) important revisions to the Residential Occupancies chapter made by a subcommittee chaired by Irwin Benjamin, Chief of the Fire Safety Engineering Division. A proposed section on Fire Safety for the Handicapped, based in part on the results of conferences and workshops sponsored by CFR, was returned to Committee for further study.

Center for Consumer Product Technology (CCPT)

Staff members of the Product Safety Technology Division participated during 1980 in a joint effort with the Consumer Product Safety Commission and the Chain Saw Manufacturers Association to develop a voluntary standard for chain saws to address the kickback hazard. A device designed by a manufacturer to simulate the human operator was appraised. Multiple image photography of tests with hand-held saws provided insight into the mechanics of kickback and also revealed significant inadequacies of the simulation. These and other results from chain saw studies produced valuable information for use in NBS research of potential hazards created by loss-of-control of power equipment.

In 1980, the Consumer Product Safety Commission (CPSC) issued a standard based on technical work performed by the Product Performance Engineering Division. The standard, Safety Standard Requiring Oxygen Depletion Safety (ODS) Shut-Off System for Unvented Gas-Fired Space Heaters, was published September 17, 1980, in the Federal Register. NBS' work provided CPSC the basis to determine an alternative to banning unvented heaters.

In 1980, the National Institute of Justice (NIJ) published six standards that were based on test methods and performance requirements developed by NBS' Law Enforcement Standards Laboratory (LESL). The standards were: Riot Helmets and Face Shields; Microphone Cable Assemblies for Mobile FM Transceivers; Continuous Signal-Controlled Selective Signaling; Physical Security of Window Units; Physical Security of Sliding Glass Door Units; and Metallic Window Foil for Intrusion Alarm Systems. These equipment standards assist law enforcement and criminal justice agencies in the selection and procurement of quality equipment.

Continuous Process Technology Program (CPTP)

In 1980, Joseph Richmond, Thermal Processes Division, Fred Nicodemus, Center for Radiation Research, and Lou Barbrow of the Office of Weights and Measures, made significant contributions to the revision of American National Standard 27.1 1967, Nomenclature and Definitions for Illuminating Engineering, which was published in the October Journal of the Illuminating Engineering Society. The revision, issued as ANSI/IEC RP-16-1980, includes about 130 new terms, which reflect advances in the fields of radiometry, photometry, colorimetry, and illuminating engineering since completion of the current standard in 1965.

Office of Engineering Standards (OES)

The 15th Anniversary of the Office of Engineering Standards' AASHTO Materials Reference Laboratory (AMRL) was celebrated at the Annual Meeting of the AASHTO's Operating Subcommittee on Materials in Nashville, Tennessee the week of August 10, 1980. AMRL was commended for its notable contributions to the standardization and advancement of AASHTO methods of test for materials used in constructing U.S. transportation systems.

The Office of Testing Laboratory Evaluation Technology (OTLET) conducted a round robin series of chemical tests on two special portland cements supplied by the Portland Cement Association to develop data by means of which the precision of instrumental determinations of P_2O_5, TiO_2, and Mn_2O_3 could be established. This information was needed to support a review of the current chemical requirements for portland cements in ASTM C150-80, Standard Specification for Portland Cement. Harry G. Anderson of the Materials Reference Laboratories prepared and distributed test samples to 110 laboratories. Reports were received from 41 laboratories. The resulting test data was compiled, analyzed statistically, and a special report prepared and submitted to the chair of ASTM Subcommittee C01.10 on Portland Cements.

STATISTICS ON STANDARDS COMMITTEE MEMBERSHIPS*

In 1980, 521 (or 30 percent) of NBS' 1,728 professional, scientific and technical staff participated on 1,303 outside standards committees (1,133 national, 170 international). Memberships on these committees totaled 1,710 (1,528 national, 182 international). The most memberships, 861, were held in the American Society for Testing and Materials (ASTM). NBS staff participated in the activities of 125 standards organizations (93 national, 32 international).

The statistics presented here were gathered from responses given on NBS Form 83, Record of Committee Assignment. Each NBS staff member is required under Administrative Manual Subchapter 3.02, Standards and Professional Committees, to fill out this form for each committee activity. This enables NBS to maintain a complete computer record of its standards committee participation.

* As of December 31, 1980.

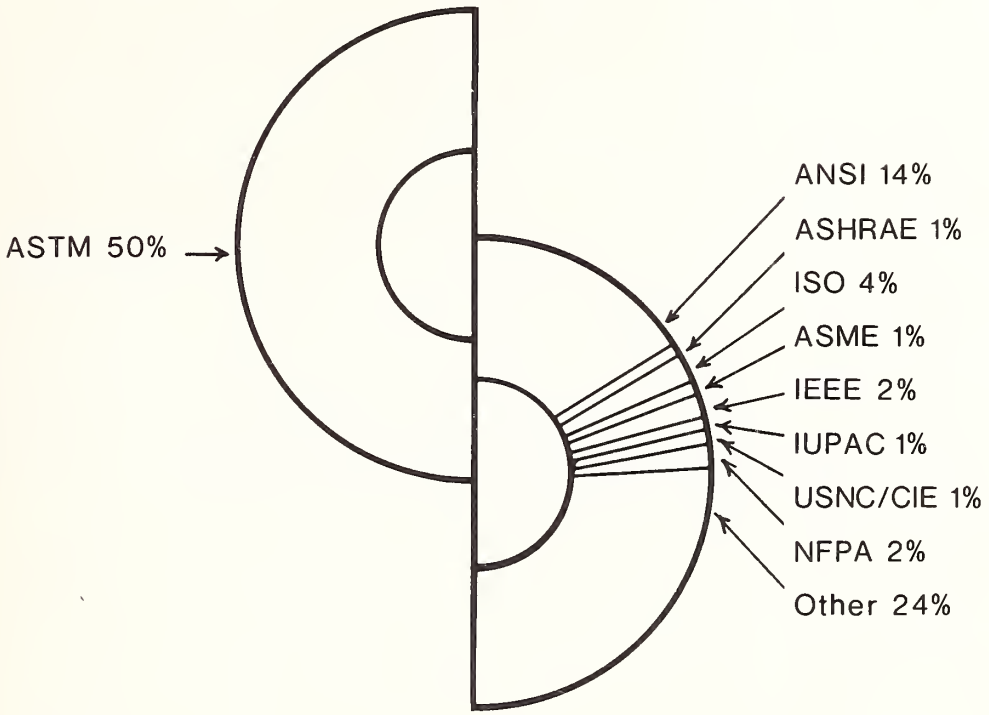
Number of NBS staff participating on standards committees

NML	259	50%
ICST	42	8%
NEL	210	40%
DAIS	7	1%
OADPBF	2	.5%
OD	1	.5%
TOTAL	521	

Number of memberships on national and international committees

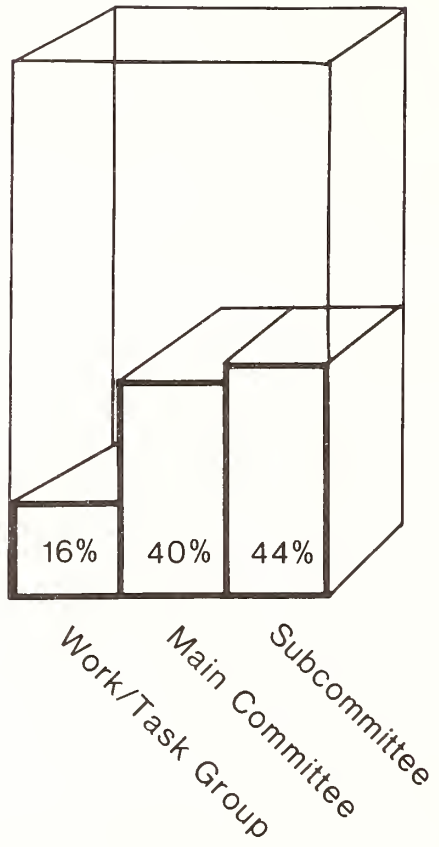
	National	International
OD	1	2
OADPBF	11	0
DAIS	9	0
NML	783	119
ICST	87	13
NEL	637	48
TOTAL	1528	182

Number of memberships in selected organizations
(with 15 or more memberships)



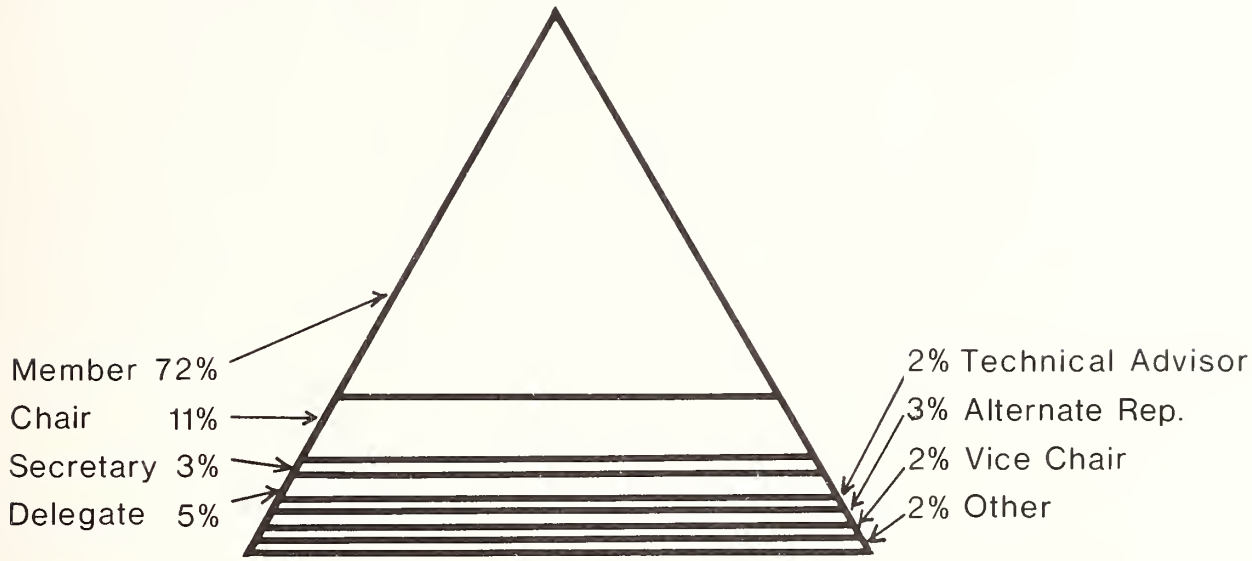
	ASTM	ANSI	ISO	IEEE	NFPA	ASHRAE	ASME	USNC/ CIE	IUPAC	OTHER
OD	0	1	0	0	0	0	0	0	0	2
OADPBF	10	0	0	0	0	0	0	0	0	1
DAIS	0	9	0	0	0	0	0	0	0	0
NML	490	67	31	7	1	0	14	13	15	264
ICST	1	68	12	5	0	0	0	0	0	14
NEL	360	99	33	30	39	31	6	5	0	82
TOTAL	861	244	76	42	40	31	20	18	15	363

Number of memberships by committee levels:



	Main Committee	Subcommittee	Work/Task Group
OD	3	0	0
OADPBF	3	6	2
DAIS	8	1	0
NML	381	388	133
ICST	17	49	34
NEL	281	305	99
TOTAL	693	749	268

Number of memberships by committee position:



	Member	Chair	Vice Chair	Sec.	Tech. Adv.	Alt. Rep.	Delegate	Other*
OD	2	1	0	0	0	0	0	0
OADPBF	10	0	0	0	0	0	0	1
DAIS	5	1	0	0	0	3	0	0
NML	646	104	13	46	18	12	48	15
ICST	48	10	6	4	3	19	9	1
NEL	516	73	10	11	12	21	29	13
TOTAL	1227	189	29	61	33	55	86	30

*Other includes such positions as: manager, consultant, general referee, advisor, editor, coordinator, observer, liaison representative, technical assistant, and convenor.

SUMMARY OF STANDARDS-RELATED TRAVEL

NBS committee participants traveled a total of 3,232 days in 1980 to attend standard committee meetings and/or conferences. The total number of trips was 944 and the average domestic trip lasted 3 days, an average foreign trip lasted 6 days. Standards-related travel made up 16 percent of all NBS travel costs and 17 percent of all travel orders issued.

The Standards Assistance and Management Information (SAMI) project staff receive copies of all travel orders processed by the NBS Travel Office. Orders pertaining to standards travel are singled out and statistics on cost, hours, and number of trips are gathered. Quarterly reports are distributed to NBS managers to keep them informed of their unit's travel time and cost. The table below describes this information in detail by MOU.

SUMMARY OF STANDARDS-RELATED TRAVEL

Organizational Unit	Total No. of Trips			Domestic Travel Hours	Foreign Travel Hours	Total Travel Hours	Domestic Travel Costs	Foreign Travel Costs	Total Travel Costs*
	D	F	T						
OD	1	3	4	16	176	192	$526	$2,955	$3,481
OADPBF	5	0	5	88	0	88	1,818	0	1,818
DAIS	1	0	1	24	0	24	430	0	430
NML	302	48	350	7,040	2,400	9,440	111,780	73,089	184,869
ICST	163	7	170	5,216	336	5,552	95,288	10,788	106,076
NEL	378	22	400	9,136	960	10,096	163,491	37,129	200,620
Other	11	3	14	216	248	464	3,136	7,248	10,384
Total	861	83	944	21,736	4,120	25,856	$376,469	$131,209	$507,678

Key:

OD —Office of the Director
OADPBF —Office of the Associate Director for Programs, Budget, and Finance
DAIS —Office of the Director of Administrative and Information Systems
NML —National Measurement Laboratory
ICST —Institute for Computer Sciences and Technology
NEL —National Engineering Laboratory
Other —NBS/STRS funds allocated to the Department of Commerce's Office of Product Standards
D —Domestic
F —Foreign
T —Total

*This cost includes transportation, per diem, and special expenses (excludes labor).

APPENDIX I

Standardization Advisory and Coordination Committee (SACC) Accomplishments and Recommendations During 1980

Significant activities of SACC included:

- Development of a means of handling "sensitive" or high-impact standards issues by NBS managers;

- Coordination of the development by the three Major Operational Units of a method for insuring adequate NBS participation in standards activities relevant to microprocessors. NBS managers pledged funding for a specified number of technical meetings for theri respective members of the NBS Microprocessor Standards Action Group (MSAG members participate in microprocessor-related standardization activities);

- Acceptance by the NBS Executive Board of a SACC recommendation that NBS pay service fees to ANSI for domestic and international standards participation as do other organizations involved;

- Development of NBS comments on three documents dealing with the OMB Circular A-119, "Federal Participation in the Development and Use of the Voluntary Standards,": (1) Draft Procedures for Listing Dispute Resolution; (2) Changes in the Interagency Committee on Standards Policy Charter; (3) and a Model Federal Agency Policy for Implementing A-119; and

- Monitoring of the development of a model policy dealing with the differences in the way Federal agencies use product certificaton for either regulatory or procurement purposes. SACC is interested in how this may affect NBS standard reference materials, calibration services, and the Institute of Computer Sciences and Technology certification of interface equipment and software.

SELECTED BIBLIOGRAPHY

These publications may be obtained from one of the following sources, as indicated in the citation: Superintendent of Documents, U.S. Government Printing Office (GPO), Washington, D.C. 20402; National Technical Information Service (NTIS), Springfield, VA 22161; and the SAMI Office, Office of Engineering Standards; NBS, Technology, B-166, Washington, D.C. 20234. When ordering from GPO or NTIS, please use order number.

1. Directory of NBS Staff Memberships on Outside Standards Committees (January 1981) available from SAMI Office.

   The Standards Assistance and Management Information (SAMI) project staff collects and disseminates, through a computerized data system, information on all NBS staff participation in outside standards-writing activities. This report contains printouts from that system in two categories: Index of NBS Staff Committee Participants and Index of Committee Auspices and Committee Number. Each index is listed alphabetically.

2. Performance vs. Design Standards, D. Hemenway, NBS GCR 80-287 (October 1980) available from NTIS as PB 81-120362.

   This report compares and contrasts performance and design standards from an economic perspective. The research consisted of a careful examination of the literature and interviews with interested NBS personnel. The paper describes the characteristics of performance standards, explains why they are not used more often, and discusses particular areas where they may be appropriate. The report examines the design versus performance issue in automobile regulation and health care. There are suggestions for further NBS action to promote performance standards and a listing of areas for further research. Nine brief cases at the end of the paper illustrate points made in the main text.

3. Need for Economic Information on Standards Used in Regulatory Programs: Problems and Recommendations, M. Breitenberg, NBSIR 80-2123 (September 1980) available from NTIS as PB 81-115784.

   A number of government regulatory agencies are increasing their use of standards developed by the private sector. Federal regulators are, however, being required to provide increasing justification for their regulations, especially information on their economic desirability. If regulators are to effectively use voluntary standards in their regulations rather than develop standards in-house, they will need the same types of economic information on the voluntary standards as they would have on their in-house standards. This paper describes the types of requirements and pressures that regulatory agencies are faced with in justifying their actions and provides standards writers with guidelines on the types of economic information that may allow regulators to make greater use of voluntary standards.

4. Economics Applied to Standards: A Guide to the Literature , S. F. Weber and B. C. Cassard, NBSIR 80-2015 (April 1980) available from NTIS as PB 80-186034.

   This report provides a guide to the available literature on the application of economics to the analysis of standards and standardization. One hundred eighty-nine relevant articles, reports, and books were found and organized into four major categories of interest: 1) general methods of economic evaluation; 2) economics useful for standards analysis; 3) evaluation of specific developed standards; and 4) economics applied to the development of standards. The significant findings within each of these categories are briefly discussed in the text.

5. The Economics of the Product Certification Industry: Some Research Needs, C. Chapman Rawie, NBSIR 80-2001 (March 1980) available from NTIS as PB 80-160716.

   With the increase in safety regulation, product liability suits, and interest in encouraging the use of new technologies through certification, certification is likely to become more and more important as a way to show conformance with voluntary or regulatory standards. There have been a number of State and Federal Government activities related to product certification. However, the potential impact of past and proposed government actions is not clear. One reason may be that there has been insufficient study of the economics of the product certification industry. This paper asserts that such study is needed as a basis for setting government policy and raises issues that should be addressed concerning structure and performance of the product certification idustry.

6. Standardization in France, I. M. Martinez, NBSIR 79-1959 (February 1980) available from NTIS as PB 80-162126.

   This report provides an overview of the voluntary standards system in France. The author, a former employee of AFNOR--the official French standardization organization, calls on her firsthand experience to discuss the following aspects of the French standards system: 1) organization; 2) French standards; 3) standards development; 4) certification; 5) government use of standards; 6) the role of consumers and labor in standardization; and 7) France's participation in international standards activities.

7. A Guide to Papers Citing Antitrust Cases Involving Standards or Certification, C. Chapman Rawie, NBSIR 79-1921 (December 1979) available from NTIS as PB 80-133960.

   Since at least 1912, standards and certifications for products ranging from lumber to milk cans have been at issue in antitrust cases. This paper describes several articles and reports which examine the antitrust history of standards. It is intended as a research tool to help economists and others decide which (if any) antitrust cases they should study to learn more about the economic effects of standards.

8. Publications of the National Bureau of Standards, B. Burris and R. Morehouse, Editors, NBS Special Publication 305 and its supplements (Supplement 11 - 1979) available from GPO as SN 003-003-02194-6.

   This 11th supplement to Special Publication 305 of the National Bureau of Standards lists the publications of the Bureau issued between January 1 - December 31, 1979. It includes an abstract of each publication, key-word and author indexes; and general information and instructions about NBS publications.

9. An Index of U.S. Voluntary Engineering Standards, W. Slattery, Editor, NBS Special Publication 329, Supplement 2 (May 1975) available from GPO as SN 003-003-01362-5.

   This supplement contains the permuted titles of more than 5,700 voluntary engineering standards; specifications, test methods, codes and recommended practices published by 164 U.S. technical societies, professional organizations and trade associations. Each title can be found under all the significant key words which it contains. These key words are arranged alphabetically down the center of each page together with their surrounding context. The date of publication or last revision, the standard number and an acronym designating the standards-issuing organization appear as part of each entry.

10. Directory of U.S. Standardization Activities, S. Chumas, Editor, NBS Special Publication 417 (November 1975) available from GPO as SN 003-003-01395-1.

    This directory serves as a guide to standardization activities in the United States. Included in the directory are summaries of the standardization activities of trade associations, technical and other professional societies representing industry and commerce, and State and Federal Governments. For the first time this directory covers current descriptive summaries of more than 580 organizations. Organizations having standardization activities such as standards-writing, assisting in the development of standards, issuing standards or disseminating standards information are included. The standardization activities summaries are grouped into three sections: associations, States, and agencies. In each section, the summaries are arranged alphabetically by organization. Two types of indexes are included to assist the reader in identifying an activity: 1) a subject index of key words taken from the summaries; and 2) a listing of organizations classified into 24 subject heading areas.

11. Tabulation of Voluntary Standards and Certification Programs for Consumer Products, W. Slattery, NBS Technical Note 948 (June 1977) available from GPO as SN 003-003-01779-5.

    The document lists over 1,000 product areas and over 2,000 standards titles covering products found in and around the home. (The major consumer product areas not included are foods, beverages, and drugs.)

The tabulation also indicates the applicable national, industrial, and international standards which deal primarily with either safety or performance or both aspects of the products listed. For some of the product areas there are no applicable standards. Available information on certification programs and standards under development and the Standard Industrial Classification (SIC) numbers for the products are also provided.

12. Index of U.S. Nuclear Standards, W. Slattery, NBS Special Publication 483 (August 1977) available from GPO as SN 003-003-01822-8.

This index contains the permuted titles of more than 1,200 nuclear and nuclear-related standards, specifications, test methods, codes and recommended practices published by 34 U.S. Government agencies. technical societies, professional organizations, and trade associations. Each title can be found under all the significant key words which it contains. These key words are arranged alphabetically down the center of each page together with their surrounding context. Each entry includes the date of publication or last revision, the standard number, an acronym designating the standards-issuing organization, any cross reference standard number, and price.

DIRECTORY OF STANDARDS COMMITTEES ON WHICH NBS STAFF SERVE

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRE-TARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
AACC	-C002	COMMITTEE ON STANDARDS	AACC	NATL	URIANO, GEORGE A.	503	TECHNICAL ADVISOR	3-80
	-SC.01	RADIOLIGAND						
	-WG.01	CORTISOL	AACC	NATL	REEDER, DENNIS J.	552	MEMBER	10-78
	-WG.01	CHOLESTEROL IN SERUM	AACC	NATL	SCHAFFER, ROBERT	552	MEMBER	1-76
	-WG.02	ELECTROLYTES IN SERUM	AACC	NATL	SCHAFFER, ROBERT	552	MEMBER	1-74
	-WG.03	SERUM IRON	AACC	NATL	SCHAFFER, ROBERT	552	MEMBER	1-76
	-WG.04	SERUM GLUCOSE	AACC	NATL	SCHAFFER, ROBERT	552	CHAIR	1-74
	-WG.05	SERUM UREA	AACC	NATL	SCHAFFER, ROBERT	552	MEMBER	1-76
	-WG.06	URIC ACID IN SERUM	AACC	NATL	SCHAFFER, ROBERT	552	MEMBER	1-75
AAMI	-C004	SPHYGMOMANOMETER	AAMI	NATL	HASKO, STEPHEN	511	ALT REP	10-79
AAPM	-C002	RADIATION THERAPY	AAPM	NATL	LOEVINGER, ROBERT	533	CONSULTANT	10-79
	WG.21	HIGH-ENERGY PHOTON AND ELECTRON DOSIMETRY	AAPM	NATL	LOEVINGER, ROBERT	533	MEMBER	1976
	WG.22	BRACHYTHERAPY	AAPM	NATL	LOEVINGER, ROBERT	533	MEMBER	8-79
AATCC	RA045	FINISH ANALYSIS	AATCC	NATL	WHARTON, KATHRYN M.	560	MEMBER	1958
ABA	-C002	BANK CARD STANDARDS	ABA	NATL	JEFFERY, SEYMOUR	640	TECHNICAL ADVISOR	1976
	-WG.01	SECURITY	ABA	NATL	BRANSTAD, DENNIS K.	643	MEMBER	6-78
ACI	116	NOMENCLATURE	ACI	NATL	DISE, JOHN R.	782	MEMBER	1956
	214	EVALUATION OF RESULTS OF TESTS USED TO DETERMINE STRENGTH OF CONCRETE	ACI	NATL	LEW, HAI S.	741	MEMBER	4-76
	216	FIRE RESISTANCE AND FIRE PROTECTION OF STRUCTURES	ACI	NATL	ISSEN, LIONEL A.	753	MEMBER	1971
	318	COMMITTEE ON STANDARD BUILDING CODES	ACI	NATL	PFRANG, EDWARD O.	741	MEMBER	1971
	347	FORMWORK FOR CONCRETE	ACI	NATL	LEW, HAI S.	741	MEMBER	3-76
	437	STRENGTH EVALUATION OF EXISTING CONCRETE STRUCTURES	ACI	NATL	LEW, HAI S.	741	MEMBER	1-79
	444	MODELS OF CONCRETE STRUCTURES	ACI	NATL	LEYENDECKER, EDGAR V.	741	MEMBER	1970
	531	CONCRETE MASONRY STRUCTURES	ACI	NATL	WOODWARD, KYLE A.	741	MEMBER	9-80
	E902	EDUCATION ACTIVITY CERTIFICATION	ACI	NATL	BRYSON, JAMES O.	782	MEMBER	2-80
ACI/ ASCE	530	MASONRY STRUCTURES	ACI/ ASCE	NATL	WOODWARD, KYLE A.	741	MEMBER	9-80
ACS	-C002	ANALYTICAL REAGENTS COMMITTEE	ACS*	NATL	MURPHY, THOMAS J.	551	MEMBER	1-80
	-C006	NOMENCLATURE	ACS*	NATL	COYLE, THOMAS D.	561	CHAIR	1977
					LIDE, DAVID R., JR.	504	MEMBER	1973
ADA	-C002	COMPATIBILITY	ADA	NATL	TESK, JOHN A.	563	MEMBER	1979
AICHE	-C002	RESEARCH	AICHE	NATL	KLEIN, MAX	544	MEMBER	1-77
AIF/ NBS	-C002	STEERING COMMITTEE	AIF/ NBS	INTL	MANN, WILFRID B.	532	MEMBER	1974
AIME	-C001	ALLOY PHASES	AIME	NATL	BENNETT, LAWRENCE H.	564	MEMBER	1964
AIRAPT	-C002	INTERNATIONAL PRACTICAL PRESSURE SCALE	AIRAPT	INTL	BEAN, VERN E.	522	CHAIR	5-79
AMS	-C002	AD HOC COMMITTEE TO ESTABLISH METEOROLOGICAL STANDARDS	AMS	NATL	HASEGAWA, SABURO	772	MEMBER	3-78
ANMC	-C004	WEIGHTS AND MEASURES ADVISORY COMMITTEE	ANMC	NATL	WOLLIN, HAROLD F.	511	MEMBER	1975
	-C006	METRIC PRACTICE	ANMC	NATL	GOLDMAN, DAVID T.	500	LIAISON MEMBER	11-79
ANS	-C002	BOARD OF DIRECTORS	ANS	NATL	CARPENTER, B. STEPHEN	551	MEMBER	1979

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRE-TARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
ANS	-C006	STANDARDS						
	SC.06	RADIATION PROTECTION AND SHIELDING						
	-WG.02	AD HOC COMMITTEE ON SI UNITS	ANS	NATL	HUBBELL, JOHN H.	533	CHAIR	6-74
	SSC.04	SHIELDING MATERIALS						
	WG.03	GAMMA-RAY ATTENUATION DATA	ANS	NATL	EISENHAUER, CHARLES M.	532	MEMBER	7-80
	WG.01	SHIELDING CROSS SECTION	ANS	NATL	HUBBELL, JOHN H.	533	MEMBER	11-71
	WG.05	GLOSSARY OF TERMS IN SHIELDING AND DOSIMETRY	ANS	NATL				
					MCLAUGHLIN, WILLIAM L.	533	MEMBER	7-77
					SPENCER, LEWIS V.	533	MEMBER	1976
	SC.09	NUCLEAR TERMINOLOGY AND UNITS	DOE	NATL	GOLDMAN, DAVID T.	500	MEMBER	1-69
					MCLAUGHLIN, WILLIAM L.	533	MEMBER	2-77
	WG.01	HEALTH PHYSICS AND DOSIMETRY	DOE	NATL	MCLAUGHLIN, WILLIAM L.	533	CHAIR	7-77
	SC.15	OPERATION OF RESEARCH REACTORS	ANS	NATL	RABY, TAWFIK M.	566	MEMBER	1974
	SC.16	ISOTOPES AND RADIATION	ANS	NATL	CARPENTER, B. STEPHEN	551	MEMBER	1973
	-WG.01	NEUTRON ACTIVATION ANALYSIS	ANS	NATL	CARPENTER, B. STEPHEN	551	MEMBER	1975
	-WG.02	RADIOGRAPHY AND GAUGING	ANS	NATL	HUBBELL, JOHN H.	533	MEMBER	4-76
ANSI	-C002	ACOUSTICAL STANDARDS MANAGEMENT BOARD	ASA	NATL	KRAMER, SAMUEL	700	MEMBER	9-79
	-C008	ANSI CONSUMER COUNCIL/EXECUTIVE COMMITTEE	ANSI	NATL	VADELUND, ERIC A.	760	MEMBER	3-78
	-C012	BOARD OF DIRECTORS	ANSI	NATL	AMBLER, ERNEST	100	MEMBER	6-75
	-C018	CONSTRUCTION STANDARDS MANAGEMENT BOARD	ANSI	NATL	PFRANG, EDWARD O.	741	MEMBER	1973
	-C020	CONSUMER COUNCIL, CONSUMER EDUCATION AND PUBLIC RELATIONS COMMITTEE						
	-WG.01	STANDARDS SCREENING SEMINARS: CONSUMER SOUNDING BOARDS	ANSI	NATL				
					VADELUND, ERIC A.	760	MEMBER	2-75
	-C024	ELECTRICAL AND ELECTRONICS STANDARDS MANAGEMENT BOARD	ANSI	NATL				
					FAISON, THOMAS K.	745	MEMBER	5-80
	-C030	EXECUTIVE STANDARDS COUNCIL	ANSI	NATL	WARSHAW, STANLEY I.	760	MEMBER	1-81
	-C.01	SOLAR ENERGY STANDARDS DEVELOPMENT	ANSI	NATL	DIKKERS, ROBERT D.	744	MEMBER	1-76
					WAKSMAN, DAVID	744	ALT REP	1-76
	-SC.01	PHOTOVOLTAICS	ANSI	NATL	SCHAFFT, HARRY A.	721	MEMBER	4-79
	-C.02	AD HOC JOINT STUDY GROUP FOR STDS MANAGEMENT BOARD - ELECTRICAL/THERMAL INSULATION	ANSI	NATL				
					GALOWIN, LAWRENCE S.	745	CHAIR	12-78
	-C038	HEATING, AIR CONDITIONING, AND REFRIGERATION STANDARDS MANAGEMENT BOARD	ANSI	NATL				
					MCNALL, PRESTON E.	742	MEMBER	10-77
	-C044	INFORMATION SYSTEMS STANDARDS MANAGEMENT BOARD	ANSI	NATL/I				
					BURROWS, JAMES H.	600	MEMBER	3-80
					ROUNTREE, ROBERT E., JR.	600	ALT REP	3-80
	-C054	MEDICAL DEVICES STANDARDS MANAGEMENT BOARD	ANSI	NATL	CASSEL, JAMES M.	563	MEMBER	1977
	-C062	NUCLEAR STANDARDS MANAGEMENT BOARD	ANSI	NATL	COSTRELL, LOUIS	535	MEMBER	1970
	-C070	SAFETY AND HEALTH STANDARDS MANAGEMENT BOARD	ANSI	NATL	VENTRE, FRANCIS. T.	743	MEMBER	6-79
	-C086	VISUAL ALERTING SYSTEMS (VASCOM)						
	-SC.01	RESEARCH	NBS	NATL	GLASS, ROBERT A.	743	CHAIR	12-77
	-C088	US TAG FOR ISO/TC085, NUCLEAR ENERGY	ANSI	NATL/I	EISENHOWER, ELMER H.	530	MEMBER	12-73
	-C090	US TAG FOR ISO/TC147, WATER QUALITY	ANSI	NATL/I	TAYLOR, JOHN K.	550	MEMBER	1970
	-C092	US TAG FOR ISO/TC150, IMPLANTS FOR SURGERY	ANSI	NATL/I	CASSEL, JAMES M.	563	CHAIR	1977
	-C094	US TAG FOR ISO/TC158, ANALYSIS OF GASES	ANSI	NATL/I	TAYLOR, JOHN K.	550	MEMBER	1975

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRE-TARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
ANSI	-C096	US TAG FOR ISO/TC164, MECHANICAL TESTING OF METALS						
	SC.04	TOUGHNESS TESTING	ANSI	NATL/I	INTERRANTE, CHARLES G.	562	MEMBER	1977
	%G.01	TERMINOLOGY AND SYMBOLS	ANSI	NATL/I	INTERRANTE, CHARLES G.	562	MEMBER	1977
	-C098	INTERNATIONAL STANDARDS COUNCIL	ANSI	NATL	DONALDSON, JOHN L.	760	ALT REP	10-80
					WARSHAW, STANLEY I.	760	MEMBER	10-80
	-C100	ADVISORY GROUP ON ISO/INFCO AND ISONET	ANSI	NATL/I	DONALDSON, JOHN L.	760	MEMBER	8-80
	-C102	INTERNATIONAL ADVISORY COMMITTEE ON CONSUMER POLICY	ANSI	NATL/I				
					VADELUND, ERIC A.	760	ALT REP	8-78
					WARSHAW, STANLEY I.	760	MEMBER	8-78
	-C110	US TAG FOR ISO/TC012, QUANTITIES, UNITS, SYMBOLS, CONVERSION FACTORS AND CONV TABLES	ANSI	NATL/I				
					GOLDMAN, DAVID T.	500	MEMBER	6-79
					KWELLER, ESHER R.	762	MEMBER	8-74
	-C112	US TAG FOR ISO/TC038, TEXTILES	AATCC/ ASTM	NATL/I				
					WINGER, JAMES H.	753	MEMBER	1-80
	-C114	AUDIT AND ACCREDITATION BOARD	ANSI	NATL	FRENCH, JAMES E.	780	VICE CHAIR	9-78
	-C118	US TAG FOR ISO/TC173, TECHNICAL AIDS FOR DISABLED OR HANDICAPPED PERSONS	ANSI	NATL/I				
					PIERMAN, BRIAN C.	743	ALT REP	11-80
					VENTRE, FRANCIS T.	743	MEMBER	11-80
	-C130	US TAG FOR ISO/TC092, FIRE TESTS	ASTM	NATL/I	GROSS, DANIEL	750	CHAIR	1975
	-C132	US TAG FOR ISO/TC061, PLASTICS	ANSI	NATL/I	SMITH, LESLIE E.	563	MEMBER	9-80
	A010	SAFETY IN CONSTRUCTION AND DEMOLITION OPERATIONS	ARBA; NSC	NATL	LEW, HAI S.	741	MEMBER	12-78
	A040	SAFETY REQUIREMENTS FOR PLUMBING	ASME	NATL	GALOWIN, LAWRENCE S.	745	MEMBER	1974
	SC.17	PERFORMANCE PLUMBING CODE	ASME	NATL	GALOWIN, LAWRENCE S.	745	CHAIR	1975
	A041	BUILDING CODE REQUIREMENTS AND GOOD PRACTICE RECOMMENDATIONS FOR MASONRY	NBS	NATL	YOKEL, FELIX Y.	741	CHAIR	1974
	A058	BUILDING CODE REQUIREMENTS FOR MINIMUM DESIGN LOADS IN BUILDINGS	NBS	NATL	ELLINGWOOD, BRUCE R.	741	SEC	10-77
	-SC.01	WIND LOADS	NBS	NATL	MARSHALL, RICHARD D.	741	MEMBER	1-77
	A108	INSTALLATION OF CERAMIC TILE	TCA	NATL	ADLER, SANFORD C.	743	MEMBER	2-80
	A112	STANDARDIZATION OF PLUMBING MATERIALS AND EQUIPMENT	ASME; ASSE	NATL	GALOWIN, LAWRENCE S.	745	MEMBER	1974
	A117	ARCH. FEATURES/SITE DESIGN PUBLIC BLDGS./RESIDENTIAL STRUCTURES FOR HANDICAP	ANSI	NATL	VENTRE, FRANCIS T.	743	MEMBER	11-80
	SC.01	MAKING BLDGS./FACILITIES ACCESSIBLE TO HANDICAPPED PEOPLE	HUD/ NES	NATL	PIERMAN, BRIAN C.	743	ALT REP	11-80
					VENTRE, FRANCIS T.	743	MEMBER	11-80
	A119	STANDARDS FOR MOBILE HOMES AND TRAVEL TRAILERS						
	SC.03	MOBILE HOME INSTALLATIONS	ANSI	NATL	CHUNG, RILEY M.	741	MEMBER	10-80
	A137	SPECIFICATIONS FOR CERAMIC TILE	TCA	NATL	ADLER, SANFORD C.	743	MEMBER	8-78
	B007	SAFETY REQUIREMENTS FOR THE USE, CARE, AND PROTECTION OF ABRASIVE WHEELS	GWI	NATL	GERNER, STANLEY W.	352	CHAIR	1960
	B032	STANDARDIZATION OF METAL AND METAL ALLOY WROUGHT MILL PRODUCT NOMINAL SIZES	ASME	NATL	BETTWY, DAVID S.	352	MEMBER	3-78
	B046	CLASSIFICATION AND DESIGNATION OF SURFACE QUALITIES	ASME	NATL	TEAGUE, E. CLAYTON	737	ALT REP	5-75

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRETARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
ANSI					YOUNG, RUSSELL D.	739	MEMBER	5-74
	SC.01	PRECISION REFERENCE SPECIMENS	SAE; ASME	NATL	TEAGUE, E. CLAYTON	737	MEMBER	5-74
	SC.05	PEAK AND VALLEY ROUGHNESS MEASUREMENT	ASME; SAE	NATL	TEAGUE, E. CLAYTON	737	MEMBER	5-74
	B047	GAGE BLANKS	ASME	NATL	BETTWY, DAVID S.	352	MEMBER	3-78
	B087	DECIMALIZED MEASURES	SME	NATL	EDGERLY, DAVID E.	513	MEMBER	9-77
	B109	GAS DISPLACEMENT METERING	AGA	NATL	HASKO, STEPHEN	511	MEMBER	1-77
	B175	SAFETY OF PORTABLE, HAND-HELD CHAIN SAWS	CSMA	NATL	ROBINSON, DONALD C.	763	MEMBER	11-79
	C001	NATIONAL ELECTRICAL CODE						
	SC.07	PANEL NO. 7	NFPA	NATL	BEAUSOLIEL, ROBERT W.	745	ALT REP	9-76
	C012	ELECTRICITY METERING	IEEE	NATL	TURGEL, RAYMOND S.	722	CHAIR	2-77
	SC.03	STANDARDS AND STANDARDIZING EQUIPMENT	IEEE	NATL	TURGEL, RAYMOND S.	722	CHAIR	1978
	SC.12	SOLID STATE METERS	IEEE	NATL	TURGEL, RAYMOND S.	722	CHAIR	1980
	C018	SPECIFICATIONS FOR DRY CELLS AND BATTERIES	NEMA	NATL	EICKE, WOODWARD G.	521	MEMBER	1972
	C039	ELECTRICAL MEASURING INSTRUMENTS	ANSI	NATL	SCHOENWETTER, HOWARD K.	722	MEMBER	1972
	SC.02	DIRECT-ACTING ELECTRICAL RECORDING INSTRUMENTS	ANSI	NATL	SCHOENWETTER, HOWARD K.	722	MEMBER	1972
	SC.04	AUTOMATIC NULL-BALANCING ELECTRICAL MEASURING INSTRUMENTS	ANSI	NATL	SCHOENWETTER, HOWARD K.	722	MEMBER	1972
	SC.05	SAFETY REQUIREMENTS FOR ELECTRICAL AND ELECTRONIC CONTROLLING INSTRUMENTATION	ANSI	NATL	SCHOENWETTER, HOWARD K.	722	MEMBER	1977
	SC.06	DIGITAL MEASURING INSTRUMENTS	ANSI	NATL	SCHOENWETTER, HOWARD K.	722	MEMBER	1977
	C039/100	ELECTRICAL STANDARDS, INSTRUMENTATION, AND DEVICES	SAMA	NATL/I	BELECKI, NORMAN B.	521	MEMBER	9-72
	-SC.01	REFERENCE VOLTAGE DEVICES	SAMA	NATL	BELECKI, NORMAN B.	521	MEMBER	6-70
	C042	DEFINITIONS OF ELECTRICAL TERMS	ANSI	NATL/I	TAYLOR, BARRY N.	521	MEMBER	4-78
	C063	RADIO - ELECTRICAL COORDINATION	IEEE	NATL	TAGGART, HAROLD E.	723	ALT REP	6-79
	SC.01	EMI MEASUREMENT TECHNIQUES AND DEVELOPMENTS	IEEE	NATL	CRAWFORD, MYRON L.	723	MEMBER	1978
	C068	HIGH VOLTAGE TESTING TECHNIQUES	IEEE	NATL	KOTTER, F. RALPH	722	MEMBER	1962
					PETERSONS, OSKARS	722	MEMBER	1970
	C087	ARC WELDING MACHINES	NEMA	NATL	BROWN, HAROLD E.	352	MEMBER	1-78
	C096	TEMPERATURE MEASUREMENT THERMOCOUPLES	ISA	NATL	BURNS, GEORGE W.	522	MEMBER	1970
	F035	ALUMINUM AND ALUMINUM ALLOYS	AA	NATL	GERHOLD, WILLIAM F.	561	MEMBER	1972
	MC001	PROGRAMMABLE TEST MEASUREMENT SYSTEMS	IEEE	NATL	BOYLE, DON R.	713	MEMBER	12-73
	MC088	CALIBRATION OF INSTRUMENTS	ASME	NATL	SCHOOLEY, JAMES F.	522	CHAIR	1978
	-SC.03	TEMPERATURE	ANSI	NATL	HURST, WILBUR S.	522	MEMBER	1959
	MD105	MEDICAL ELECTRONICS	HIMA/ SAMA	NATL	WILLIAMS, EDWIN R.	521	MEMBER	1976
	MD156	DENTAL MATERIALS, INSTRUMENTS AND EQUIPMENT	ANSI	NATL	BOWEN, RAFAEL	563	MEMBER	1968
					BRAUER, GERHARD M.	563	MEMBER	1969
					RUPP, NELSON W.	563	MEMBER	1970
					TESK, JOHN A.	563	CHAIR	1980
	-C.02	PROSTHETIC MATERIALS						
	SC.14	BASE METAL ALLOYS	ANSI	NATL	TESK, JOHN A.	563	MEMBER	1972
	SC.38	PORCELAIN-METAL SYSTEMS	ANSI	NATL	TESK, JOHN A.	563	MEMBER	1972
	-C.03	TERMINOLOGY AND SPECIAL PROJECTS						
	SC.40	DENTAL IMPLANTS	ANSI	NATL	TESK, JOHN A.	563	SEC	1979
	-SC.01	DENTURE MATERIALS	ANSI	NATL	BRAUER, GERHARD M.	563	CHAIR	1970
	-SC.02	TOXCITY TESTS	ANSI	NATL	BOWEN, RAFAEL	563	SEC	1968

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRE-TARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
ANSI	SC.01	WORKING GROUP ON RESTORATIVE MATERIALS	ADA	NATL	RUPP, NELSON W.	563	CHAIR	1976
	SSC.01	ALLOY FOR DENTAL AMALGAMS	ADA	NATL	RUPP, NELSON W.	563	CHAIR	1970
	SSC.06	MERCURY FOR AMALGAMS	ADA	NATL	RUPP, NELSON W.	563	CHAIR	1970
	SSC.39	PIT AND FISSURE SEALANTS	ADA	NATL	RUPP, NELSON W.	563	MEMBER	1976
	SSC.43	AMALGAMATORS FOR DENTAL AMALGAMS	ADA	NATL	RUPP, NELSON W.	563	CHAIR	1976
	SSC.55	DISPENSERS FOR MERCURY AND ALLOYS FOR DENTAL AMALGAMS	ADA	NATL	RUPP, NELSON W.	563	CHAIR	1976
	MH005	STANDARDIZATION OF FREIGHT CONTAINERS						
	-SC.01	THERMAL CONTAINERS	ANSI	NATL	MULROY, WILLIAM J.	742	ALT REP	1970
	N012	NUCLEAR TERMINOLOGY, UNITS, SYMBOLS, IDENTIFICATION AND SIGNALS	AIF	NATL	HOBBS, THOMAS G.	354	ALT REP	1972
					MCLAUGHLIN, WILLIAM L.	533	MEMBER	1971
	N013	RADIATION PROTECTION	HPS	NATL	HOBBS, THOMAS G.	354	ALT REP	1972
					LOFTUS, THOMAS P.	533	MEMBER	1970
	N015	METHODS OF NUCLEAR MATERIAL CONTROL	INMM	NATL	CARPENTER, B. STEPHEN	551	MEMBER	8-76
					REED, WILLIAM P.	503	MEMBER	1974
	SC.INMM8	CALIBRATION TECHNIQUES FOR NUCLEAR MATERIAL CONTROL						
	WG.04	CALIBRATION TECHNIQUES FOR CALORIMETRIC ASSAY OF PLUTONIUM-BEARING SOLIDS	INMM	NATL	OITMARS, DAVID A.	543	ALT REP	4-73
					MANN, WILFRID B.	532	MEMBER	3-72
	SC.INMM9	NONDESTRUCTIVE ASSAY	INMM	NATL	CARPENTER, B. STEPHEN	551	MEMBER	8-76
	WG.03	STANDARDS FOR NONDESTRUCTIVE ASSAY	INMM	NATL	CARPENTER, B. STEPHEN	551	MEMBER	8-76
					REED, WILLIAM P.	503	MEMBER	1977
	N017	RESEARCH REACTORS, REACTOR PHYSICS, AND RADIATION SHIELDING	ANS	NATL	CARTER, ROBERT S.	566	SEC	12-72
					RABY, TAWFIK M.	566	ALT REP	1973
	N041	CONTROLS, INSTRUMENTATION, ELECTRICAL SYSTEMS FOR NUCLEAR POWER GENERATING STATIONS	IEEE	NATL	COSTRELL, LOUIS	535	MEMBER	1972
	N042	NUCLEAR INSTRUMENTS	IEEE	NATL	COSTRELL, LOUIS	535	CHAIR	1961
	SC.02	PROCEDURAL STANDARDS FOR CALIBRATION OF DETECTORS FOR RADIOACTIVE MEASUREMENTS	IEEE	NATL	COURSEY, BERT M.	532	MEMBER	1975
					HUTCHINSON, J. M. ROBIN	532	SEC	1974
	N043	EQUIPMENT FOR NON-MEDICAL RADIATION APPLICATIONS	NBS	NATL	BLOCK, STANLEY	565	MEMBER	1967
					EISENHOWER, ELMER H.	530	CHAIR	4-67
					HEATON, H. THOMPSON, II	530	SEC	1977
	SC.01	X-RAY DIFFRACTION AND FLUORESCENCE EQUIPMENT	NBS	NATL	BLOCK, STANLEY	565	CHAIR	1967
					MAUER, FLOYD A.	565	SEC	1-70
	SC.02	SELF LUMINOUS PRODUCTS	NBS	NATL	MCSPARRON, DONALD A.	534	MEMBER	1974
	SC.03.4	GAMMA IRRADIATORS	AECL	NATL	EISENHOWER, ELMER H.	530	MEMBER	11-73
					HEATON, H. THOMPSON, II	530	MEMBER	1977
	N044	EQUIPMENT AND MATERIALS FOR MEDICAL RADIATION APPLICATIONS	IEEE	NATL	EISENHOWER, ELMER H.	530	ALT REP	5-68
					LOEVINGER, ROBERT	533	MEMBER	1972
	SC.02	THERAPEUTIC RADIOLOGY	IEEE	NATL	LOEVINGER, ROBERT	533	MEMBER	1972
	IH001	PHOTOGRAPHIC FILMS, PLATES, AND PAPERS						
	SC.03	PHYSICAL CHARACTERISTICS OF PHOTOGRAPHIC FILMS, PLATES, AND PAPERS	NAPM	NATL/I	BAGG, THOMAS C.	652	MEMBER	9-76

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRETARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
ANSI	PH002	PHOTOGRAPHIC SENSITOMETRY						
	SC.31	SENSITOMETRY OF X-RAY AND RADIATION MONITORING FILM	ANSI	NATL	PLACIOUS, ROBERT C.	533	MEMBER	1-76
	PH005	MICROGRAPHIC REPRODUCTION	NMA	NATL/I	BAGG, THOMAS C.	652	MEMBER	1973
	WG.C10	INSPECTION AND QUALITY CONTROL OF MICROFORMS	NMA	NATL/I	BAGG, THOMAS C.	652	MEMBER	1970
	WG.C3	FORMAT AND CODING FOR COMPUTER OUTPUT MICROFILM	NMA	NATL/I	BAGG, THOMAS C.	652	MEMBER	1973
	WG.C4	COMPUTER OUTPUT MICROFILM QUALITY	NMA	NATL/I	BAGG, THOMAS C.	652	MEMBER	1974
	WG.C8	MICROGRAPHIC EQUIPMENT	NMA	NATL/I	BAGG, THOMAS C.	652	MEMBER	1972
	S001	ACOUSTICS	ASA	NATL	FLYNN, DANIEL R.	737	CHAIR	6-79
					YANIV, SIMONE L.	743	MEMBER	7-79
	WG.45	SOUND LEVEL METERS AND THEIR CALIBRATION	ASA	NATL	NEDZELNITSKY, VICTOR	739	MEMBER	6-79
	WG.47	HUMAN RESPONSE TO NOISE: JOINTLY SPONSORED BY S001 AND S003	ANSI	NATL	YANIV, SIMONE L.	743	MEMBER	1974
	WG.50	MEASUREMENT AND EVALUATION OF STATIONARY NOISE SOURCES	ASA	NATL	FLYNN, DANIEL R.	737	CHAIR	1973
	WG.54	STANDARD MICROPHONES AND THEIR CALIBRATION	ASA	NATL	BURNETT, EDWIN D.	739	MEMBER	1978
					NEDZELNITSKY, VICTOR	739	CHAIR	6-78
	WG.68	ACOUSTICAL CALIBRATION OF SOUND LEVEL METERS INCLUDING COUPLER TYPE CALIBRATION	ASA	NATL	NEDZELNITSKY, VICTOR	739	MEMBER	8-78
	S003	BIOACOUSTICS	ASA	NATL	NEDZELNITSKY, VICTOR	739	ALT REP	10-79
					YANIV, SIMONE L.	743	MEMBER	7-79
	WG.48	HEARING AIDS	ASA	NATL	BURNETT, EDWIN D.	739	MEMBER	1967
	WG.51	AUDITORY MAGNITUDES	ANSI	NATL	BAUER, JAY W.	743	CHAIR	6-79
					MOLINO, JOHN A.	743	MEMBER	1972
	WG.57	CRITERIA FOR ROOM NOISE: JOINTLY SPONSORED BY S001 AND S003	ANSI	NATL	BAUER, JAY W.	743	MEMBER	6-78
					YANIV, SIMONE L.	743	CHAIR	1974
	WG.66	MEASUREMENT OF WORKPLACE ADDRESSED TO EFFECTIVE HEARING CONSERVATION PROGRAMS	ASA	NATL	NEDZELNITSKY, VICTOR	739	MEMBER	11-79
	S004	STANDARDIZATION IN SOUND RECORDING	EIA	NATL	BURNETT, EDWIN D.	739	MEMBER	1963
	S3/S1	COMMITTEE ON NOISE	ANSI	NATL	YANIV, SIMONE L.	743	MEMBER	1976
	X03	COMPUTERS AND INFORMATION PROCESSING	CBEMA	NATL/I	BURROWS, JAMES H.	600	ALT REP	3-80
					ROUNTREE, ROBERT E., JR.	600	MEMBER	6-73
	SC.A001	OPTICAL CHARACTER RECOGNITION	CBEMA	NATL/I	BAGG, THOMAS C.	652	MEMBER	9-73
	WG.D	OCR PRINT QUALITY	CBEMA	NATL/I	BAGG, THOMAS C.	652	CHAIR	12-76
	SC.B001	MAGNETIC TAPE	CBEMA	NATL/I	HOGAN, MICHAEL D.	652	MEMBER	3-75
	SC.B005	MAGNETIC TAPE CASSETTES	CBEMA	NATL/I	HOGAN, MICHAEL D.	652	MEMBER	3-75
	SC.B008	FLEXIBLE DISKS	CBEMA	NATL/I	HOGAN, MICHAEL D.	652	MEMBER	11-76
	SC.H001	OPERATING SYSTEMS COMMAND AND RESPONSE LANGUAGE	CBEMA	NATL	SOCKUT, GARY H.	642	MEMBER	5-78
	SC.H002	DATA DEFINITION LANGUAGE	CBEMA	NATL	DEUTSCH, DONALD R.	642	CHAIR	4-80
					GALLAGHER, LEONARD J.	642	MEMBER	6-80
	SC.H003	COMPUTER GRAPHICS	CBEMA	NATL/I	SKALL, MARK W.	641	MEMBER	9-79
	-WG.01	CONFORMANCE, LANGUAGE BINDINGS AND FORMAL SPECIFICATIONS	CBEMA	NATL/I	SKALL, MARK W.	641	CHAIR	7-79

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRE-TARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
ANSI	SC.H004	INFORMATION RESOURCE DICTIONARY SYSTEM	CBEMA	NATL	KONIG, PATRICIA A.	642	ALT REP	7-80
					LEONG-HONG, BELKIS W.	642	ACTING SECRETARY	7-80
	SC.J001	PL/I STANDARDIZATION	CBEMA	NATL/I	LYON, GORDON E.	641	OBSERVER	7-79
	SC.J002	PROGRAMMING LANGUAGE BASIC	CBEMA	NATL/I	CUGINI, JOHN V.	641	VICE CHAIR	1979
	SC.J003	FORTRAN PROGRAMMING LANGUAGE	CBEMA	NATL/I	BOUDREAUX, JACK C.	641	ALT REP	11-80
					HOLBERTON, FRANCES E.	640	INTL. LIAISON MEMBER	2-67
	SC.J004	COBOL STANDARDS	CBEMA	NATL/I	BARKLEY, JOHN F.	641	ALT REP	11-80
					VICKERS, MABEL V.	641	MEMBER	4-67
	SC.J006	STANDARD LANGUAGE FOR PROCESSING OF TEXT	CBEMA	NATL/I	HOWERTON, CHARLES P.	713	MEMBER	1975
					WATKINS, SHIRLEY W.	650	VICE CHAIR	3-78
	SC.J007	APT	CBEMA	NATL	SMITH, BRADFORD M.	738	MEMBER	10-77
	SC.J009	PASCAL PROGRAMMING LANGUAGE	CBEMA	NATL/I	BARKMEYER, EDWARD J.	641	MEMBER	4-79
					ROSENTHAL, LYNNE S.	641	ALT REP	6-79
	-WG.01	EXTENSIONS	CBEMA	NATL/I	BARKMEYER, EDWARD J.	641	MEMBER	4-79
	SC.K005	VOCABULARY	CBEMA	NATL/I	WALKOWICZ, JOSEPHINE L.	642	SEC	1969
	SC.L002	CODES AND CHARACTER SETS	CBEMA	NATL/I	LITTLE, JOHN L.	652	VICE CHAIR	4-63
					RECICAR, STEVE A.	652	ALT REP	6-78
	SC.L005	DATA FORMATS, FILE STRUCTURES, STORED DATA ORGANIZATION, LABELS AND DESCRIPTIONS	CBEMA	NATL				
					COLLICA, JOSEPH C.	642	ALT REP	11-80
					UPPERMAN, JAMES V.	642	MEMBER	11-80
	SC.L008	REPRESENTATIONS OF DATA ELEMENTS	CBEMA	NATL/I	SALTMAN, ROY G.	642	MEMBER	11-79
					TOM, HENRY	642	SEC	8-80
					WHITE, HARRY S., JR.	600	CHAIR	1968
	SC.S003	DATA COMMUNICATIONS	CBEMA	NATL/I	CLARK, GEORGE E.	652	MEMBER	1970
					SCACE, ERIC L.	652	ALT REP	9-78
	WG.03	HEADER FORMATS	CBEMA	NATL	SCACE, ERIC L.	652	MEMBER	3-79
	WG.04	CONTROL PROCEDURES	CBEMA	NATL/I	CLARK, GEORGE E.	652	VICE CHAIR	1970
					SCACE, ERIC L.	652	ALT REP	9-78
	WG.05	SYSTEM PERFORMANCE	CBEMA	NATL/I	MOORE, RAYMOND T.	652	MEMBER	11-62
	WG.07	PUBLIC DATA NETWORKS	CBEMA	NATL/I	CLARK, GEORGE E.	652	ALT REP	1974
					SCACE, ERIC L.	652	MEMBER	9-72
	SC.SPARC	STANDARDS PLANNING AND REQUIREMENTS COMMITTEE	CBEMA	NATL				
					ROUNTREE, ROBERT E., JR.	600	VICE CHAIR	6-73
					WHITE, HARRY S., JR.	600	MEMBER	1968
	-SSC.01	DATABASE SYSTEM	ANSI	NATL	FONG, ELIZABETH N.	651	MEMBER	2-79
	-WG.01	DATA DICTIONARY SYSTEMS	CBEMA	NATL	LEONG-HONG, BELKIS W.	642	SEC	4-79
	-WG.02	DISTRIBUTED INTERFACE TO DATABASE SYSTEMS	ANSI	NATL				
					FONG, ELIZABETH N.	651	VICE CHAIR	2-79
	WG.ENCR	STUDY GROUP ON ENCRYPTION-RELATED STANDARDS	CBEMA	NATL				
					BRANSTAD, DENNIS K.	643	MEMBER	8-78
	SC.T001	DATA ENCRYPTION	CBEMA	NATL	BRANSTAD, DENNIS K.	643	MEMBER	8-80
					SMID, MILES E.	643	ALT REP	8-80
	SC.T009	I/O INTERFACE	CBEMA	NATL/I	CLARK, GEORGE E.	652	MEMBER	1975
	WG.02	LOWER LEVEL INTERFACE	CBEMA	NATL/I	CLARK, GEORGE E.	652	MEMBER	1975
	WG.03	DEVICE LEVEL INTERFACES	CBEMA	NATL/I	CLARK, GEORGE E.	652	ALT REP	1976
	WG.05	FUTURE INTERFACES	CBEMA	NATL	CLARK, GEORGE E.	652	ALT REP	1977

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRE-TARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
ANSI	SEC.X003S	COMMUNICATIONS						
	SC.S003	DATA COMMUNICATIONS						
	WG.08	LINK ENCRYPTION STANDING TASK GROUP	CBEMA	NATL	BRANSTAD, DENNIS K.	643	MEMBER	9-79
	X004	OFFICE MACHINES AND SUPPLIES	CBEMA	NATL/I	PYKE, THOMAS N., JR.	650	ALT REP	3-80
					ROUNTREE, ROBERT E., JR.	600	MEMBER	6-73
	SC.A012	WORD PROCESSING	ANSI	NATL	KNOERDEL, JOAN	651	MEMBER	10-78
	X009	FINANCIAL SERVICES						
	SC.A003	SECURITY	ABA	NATL	BRANSTAD, DENNIS K.	643	CHAIR	6-78
					SMID, MILES E.	643	ALT REP	6-79
	SC.X009S	BANK OPERATIONS						
	WG.08	FUNDS TRANSFER MESSAGE AUTHENTICATION	ANSI	NATL	SMID, MILES E.	643	MEMBER	10-79
	Y014	STANDARDS FOR DRAWING AND DRAFTING PRACTICE						
	SC.26	COMPUTER AIDED PREPARATION OF PRODUCT DEFINITION DATA	ASME; ASEE	NATL	MEISSNER, PAUL	652	MEMBER	1970
	Z001	QUALITY ASSURANCE	ASQC	NATL/I	NATRELLA, MARY G.	714	MEMBER	2-74
	SC.01	STATISTICAL METHODS	ASQC	NATL	NATRELLA, MARY G.	714	SEC	2-74
	-WG.01	COMPLIANCE TESTING	ASQC	NATL/I	NATRELLA, MARY G.	714	CHAIR	1979
	Z026	SPECIFICATIONS AND METHODS OF TEST FOR SAFETY GLAZING MATERIAL						
	SC.01	SAFETY GLAZING MATERIAL FOR GLAZING MOTOR VEHICLES OPERATING ON LAND HIGHWAYS	ANSI	NATL	CRONIN, DAVID J.	565	MEMBER	7-79
	Z039	LIBRARY WORK, DOCUMENTATION, AND RELATED PUBLISHING PRACTICES	CNLA	NATL/I	TUCKER, JANE C.	342	MEMBER	3-80
					VIGNONE, MARIA E.	342	ALT REP	3-80
	-SC.02	FINANCIAL MANAGEMENT	ANSI	NATL	BERGER, PATRICIA W.	342	MEMBER	12-79
	SC.K	INDEXING	CNLA	NATL	KRUPENIE, PAUL H.	760	MEMBER	4-80
	Z055	COLORS FOR INDUSTRIAL APPARATUS AND EQUIPMENT	ANSI	NATL	HOWETT, GERALD L.	743	MEMBER	8-78
	Z066	PREVENTION OR CONTROL OF HAZARDS TO CHILDREN	ANSI	NATL	CAMPBELL, PAUL G.	741	MEMBER	1970
	Z080	OPTHALMIC STANDARDS	ANSI	NATL/I	LETTIERI, THOMAS R.	737	MEMBER	2-80
	Z089	SAFETY STANDARDS FOR INDUSTRIAL HEAD PROTECTION	ANSI	NATL	CALVANO, NICHOLAS J.	763	TECHNICAL ADVISOR	2-76
	Z090	VEHICULAR HEAD PROTECTION	ANSI	NATL	CALVANO, NICHOLAS J.	763	MEMBER	6-72
	Z091	PERFORMANCE AND INSTALLATION STANDARDS FOR OIL-BURNERS AND OIL-BURNING APPLIANCES	NOJC	NATL	KELLY, GEORGE S.	745	MEMBER	1-74
	Z094	INDUSTRIAL ENGINEERING TERMINOLOGY						
	SC.08	APPLIED MATHEMATICS	ASME; AIIE	NATL	GOLDMAN, ALAN J.	712	MEMBER	1970
					JOEL, LAMBERT S.	712	ALT REP	1972
	Z097	SAFETY REQUIREMENTS FOR ARCHITECTURAL GLAZING MATERIAL	ANSI	NATL	CRONIN, DAVID J.	565	MEMBER	7-79
	Z136	SAFE USE OF LASERS						
	SC.01	HAZARDS AND EVALUATION	ANSI	NATL	SANDERS, AARON A.	724	CHAIR	1975
	SC.03	MEASUREMENTS AND HAZARD EVALUATION OF LASER EXPOSURE	TG	NATL	SANDERS, AARON A.	724	CHAIR	6-76
	Z311	PHOTOBIOLOGICAL SAFETY OF LAMPS AND LIGHTING SYSTEMS	IES	NATL	KOSTKOWSKI, HENRY J.	534	ALT REP	5-76
					MCSPARRON, DONALD A.	534	MEMBER	9-76
	Z535	SAFETY SIGNS AND COLORS	ANSI	NATL	COLLINS, BELINDA L.	743	SEC	8-78

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRETARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
ANSI					GLASS, ROBERT A.	743	MEMBER	8-77
					HOWETT, GERALD L.	743	MEMBER	9-77
					PIERMAN, BRIAN C.	743	MEMBER	3-79
	SC.01	COLOR	NBS	NATL	GLASS, ROBERT A.	743	MEMBER	8-77
	SC.02	SAFETY SIGNS	NBS	NATL	GLASS, ROBERT A.	743	MEMBER	8-77
	SC.03	SAFETY SYMBOLS	ANSI	NATL	COLLINS, BELINDA L.	743	CHAIR	8-78
	SC.04	PRODUCT ALERTING	ANSI	NATL	PERSENSKY, JULIUS J.	761	MEMBER	2-79
AOAC	-C002	ASSOCIATION OF OFFICIAL ANALYTICAL CHEMISTS	AOAC	NATL	ALVAREZ, R.	503	MEMBER	11-77
	-SC.01	REFERENCE MATERIALS AND STANDARD SOLUTIONS	AOAC	NATL	ALVAREZ, R.	503	GENERAL REFEREE	11-77
	-C006	AUTOMATED METHODS	AOAC	NATL	RAINS, THEODORE C.	551	MEMBER	1-80
API	-C004	GAGES AND GAGING PRACTICE	U.S.	NATL	ERBER, EDGAR	738	MEMBER	1980
	010	STANDARDIZATION OF OILWELL CEMENTS						
	-WG.01	TASK GROUP ON GEOTHERMAL WELLS	API	NATL	FULLER, EDWIN R., JR.	562	MEMBER	3-78
					KRAUSE, RALPH F., JR.	562	MEMBER	1-79
APS	-C008	PHOTOVOLTAIC SOLAR ENERGY CONVERSION	APS	NATL	THOMSON, ROBB M.	560	MEMBER	9-77
ASA	-C002	COMMITTEE ON STANDARDS	ASA	NATL	FLYNN, DANIEL R.	737	MEMBER	1975
	-C008	TECHNICAL COMMITTEE ON NOISE	ASA	NATL	YANIV, SIMONE L.	743	MEMBER	1976
ASCE	-C007	TECHNICAL COUNCIL ON CODES AND STANDARDS	ASCE	NATL	WRIGHT, RICHARD N.	740	SEC	10-76
	-C.01	COMMITTEE ON STANDARDS PROCEDURES	ASCE	NATL	WRIGHT, RICHARD N.	740	CHAIR	10-79
	-C011	FOUNDATION AND EXCAVATION STANDARDS	ASCE	NATL	YOKEL, FELIX Y.	741	CHAIR	3-75
	-C032	AERODYNAMICS						
	-SC.02	AERODYNAMIC TESTING	ASCE	NATL	REINHOLD, TIMOTHY A.	741	MEMBER	10-79
	-WG.01	PROPOSED STANDARDS FOR WIND TUNNEL TESTING OF BUILDINGS AND STRUCTURES	ASCE	NATL	REINHOLD, TIMOTHY A.	741	MEMBER	6-80
ASHRAE	-C001	METRIC	ASHRAE	NATL	JONES, ROBERT R.	742	MEMBER	6-78
	-C004	STANDARDS	ASHRAE	NATL	MCNALL, PRESTON E.	742	VICE CHAIR	5-78
	-SC.01	STANDARDS PROJECT COMMITTEE 55-73, COMFORT	ASHRAE	NATL	MCNALL, PRESTON E.	742	CONSULTANT	5-78
	-SC.02	STANDARDS PROJECT COMMITTEE 62-74, VENTILATION	ASHRAE	NATL	MCNALL, PRESTON E.	742	CONSULTANT	5-78
	041.6	STANDARD METHODS OF MEASUREMENT OF MOIST AIR PROPERTIES	ASHRAE	NATL	HASEGAWA, SABURO	772	MEMBER	1977
	090	STANDARD 90 PROJECT COMMITTEE: ENERGY CONSERVATION IN NEW BUILDING DESIGN	ASHRAE	NATL	HELDENBRAND, JIM L.	742	MEMBER	3-74
					YONEMURA, GARY T.	743	MEMBER	1977
	SC.01	PANEL 1, PURPOSE	ASHRAE	NATL	HELDENBRAND, JIM L.	742	CHAIR	1974
	SC.02	PANEL 2, SCOPE	ASHRAE	NATL	HELDENBRAND, JIM L.	742	CHAIR	1974
	SC.03	PANEL 3, DEFINITIONS	ASHRAE	NATL	HELDENBRAND, JIM L.	742	CHAIR	3-74
	SC.04	PANEL 4, EXTERIOR ENVELOPE	ASHRAE	NATL	POWELL, FRANK J.	790	MEMBER	3-74
	SC.07	SERVICE WATER HEATING	ASHRAE	NATL	KWELLER, ESHER R.	762	MEMBER	8-74
	SC.12	PANEL 12, ENERGY RESOURCE EVALUATION COMMITTEE	ASHRAE	NATL	JONES, ROBERT R.	742	MEMBER	12-75
	100	ENERGY CONSERVATION FOR EXISTING BUILDINGS	ASHRAE	NATL	POWELL, FRANK J.	790	MEMBER	1976
	SC.2P	HIGH-RISE RESIDENTIAL	ASHRAE	NATL	FAISON, THOMAS K.	745	MEMBER	3-77
	103.1P	EFFICIENCY OF HEAT PUMPS	ASHRAE	NATL	DIDION, DAVID A.	745	MEMBER	1978
	103.3P	STANDARDS PROJECT COMMITTEE 103.3P, FURNACES	ASHRAE	NATL	KELLY, GEORGE E.	745	MEMBER	6-77
	106P	METHOD OF TESTING FOR PERFORMANCE RATING OF WOOD BURNING APPLIANCES AND ACCESSORIES	ASHRAE	NATL	PEACOCK, RICHARD D.	753	MEMBER	7-80
					WINGER, JAMES H.	753	ALT REP	7-80
	TC01.2	INSTRUMENTS AND MEASUREMENTS	ASHRAE	NATL	DIDION, DAVID A.	745	CHAIR	1980

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ASHRAE	TC02.1	PHYSIOLOGY AND THE HUMAN ENVIRONMENT	ASHRAE	NATL	RUBIN, ARTHUR I.	743	MEMBER	1-78
	TC04.4	INSULATION AND MOISTURE BARRIERS	ASHRAE	NATL	POWELL, FRANK J.	790	MEMBER	1960
	TC04.5	FENESTRATION	ASHRAE	NATL	TREHSEL, HEINZ R.	743	MEMBER	6-77
	TC04.7	ENERGY CALCULATION						
	-SC.01	SIMPLIFIED ENERGY CALCULATIONS	ASHRAE	NATL	KUSUDA, TAMAMI	742	MEMBER	1975
	TC05.6	CONTROL OF FIRE AND SMOKE	ASHRAE	NATL	KLOTE, JOHN H.	752	MEMBER	1978
	TC06.4	IN-SPACE CONVECTIVE HEATING	ASHRAE	NATL	KWELLER, ESHER R.	762	MEMBER	6-76
	TC06.7	SOLAR ENERGY UTILIZATION						
	WG.93R	STANDARDS PROJECT COMMITTEE	ASHRAE	NATL	HILL, JAMES E.	745	MEMBER	6-75
	WG.94.2P	STANDARDS PROJECT COMMITTEE	ASHRAE	NATL	HILL, JAMES E.	745	MEMBER	6-75
	WG.95P	STANDARDS PROJECT COMMITTEE	ASHRAE	NATL	HILL, JAMES E.	745	CHAIR	6-77
	TC07.6	UNITARY AIR-CONDITIONERS AND HEAT PUMPS	ASHRAE	NATL	DIDION, DAVID A.	745	MEMBER	1974
	TC10.6	TRANSPORT REFRIGERATION	ASHRAE	NATL	MULROY, WILLIAM J.	742	MEMBER	1974
ASM	-C002	HANDBOOK COMMITTEE ON DEFINITIONS	ASM	NATL	CUTHILL, JOHN R.	564	MEMBER	9-75
ASME	-C006	PRESSURE VESSEL AND PIPING DIVISION						
	-C.01	MATERIALS AND FABRICATION	ASME	NATL	DOBBYN, RONALD C.	564	DELEGATE	1-79
					FONG, JEFFREY T.	711	MEMBER	10-78
					MORDFIN, LEONARD	501	MEMBER	6-78
					SMITH, JOHN H.	562	MEMBER	1978
	-SC.01	FATIGUE	ASME	NATL	SMITH, JOHN H.	562	CHAIR	1-78
	SC.07	INSPECTION PROCEDURE, STANDARDS AND DATA (NDE)	ASME	NATL	MORDFIN, LEONARD	501	CHAIR	1-79
	-C008	MEASUREMENT OF FLUID FLOW IN CLOSED CONDUITS						
	SC.02	PRESSURE DIFFERENTIAL DEVICES	ASME	NATL/I	MATTINGLY, GEORGE E.	771	MEMBER	1977
	SC.14	FLOW MEASUREMENT BY WEIGHING AND VOLUMETRIC MEASUREMENTS	ASME	NATL/I	MATTINGLY, GEORGE E.	771	MEMBER	1977
	-C014	RESEARCH COMMITTEE ON FLUID METERS	ASME	NATL	MATTINGLY, GEORGE E.	771	MEMBER	1978
	SC.11	TEST METHODS AND CALCULATION PROCEDURES	ASME	NATL	MATTINGLY GEORGE E.	771	CHAIR	1978
	-C022	PROPERTIES OF STEAM	ASME	NATL/I	SENGERS, JAN V.	544	MEMBER	4-76
					WHITE, HOWARD J., JR.	504	SEC	1-71
	-C024	BOILER CODE						
	SEC.05	NONDESTRUCTIVE TESTING						
	-WG.01	AD HOC WORKING GROUP ON ACOUSTIC EMISSION	ASME	NATL	SIMMONS, JOHN A.	564	MEMBER	1975
	B031	CODE FOR PRESSURE PIPING						
	-SC.01	TECHNICAL COMMITTEE ON MATERIALS AND STRESSES	ASME	NATL	MCHENRY, HARRY I.	562	MEMBER	9-77
	B040	SPECIFICATIONS FOR PRESSURE AND VACUUM GAGES	ASME	NATL	HEYDEMANN, PETER L. M.	540	MEMBER	1972
	K007	HEAT TRANSFER OF ASME/THERMOPHYSICAL PROPERTIES	ASME	NATL	CEZAIRLIYAN, ARED	544	MEMBER	1970
					SENGERS, JAN V.	544	CHAIR	7-78
	PTC019	PERFORMANCE TEST CODE						
	SC.02	PRESSURE	ASME	NATL	HEYDEMANN, PETER L. M.	540	MEMBER	1974
	SEC V	PRESSURE VESSEL CODES						
	-WG.01	ACOUSTIC EMISSION	ASME	NATL	BRECKENRIDGE, FRANKLIN R.	737	MEMBER	10-76
	Y010	LETTER SYMBOLS	ASME	NATL	BARBROW, LOUIS E.	511	CHAIR	6-79
ASME-AS TM-MPC	-C002	JOINT COMMITTEE ON THE EFFECTS OF TEMPERATURE ON THE PRORERTIES OF METALS	US	NATL	CHRIST, BRUCE W.	562	MEMBER	1975
SNT	-C002	ELECTRICAL AND MAGNETIC METHODS	ASNT	NATL	FREE, GEORGE M.	521	MEMBER	9-76

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ASNT	-C004	PERSONNEL QUALIFICATIONS	ASNT	NATL	GARRETT, DONALD A.	566	MEMBER	6-76
	-C006	PENETRATING RADIATION	ASNT	NATL	GARRETT, DONALD A.	566	MEMBER	6-76
	C001	RESEARCH	ASNT	NATL	FREE, GEORGE M.	521	MEMBER	1-79
ASTM	-C006	BOARD OF DIRECTORS	ASTM	NATL	WRIGHT, JAMES R.	700	MEMBER	7-77
	-C.02	COMMITTEE ON SOCIETY DEVELOPMENT	ASTM	NATL	WRIGHT, JAMES R.	700	CHAIR	1978
	-C036	COMMITTEE ON TERMINOLOGY	ASTM	NATL	INTERRANTE, CHARLES G.	562	MEMBER	1977
	CG-01	FIRE TERMINOLOGY	ASTM	NATL	GROSS, DANIEL	750	MEMBER	1975
	-C100	COMMITTEE ON STANDARDS	ASTM	NATL	CULLEN, WILLIAM C.	780	MEMBER	7-78
					PFRANG, EDWARD O.	741	MEMBER	1-81
	-C102	COMMITTEE ON RESEARCH AND TECHNICAL PLANNING	ASTM	NATL	PASSAGLIA, ELIO	563	CHAIR	11-77
	-C106	COMMITTEE ON PUBLICATIONS	ASTM	NATL	YAKOWITZ, HARVEY	506	MEMBER	1977
	-C220	AWARD OF MERIT	ASTM	NATL	SCHNEIDER, SAMUEL J., JR.	560	MEMBER	9-79
	A001	STEEL, STAINLESS STEEL, AND RELATED ALLOYS						
	SC.18	CASTINGS	ASTM	NATL	PARKER, ROBERT L.	564	MEMBER	4-75
	A005	METALLIC COATED IRON AND STEEL PRODUCTS	ASTM	NATL	GERHOLD, WILLIAM F.	561	CHAIR	1956
	SC.14	SHEET TESTS	ASTM	NATL	GERHOLD, WILLIAM F.	561	MEMBER	1956
	SC.15	WIRE TESTS	ASTM	NATL	GERHOLD, WILLIAM F.	561	MEMBER	1970
	SC.16	HARDWARE TESTS	ASTM	NATL	GERHOLD, WILLIAM F.	561	CHAIR	1965
	B001	WIRES FOR ELECTRICAL CONDUCTORS	ASTM	NATL	CLARK, ALAN F.	724	MEMBER	1977
					FICKETT, FRED R.	724	MEMBER	1-90
					GOODRICH, LOREN F.	724	MEMBER	3-80
	SC.08	SUPERCONDUCTORS	ASTM	NATL	CLARK, ALAN F.	724	CHAIR	9-79
					EKIN, JOHN W.	724	CHAIR	6-79
					FICKETT, FRED R.	724	MEMBER	1-90
					SOULEN, ROBERT J., JR.	522	MEMBER	8-79
	B002	NONFERROUS METALS AND ALLOYS	ASTM	NATL	RIDDER, STEPHEN D.	564	MEMBER	11-80
	B005	COPPER AND COPPER ALLOYS	ASTM	NATL	READ, MICHAEL E.	564	MEMBER	11-80
					SWARTZENDRUBER, LYDON J.	564	MEMBER	1974
	B006	DIE-CAST METALS AND ALLOYS	ASTM	NATL	MEHRABIAN, ROBERT	564	CHAIR	1979
	B007	LIGHT METALS AND ALLOYS	ASTM	NATL	BOETTINGER, WILLIAM J.	564	MEMBER	1-78
					SHULL, ROBERT D.	564	MEMBER	11-80
	B008	ELECTRODEPOSITED METALLIC COATINGS AND RELATED FINISHES	ASTM	NATL	LASHMORE, DAVID S.	561	MEMBER	1978
					OGBURN, FIELDING	561	MEMBER	1948
	SC.01	TERMINOLOGY, EDITING, AND PUBLIC RELATIONS	ASTM	NATL	OGBURN, FIELDING	561	MEMBER	1950
	WG.05	METRICATION SECTION	ASTM	NATL	OGBURN, FIELDING	561	CHAIR	1970
	SC.04	ZINC AND CADMIUM COATINGS	ASTM	NATL	OGBURN, FIELDING	561	MEMBER	1960
	SC.05	COATINGS OF TIN, LEAD, AND THEIR ALLOYS	ASTM	NATL	OGBURN, FIELDING	561	MEMBER	1978
	SC.06	ANODIC AND CHEMICAL CONVERSION COATINGS ON ALUMINUM AND MAGNESIUM ALLOYS	ASTM	NATL	OGBURN, FIELDING	561	MEMBER	1978
	SC.08	ENGINEERING (NONDECORATIVE) COATINGS	ASTM	NATL	OGBURN, FIELDING	561	MEMBER	1978
	SC.09	PRECIOUS METAL COATINGS	ASTM	NATL	OGBURN, FIELDING	561	MEMBER	1960
	SC.10	GENERAL TEST METHODS	ASTM	NATL	OGBURN, FIELDING	561	MEMBER	1950
	WG.01	THICKNESS MEASUREMENT	ASTM	NATL	OGBURN, FIELDING	561	CHAIR	1966
	SC.11	GOVERNMENT SPECIFICATIONS	ASTM	NATL	OGBURN, FIELDING	561	CHAIR	1973
	B009	METAL POWDERS AND METAL POWDER PRODUCTS	ASTM	NATL	MANNING, JOHN R.	564	MEMBER	11-80
	C001	CEMENT	ASTM	NATL	BROWN, PAUL W.	741	MEMBER	1978

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ASTM					DISE, JOHN R.	782	TECHNICAL ASSISTANT	1955
					FROHNSDORFF, GEOFFREY	741	MEMBER	1-75
	SC.12	BLENDED CEMENT	ASTM	NATL	FROHNSDORFF, GEOFFREY	741	MEMBER	1-75
	SC.74	INTERNATIONAL STANDARDS	ASTM	NATL	DISE, JOHN R.	782	MEMBER	1968
	SC.95	METHODS OF TEST	ASTM	NATL	DISE, JOHN R.	782	CHAIR	1955
	C005	MANUFACTURED CARBON AND GRAPHITE PRODUCTS	ASTM	NATL	HORTON, WILLIAM S.	561	MEMBER	1974
	SC.02	NOMENCLATURE, UNITS, AND EDITORIAL MATTERS	ASTM	NATL	HORTON, WILLIAM S.	561	CHAIR	1974
	SC.05	NUCLEAR APPLICATIONS	ASTM	NATL	HORTON, WILLIAM S.	561	MEMBER	1975
	SC.90	EXECUTIVE SUBCOMMITTEE	ASTM	NATL	HORTON, WILLIAM S.	561	MEMBER	1979
	C008	REFRACTORIES	ASTM	NATL	SCHNEIDER, SAMUEL J., JR.	560	MEMBER	1956
	SC.03	GENERAL TESTS						
	WG.02	CONDITIONS OF TEST	ASTM	NATL	BROWER, WILLIAM S.	565	ALT REP	1975
	WG.03	SLAG TESTING	ASTM	NATL	BROWER, WILLIAM S.	565	ALT REP	1975
	C009	CONCRETE AND CONCRETE AGGREGATES	ASTM	NATL	CARINO, NICHOLAS J.	741	MEMBER	12-79
					CLIFTON, JAMES R.	741	MEMBER	1974
					DISE, JOHN R.	782	MEMBER	1955
					HAVERFIELD, JOHN W.	782	MEMBER	5-70
					ROBBINS, CARL R.	565	MEMBER	1976
	SC.01	ADMINISTRATION						
	SC.01.05	INTERNATIONAL ACTIVITIES	ASTM	NATL	DISE, JOHN R.	782	MEMBER	1974
	SC.02	RESEARCH						
	SC.02.05	NONDESTRUCTIVE TESTING OF CONCRETE	ASTM	NATL	CARINO, NICHOLAS J.	741	MEMBER	12-79
					PEI, PATRICK T. S.	561	MEMBER	1-80
	SC.02.09	ACCELERATED STRENGTH TESTING	ASTM	NATL	CARINO, NICHOLAS J.	741	MEMBER	12-79
	SC.03	SPECIFICATIONS AND TEST METHODS						
	SC.03.01	METHODS OF TESTING CONCRETE FOR STRENGTH	ASTM	NATL	DISE, JOHN R.	782	MEMBER	1960
					HAVERFIELD, JOHN W.	782	SEC	1977
	SC.03.03	METHODS OF TESTING FRESH CONCRETE	ASTM	NATL	HAVERFIELD, JOHN W.	782	MEMBER	5-70
	SC.03.05	METHODS OF TESTING AND SPECS. FOR PHYSICAL CHARACTERISTICS OF CONCRETE AGGREGATES	ASTM	NATL	HAVERFIELD, JOHN W.	782	MEMBER	5-70
	WG.02	DESCRIPTIVE TESTS (AGGREGATE TESTING)	ASTM	NATL	HAVERFIELD, JOHN W.	782	MEMBER	5-70
	SC.03.16	MANUAL OF CONCRETE TESTING	ASTM	NATL	DISE, JOHN R.	782	MEMBER	1955
	C011	CEILINGS AND WALLS	ASTM	NATL	LAWSON, JAMES R.	753	MEMBER	3-78
	C012	MORTARS FOR UNIT MASONRY	ASTM	NATL	HAVERFIELD, JOHN W.	782	MEMBER	1-68
	SC.02	RESEARCH AND METHODS OF TEST	ASTM	NATL	HAVERFIELD, JOHN W.	782	MEMBER	3-68
	SC.91	EDITORIAL	ASTM	NATL	HAVERFIELD, JOHN W.	782	MEMBER	3-79
	C014	GLASS AND GLASS PRODUCTS	ASTM	NATL	CELLAROSI, MARIO J.	565	VICE CHAIR	1975
					HALLER, WOLFGANG K.	565	MEMBER	8-72
					KIRBY, R. KEITH	503	MEMBER	1980
	SC.01	NOMENCLATURE AND DEFINITIONS	ASTM	NATL	CELLAROSI, MARIO J.	565	CHAIR	1975
	SC.03	CHEMICAL PROPERTIES	ASTM	NATL	HALLER, WOLFGANG K.	565	MEMBER	9-72
	SC.04	PHYSICAL AND MECHANICAL PROPERTIES	ASTM	NATL	CELLAROSI, MARIO J.	565	MEMBER	1975
					CRONIN, DAVID J.	565	MEMBER	6-79
					KIRBY, R. KEITH	503	MEMBER	1980
	SC.91	SRM DEVELOPMENT	ASTM	NATL	KIRBY, R. KEITH	503	MEMBER	11-79
	C016	THERMAL AND CRYOGENIC INSULATING MATERIALS	ASTM	NATL	JONES, ROBERT R.	742	MEMBER	1-80
					KIRKPATRICK, DIANA M.	782	MEMBER	8-78

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ASTM					POWELL, FRANK J.	790	MEMBER	1973
					ROSSITER, WALTER J., JR.	741	MEMBER	6-77
					SPARKS, LARRY L.	773	MEMBER	4-78
					WAN, CHIAAN A.	762	MEMBER	5-77
	SC.23	BLANKET AND LOOSE FILL INSULATION	ASTM	NATL	KIRKPATRICK, DIANA M.	782	MEMBER	8-78
					ROSSITER, WALTER J., JR.	741	MEMBER	6-77
	SC.30	THERMAL MEASUREMENT	ASTM	NATL	HAHN, MAHN HEE	742	MEMBER	3-80
					HUST, JEROME G.	773	MEMBER	1976
					JONES, ROBERT R.	742	MEMBER	1-80
					KIRKPATRICK, DIANA M.	782	MEMBER	8-78
					KREIDER, KENNETH G.	772	MEMBER	1976
					RENNEX, BRIAN G.	742	MEMBER	3-80
					SPARKS, LARRY L.	773	MEMBER	4-78
	WG.C177	GUARDED HOT PLATE	ASTM	NATL	RENNEX, BRIAN G.	742	MEMBER	1979
→	WG.C518	HEAT FLOW METERS	ASTM	NATL	RENNEX, BRIAN G.	742	MEMBER	1979
	WG.C653	DETERMINATION OF K VS. D CURVE	ASTM	NATL	RENNEX, BRIAN G.	742	CHAIR	1979
	SC.32	GENERAL TEST METHODS	ASTM	NATL	KIRKPATRICK, DIANA M.	782	MEMBER	8-78
	SC.97	NVLAP LIAISON	ASTM	NATL	KIRKPATRICK, DIANA M.	782	MEMBER	8-80
	C018	NATURAL BUILDING STONES	ASTM	NATL	CLIFTON, JAMES R.	741	MEMBER	2-78
					ROBBINS, CARL R.	565	MEMBER	1976
					SLEATER, GERALD A.	553	MEMBER	12-73
	SC.02	DURABILITY, WEAR AND WEATHERING	USA	NATL	CLIFTON, JAMES R.	741	MEMBER	1978
					ROBBINS, CARL R.	565	MEMBER	1976
					SLEATER, GERALD A.	553	CHAIR	12-73
	SC.03	MATERIAL SPECIFICATIONS	ASTM	NATL	ROBBINS, CARL R.	565	MEMBER	1976
	WG.04	SANDSTONE	ASTM	NATL	ROBBINS, CARL R.	565	MEMBER	1976
	SC.05	COLOR, COATINGS AND FINISHES	US	NATL	SLEATER, GERALD A.	553	MEMBER	12-73
	C021	CERAMIC WHITEWARES AND RELATED PRODUCTS						
	SC.03	FUNDAMENTAL PROPERTIES	ASTM	NATL	WIEDERHORN, SHELDON M.	562	MEMBER	7-70
	C026	NUCLEAR FUEL CYCLE	ASTM	NATL	LECHNER, JAMES A.	714	MEMBER	12-75
					MACHLAN, LAWRENCE A.	551	MEMBER	1971
	SC.01	GLOSSARY AND EDITORIAL	ASTM	NATL	REED, WILLIAM P.	503	SEC	1976
	SC.05	TEST METHODS	ASTM	NATL	GILLS, THOMAS E.	503	MEMBER	1980
					MACHLAN, LAWRENCE A.	551	MEMBER	1971
					REED, WILLIAM P.	503	MEMBER	1973
	-WG.01	ENVIRONMENTAL METHODS	ASTM	NATL	INN, KENNETH G. W.	532	MEMBER	2-80
	SC.06	STATISTICAL APPLICATIONS	ASTM	NATL	LECHNER, JAMES A.	714	CHAIR	12-75
	D001	PAINT, AND RELATED COATINGS AND MATERIALS	ASTM	NATL	CAMPBELL, PAUL G.	741	MEMBER	1967
					MCKNIGHT, MARY E.	741	MEMBER	9-80
					RAINS, THEODORE C.	551	MEMBER	8-77
	SC.07	GOVERNMENT CONTACTS	ASTM	NATL	CAMPBELL, PAUL G.	741	MEMBER	1968
	SC.26	OPTICAL PROPERTIES	ASTM	NATL	HSIA, JACK J.	534	MEMBER	8-74
	SC.42	ARCHITECTURAL FINISHES	ASTM	NATL	CAMPBELL, PAUL G.	741	MEMBER	1968
	SC.46	INDUSTRIAL PROTECTIVE PAINTING	ASTM	NATL	CAMPBELL, PAUL G.	741	MEMBER	1978
	D002	PETROLEUM PRODUCTS AND LUBRICANTS	ASTM	NATL	BECKER, DONALD A.	506	MEMBER	12-76
					CUMMINGS, ARTHUR L.	561	MEMBER	1-80
					GATES, RICHARD S.	561	MEMBER	12-79
					KU, CHIA-SOON	561	MEMBER	8-79

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRE-TARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
ASTM					WEEKS, STEPHAN J.	561	MEMBER	10-79
					ZAPAS, LOUIS J.	563	MEMBER	1971
	-C.01	ADVISORY COMMITTEE	ASTM	NATL	COMEFORD, J. J.	561	MEMBER	6-78
	D023/D02P	JOINT COMMITTEE ON BASE STOCK CHARACTERIZATION	ASTM	NATL	HSU, STEPHEN M.	561	SEC	12-78
	SC.02	JOINT API-ASTM COMMITTEE ON STATIC PETROLEUM MEASUREMENT						
	SC.02.0C	WATER AND SEDIMENT	ASTM	NATL	CUMMINGS, ARTHUR L.	561	MEMBER	3-80
	SC.02B	AUTOMOTIVE LUBRICANTS	ASTM	NATL	BECKER, DONALD A.	506	MEMBER	12-76
					HSU, STEPHEN M.	561	MEMBER	12-78
	SC.02B.02	HEAVY DUTY ENGINE OILS	ASTM	NATL	HSU, STEPHEN M.	561	MEMBER	12-78
	SC.02C	TURBINE OILS	ASTM	NATL	BECKER, DONALD A.	506	MEMBER	12-76
	SC.02E	BURNER, DIESEL, AND GAS TURBINE FUEL OILS	ASTM	NATL	BECKER, DONALD A.	506	MEMBER	12-76
					COMEFORD, J. J.	561	MEMBER	12-77
	SC.02L	INDUSTRIAL LUBRICANTS	ASTM	NATL	BECKER, DONALD A.	506	MEMBER	12-76
					GATES, RICHARD S.	561	MEMBER	12-79
	SC.02N	HYDRAULIC FLUIDS	ASTM	NATL	BECKER, DONALD A.	506	MEMBER	12-76
	SC.02P	RECYCLED PETROLEUM PRODUCTS	ASTM	NATL	COMEFORD, J. J.	561	VICE CHAIR	12-77
					HSU, STEPHEN M.	561	MEMBER	12-78
					WEEKS, STEPHAN J.	561	MEMBER	10-79
	SC.02P.2	USED OILS AND BASE STOCKS	ASTM	NATL	HSU, STEPHEN M.	561	MEMBER	12-78
	SC.02P.3	FUEL OILS	ASTM	NATL	COMEFORD, J. J.	561	CHAIR	6-78
					HSU, STEPHEN M.	561	MEMBER	12-78
	SC.03	ELEMENTAL ANALYSIS	ASTM	NATL	HSU, STEPHEN M.	561	MEMBER	12-78
					PEI, PATRICK T. S.	561	MEMBER	1-80
					WEEKS, STEPHAN J.	561	MEMBER	10-79
	SC.03.0A	CHEMICAL METHODS	ASTM	NATL	CUMMINGS, ARTHUR L.	561	MEMBER	1-80
					PEI, PATRICK T. S.	561	MEMBER	1-80
	SC.03.0C	ELECTROMETRIC METHODS	ASTM	NATL	CUMMINGS, ARTHUR L.	561	MEMBER	1-80
	SC.04	HYDROCARBON ANALYSIS	ASTM	NATL	HSU, STEPHEN M.	561	MEMBER	12-78
					PEI, PATRICK T. S.	561	MEMBER	1-80
					WEEKS, STEPHAN J.	561	MEMBER	10-79
	SC.05	PHYSICAL ANALYSIS OF FUELS AND LIGHT DISTILLATES	ASTM	NATL	ARMSTRONG, GEORGE T.	543	MEMBER	12-67
	SC.05.0B	CALORIMETRY	ASTM	NATL	ARMSTRONG, GEORGE T.	543	CHAIR	1961
	SC.06	ANALYSIS OF LUBRICANTS	ASTM	NATL	PEI, PATRICK T. S.	561	MEMBER	1-80
	SC.06.0A	CHEMICAL ANALYSIS	ASTM	NATL	CUMMINGS, ARTHUR L.	561	MEMBER	1-80
					PEI, PATRICK T. S.	561	MEMBER	1-80
	SC.07	FLOW PROPERTIES	ASTM	NATL	HSU, STEPHEN M.	561	MEMBER	12-78
					WEEKS, STEPHAN J.	561	MEMBER	10-79
	SC.07.0A	NEWTONIAN VISCOMETRY	ASTM	NATL	ZAPAS, LOUIS J.	563	MEMBER	1971
	SC.09	OXIDATION	ASTM	NATL	BECKER, DONALD A.	506	MEMBER	12-76
					HSU, STEPHEN M.	561	MEMBER	12-78
	D003	GASEOUS FUELS	ASTM	NATL	ARMSTRONG, GEORGE T.	543	MEMBER	1961
					DILLER, DWAIN E.	773	MEMBER	12-79
					WAN, CHIAAN A.	762	MEMBER	5-77
	-SC.01	THERMOPHYSICAL PROPERTIES	ASTM	NATL	DILLER, DWAIN E.	773	MEMBER	12-79
	D004	ROAD AND PAVING MATERIALS	ASTM	NATL	DICKSON, ROBERT W.	782	MEMBER	6-76
	SC.42	EMULSIFIED ASPHALT TESTS	ASTM	NATL	DICKSON, ROBERT W.	782	MEMBER	6-76

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRE-TARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
ASTM	SC.44	RHEOLOGICAL TESTS	ASTM	NATL	DICKSON, ROBERT W.	782	MEMBER	6-76
	SC.51	AGGREGATE TESTS	ASTM	NATL	DICKSON, ROBERT W.	782	MEMBER	6-76
	SC.95	LABORATORY EVALUATION	AI	NATL	DICKSON, ROBERT W.	782	MEMBER	6-76
	D005	COAL AND COKE	ASTM	NATL	ARMSTRONG, GEORGE T.	543	MEMBER	1961
	SC.02	NOMENCLATURE, DEFINITIONS, AND EDITORIAL	ASTM	NATL	ARMSTRONG, GEORGE T.	543	MEMBER	1978
	SC.21	METHODS OF ANALYSIS	ASTM	NATL	ARMSTRONG, GEORGE T.	543	MEMBER	1961
	SC.21.03	MISCELLANEOUS ANALYSIS	ASTM	NATL	ARMSTRONG, GEORGE T.	543	MEMBER	1961
	D008	ROOFING, WATERPROOFING, AND BITUMINOUS MATERIALS	ASTM	NATL				
					CULLEN, WILLIAM C.	780	MEMBER	1957
					MATHEY, ROBERT G.	741	MEMBER	1973
	SC.02	PREPARED ROOFINGS, SHINGLES, AND SIDING MATERIALS	ASTM	NATL				
					CULLEN, WILLIAM C.	780	MEMBER	1957
	SC.03	SURFACING AND BITUMINOUS MATERIALS FOR MEMBRANE WATERPROOFING AND BUILTUP ROOFING	ASTM	NATL				
					CULLEN, WILLIAM C.	780	MEMBER	1975
					MATHEY, ROBERT G.	741	MEMBER	1973
	SC.04	FABRICS FOR BITUMINOUS ROOFING AND WATERPROOFING	ASTM	NATL				
					CULLEN, WILLIAM C.	780	MEMBER	1957
					MATHEY, ROBERT G.	741	MEMBER	1973
	SC.18	NONBITUMINOUS ORGANIC ROOF COVERINGS	ASTM	NATL	CULLEN, WILLIAM C.	780	MEMBER	1965
	SC.20	NONSTRUCTURAL ROOF SYSTEMS	ASTM	NATL	CULLEN, WILLIAM C.	780	MEMBER	1965
					MATHEY, ROBERT G.	741	MEMBER	1973
	D009	ELECTRICAL INSULATING MATERIALS	ASTM	NATL	HARRIS, WILLIAM P.	563	MEMBER	1963
	SC.05	CERAMIC PRODUCTS	ASTM	NATL	HARRIS, WILLIAM P.	563	MEMBER	1963
	SC.12	ELECTRICAL TESTS	ASTM	NATL	HARRIS, WILLIAM P.	563	MEMBER	1963
	SC.16	HOOKUP WIRE INSULATION	ASTM	NATL	HARRIS, WILLIAM P.	563	MEMBER	1970
	SC.17	THERMAL CAPABILITIES	ASTM	NATL	HARRIS, WILLIAM P.	563	MEMBER	1970
	SC.90	EXECUTIVE COMMITTEE	ASTM	NATL	HARRIS, WILLIAM P.	563	MEMBER	6-74
	SC.93	EDUCATION, RESEARCH AND SYMPOSIA	ASTM	NATL	HARRIS, WILLIAM P.	563	MEMBER	1975
	SC.94	NOMENCLATURE, SIGNIFICANCE, AND STATISTICS	ASTM	NATL	HARRIS, WILLIAM P.	563	MEMBER	1963
	SC.95	LIAISON	ASTM	NATL	HARRIS, WILLIAM P.	563	MEMBER	1976
	D010	PACKAGING	ASTM	NATL	CALVANO, NICHOLAS J.	763	MEMBER	1-78
	D011	RUBBER AND RUBBER-LIKE MATERIALS	ASTM	NATL	KEARSLEY, ELLIOT A.	563	MEMBER	11-79
					MCKENNA, GREGORY B.	563	MEMBER	1976
					STIEHLER, ROBERT D.	741	HONORARY MEMBER	1947
	SC.08	TERMINOLOGY	ASTM	NATL	STIEHLER, ROBERT D.	741	HONORARY MEMBER	1963
	SC.10	PHYSICAL TESTING	ASTM	NATL	STIEHLER, ROBERT D.	741	HONORARY MEMBER	1947
	SC.11	CHEMICAL ANALYSIS	ASTM	NATL	STIEHLER, ROBERT D.	741	HONORARY MEMBER	1947
	SC.12	PROCESSABILITY TESTS	ASTM	NATL	STIEHLER, ROBERT D.	741	HONORARY MEMBER	1961
	SC.14	VISCO-ELASTIC PROPERTIES	ASTM	NATL	STIEHLER, ROBERT D.	741	HONORARY MEMBER	1961
	SC.15	DEGRADATION TESTS	ASTM	NATL	STIEHLER, ROBERT D.	741	HONORARY MEMBER	1961
	SC.16.	STATISTICAL QUALITY CONTROL	ASTM	NATL	STIEHLER, ROBERT D.	741	HONORARY MEMBER	1956

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRE-TARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
ASTM	SC.17	FLAMMABILITY	ASTM	NATL	STIEHLER, ROBERT D.	741	HONORARY MEMBER	1972
	SC.20	COMPOUNDING MATERIALS AND PROCEDURES	ASTM	NATL	STIEHLER, ROBERT D.	741	HONORARY MEMBER	1949
	SC.21	RUBBER LATTICES	ASTM	NATL	STIEHLER, ROBERT D.	741	HONORARY MEMBER	1960
	SC.22	NATURAL RUBBER	ASTM	NATL	STIEHLER, ROBERT D.	741	HONORARY MEMBER	1950
	SC.23	SYNTHETIC RUBBERS	ASTM	NATL	STIEHLER, ROBERT D.	741	HONORARY MEMBER	1950
	SC.24	SOLID URETHANES	ASTM	NATL	STIEHLER, ROBERT D.	741	HONORARY MEMBER	1967
	SC.31	RUBBER HOSE	ASTM	NATL	STIEHLER, ROBERT D.	741	HONORARY MEMBER	1977
	SC.33	FLEXIBLE CELLULAR MATERIALS	ASTM	NATL	STIEHLER, ROBERT D.	741	HONORARY MEMBER	1960
	SC.36	SEALS	ASTM	NATL	STIEHLER, ROBERT D.	741	HONORARY MEMBER	1963
	SC.37	COATED FABRICS AND RUBBER THREAD	ASTM	NATL	STIEHLER, ROBERT D.	741	HONORARY MEMBER	1968
	SC.40	CONSUMER RUBBER PRODUCTS	ASTM	NATL	STIEHLER, ROBERT D.	741	HONORARY MEMBER	1973
	SC.45	USA COMMITTEE FOR INTERNATIONAL STANDARDS ON RUBBER	ASTM	NATL/I	STIEHLER, ROBERT D.	741	HONORARY MEMBER	1951
	SC.57	ISO/TC157, MECHANICAL CONTRACEPTIVES	ASTM	NATL/I	STIEHLER, ROBERT D.	741	HONORARY MEMBER	1977
	D013	TEXTILES	ASTM	NATL	STIEHLER, ROBERT D.	741	HONORARY MEMBER	1973
					WINGER, JAMES H.	753	MEMBER	4-73
	SC.21	PILE FLOOR COVERINGS	ASTM	NATL	WINGER, JAMES H.	753	MEMBER	4-73
	SC.52	FLAMMABILITY	ASTM	NATL	WINGER, JAMES H.	753	MEMBER	4-73
	SC.52.01	APPAREL	ASTM	NATL	WINGER, JAMES H.	753	MEMBER	4-73
	SC.52.04	DRAPERIES AND CURTAINS	ASTM	NATL	WINGER, JAMES H.	753	MEMBER	4-73
	SC.52.05	UPHOLSTERED FURNITURE	ASTM	NATL	WINGER, JAMES H.	753	MEMBER	4-73
	SC.52.06	TRANSPORTATION FABRICS	ASTM	NATL	WINGER, JAMES H.	753	MEMBER	4-73
	SC.52.07	TENTS, TARPS, AND OUTDOOR FABRICS	ASTM	NATL	WINGER, JAMES H.	753	MEMBER	4-73
	SC.52.08	PROTECTIVE CLOTHING	ASTM	NATL	WINGER, JAMES H.	753	MEMBER	4-73
	D018	SOIL AND ROCK FOR ENGINEERING PURPOSES	ASTM	NATL	MCINTOSH, OAKLEY W.	782	MEMBER	9-80
	SC.02	SAMPLING AND RELATED FIELD TESTING FOR SOIL INVESTIGATIONS						
	SSC.04	AUGER SAMPLING	ASTM	NATL	KOVACS, WILLIAM D.	741	MEMBER	1979
	SC.03	TEXTURE, PLASTICITY AND DENSITY CHARACTERISTICS OF SOILS	ASTM	NATL	MCINTOSH, OAKLEY W.	782	MEMBER	9-80
	SC.05	STRUCTURAL PROPERTIES OF SOILS	ASTM	NATL	MCINTOSH, OAKLEY W.	782	MEMBER	9-80
	SC.09	DYNAMIC PROTERTIES OF SOILS	ASTM	NATL	CHUNG, RILEY M.	741	MEMBER	1-80
					KOVACS, WILLIAM D.	741	MEMBER	1973
	SC.12	ROCK MECHANICS	ASTM	NATL	CHUNG, RILEY M.	741	MEMBER	1-80
	SC.94	EDUCATION AND TRAINING	ASTM	NATL	CHUNG, RILEY M.	741	MEMBER	1-80
	D019	WATER	ASTM	NATL	DIAMONDSTONE, BARRY I.	551	MEMBER	1-80

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRETARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
ASTM					DURST, RICHARD A.	552	MEMBER	1977
					EPSTEIN, MICHAEL S.	551	MEMBER	4-78
					HERTZ, HARRY S.	552	MEMBER	1-76
					KIRCHHOFF, WILLIAM H.	502	MEMBERSHIP SECRETARY	10-74
					KOCH, WILLIAM F.	551	MEMBER	2-79
					MAHAJAN, BAL M.	745	MEMBER	1-79
					MAIENTHAL, E. JUNE	551	MEMBER	1974
					MAY, WILLIE E.	552	MEMBER	5-75
					MOODY, JOHN R.	551	MEMBER	1978
					RAINS, THEODORE C.	551	MEMBER	8-77
					TAYLOR, JOHN K.	550	MEMBER	1970
	-SC.01	INTERNATIONAL STANDARDS (LIAISON FUNCTION)	ASTM	NATL	TAYLOR, JOHN K.	550	CHAIR	1975
	-SC.02	STANDARDS FOR DISSOLVED OZONE	ASTM	NATL	MARINENKO, GEORGE	551	MEMBER	1976
	SC.02	GENERAL SPECIFICATIONS AND TECHNICAL RESOURCES	ASTM	NATL				
					KOCH, WILLIAM F.	551	MEMBER	2-79
					MAHAJAN, BAL M.	745	MEMBER	1-79
					TAYLOR, JOHN K.	550	MEMBER	1970
	SC.02.02	RESULTS						
	WG.01	INTERPRETATION OF DATA	ASTM	NATL	MARINENKO, GEORGE	551	CHAIR	1-79
	SC.03	SAMPLING OF WATER AND WATER-FORMED DEPOSITS AND SURVEILLANCE OF WATER						
	SC.03.03	HYDRAULIC, VELOCITY AND FLOW MEASUREMENT						
	WG.02	VELOCITY MEASUREMENTS	ASTM	NATL	KULIN, GERSHON	771	CHAIR	3-75
	SC.05	INORGANIC CONSTITUENTS IN WATER	ASTM	NATL	KOCH, WILLIAM F.	551	MEMBER	2-79
					MAIENTHAL, E. JUNE	551	MEMBER	1974
					MOODY, JOHN R.	551	MEMBER	1978
					TAYLOR, JOHN K.	550	MEMBER	1970
	SC.06	METHOD OF ANALYSIS FOR ORGANIC SUBSTANCES IN WATER	ASTM	NATL				
					MAIENTHAL, E. JUNE	551	MEMBER	1974
	SC.07	SEDIMENTS	ASTM	NATL	MAIENTHAL, E. JUNE	551	MEMBER	1974
					TAYLOR, JOHN K.	550	MEMBER	1975
	WG.03	TRACE METALS	ASTM	NATL	MAIENTHAL, E. JUNE	551	MEMBER	1974
	WG.04	CHEMICAL CHARACTERIZATION OF FLUVIAL SEDIMENT	ASTM	NATL				
					EPSTEIN, MICHAEL S.	551	MEMBER	4-78
	SC.09	SALINE AND BRACKISH WATERS	ASTM	NATL	KOCH, WILLIAM F.	551	MEMBER	2-79
					MARINENKO, GEORGE	551	MEMBER	1976
	WG.1.14	CHLORINE IN BRACKISH AND SALINE WATERS AND BRINES	ASTM	NATL				
					MARINENKO, GEORGE	551	CHAIR	6-78
	SC.11	METHODS FOR THE ANALYSIS OF WATER FOR POWER GENERATION AND PROCESS USES	ASTM	NATL				
					MAIENTHAL, E. JUNE	551	MEMBER	1974
	SC.12	POLLUTION POTENTIAL OF THE LEACHING FROM SOLID WASTES	ASTM	NATL				
					DIAMONDSTONE, BARRY I.	551	MEMBER	1-80
					PAULE, ROBERT C.	500	STATISTICAL CONSULTANT	9-79
	D020	PLASTICS	ASTM	NATL	BARNES, JOHN D.	563	MEMBER	3-76
					EBY, RONALD K.	563	CHAIR	7-78
					GUTTMAN, CHARLES M.	500	MEMBER	1974
					MORDFIN, LEONARD	501	MEMBER	1973
					RENEKER, DARRELL H.	560	MEMBER	1967

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRE-TARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
ASTM	-SC.01	EXECUTIVE SUBCOMMITTEE	ASTM	NATL	EBY, RONALD K.	563	MEMBER	1-80
	SC.12	OLEFIN PLASTICS	ASTM	NATL	BARNES, JOHN D.	563	MEMBER	3-76
	SC.18	REINFORCED THERMOSETTING PLASTICS	ASTM	NATL	MORDFIN, LEONARD	501	MEMBER	1973
	WG.02	REINFORCED PLASTICS PULTRUDED SHAPES	ASTM	NATL	MORDFIN, LEONARD	501	MEMBER	1972
	SC.19	SHEETING	ASTM	NATL	BARNES, JOHN D.	563	MEMBER	3-76
	SC.30	THERMAL PROPERTIES	ASTM	NATL	GUTTMAN, CHARLES M.	500	MEMBER	1974
	SC.61	US TECHNICAL ADVISORY GROUP FOR ISO/TC61 ON PLASTICS	ASTM	NATL/I	SMITH, LESLIE E.	563	MEMBER	10-80
	SC.70	ANALYTICAL METHODS	ASTM	NATL	BARNES, JOHN D.	563	MEMBER	3-76
	WG.04	GEL PERMEATION CHROMATOGRAPHY	ASTM	NATL	WAGNER, HERMAN L.	563	MEMBER	1968
	WG.05	MOLECULAR SIZE PARAMETERS	ASTM	NATL	WAGNER, HERMAN L.	563	CHAIR	1968
	WG.07	GAS PERMEABILITY	ASTM	NATL	BARNES, JOHN D.	563	MEMBER	3-76
	D022	METHODS OF SAMPLING AND ANALYSIS OF ATMOSPHERES	ASTM	NATL				
					ETZ, EDGAR S.	553	MEMBER	4-77
					HODGESON, JIMMIE A.	553	MEMBER	6-76
					MCKENZIE, RAYMOND L.	553	MEMBER	1980
					MEASE, NORMAN E.	771	MEMBER	1-78
					ROOK, HARRY L.	553	MEMBER	2-79
					TAYLOR, JOHN K.	550	MEMBER	1970
					UNTERWEGER, MICHAEL P.	532	MEMBER	7-76
					WHITTAKER, JULIAN K.	535	MEMBER	3-78
	SC.02	METHODS OF SAMPLING AND ANALYSIS	ASTM	NATL	BASS, ARNOLD M.	553	MEMBER	1-78
					ETZ, EDGAR S.	553	MEMBER	1977
					HODGESON, JIMMIE A.	553	MEMBER	6-76
					MEASE, NORMAN E.	771	MEMBER	1-78
	SC.03	MONITORING INSTRUMENTATION	ASTM	NATL	BASS, ARNOLD M.	553	MEMBER	1-78
					HODGESON, JIMMIE A.	553	MEMBER	6-76
	SC.04	ANALYSIS OF WORK SPACE ATMOSPHERES	ASTM	NATL	TAYLOR, JOHN K.	550	MEMBER	1974
	SC.05	CALIBRATION	ASTM	NATL	BASS, ARNOLD M.	553	MEMBER	1-78
					MEASE, NORMAN E.	771	MEMBER	1-78
					REED, WILLIAM P.	503	MEMBER	1979
					ROOK, HARRY L.	553	MEMBER	2-79
					TAYLOR, JOHN K.	550	VICE CHAIR	1972
	SC.07	PRECISION AND ACCURACY OF METHODS	ASTM	NATL	BASS, ARNOLD M.	553	MEMBER	1-78
					ROOK, HARRY L.	553	MEMBER	2-79
					TAYLOR, JOHN K.	550	MEMBER	1974
	SC.09	ISO TAG FOR ISO/TC146 (AIR QUALITY)	ASTM	NATL/I	TAYLOR, JOHN K.	550	MEMBER	1972
	SC.10	RADIATION	ASTM	NATL	COURSEY, BERT M.	532	ALT REP	3-76
	SC.11	METEOROLOGICAL MEASUREMENTS	ASTM	NATL	HASEGAWA, SABURO	772	MEMBER	1-77
					MEASE, NORMAN E.	771	TECHNICAL ADVISOR	1978
	D024	CARBON BLACK	ASTM	NATL	STIEHLER, ROBERT D.	741	HONORARY MEMBER	1956
	D027	ELECTRICAL INSULATING LIQUIDS AND GASES	ASTM	NATL	HARRIS, WILLIAM P.	563	MEMBER	1965
	D030	HIGH MODULUS FIBERS AND THEIR COMPOSITES						
	SC.05	ORGANIC MATRIX ORIENTED FIBROUS COMPOSITES	ASTM	NATL	KASEN, MAURICE B.	562	MEMBER	1974
	D032	CATALYSTS	ASTM	NATL	HAINES, RUTH A.	111	MEMBER	1977
					KELLEY, RICHARD D.	541	MEMBER	1-75
					MCALISTER, ARCHIE J.	564	MEMBER	1975

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRE-TARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
ASTM					YATES, JOHN T., JR.	541	TECHNICAL ADVISOR	1974
	SC.01	PHYSICAL CHEMICAL PROPERTIES	ASTM	NATL	HAINES, RUTH A.	111	MEMBER	1977
	WG.03	METAL DISPERSION	ASTM	NATL	HAINES, RUTH A.	111	MEMBER	1977
	SC.03	CHEMICAL ANALYSIS	ASTM	NATL	KELLEY, RICHARD D.	541	CHAIR	10-77
	SC.92	NOMENCLATURE AND DEFINITIONS	ASTM	NATL	HAINES, RUTH A.	111	MEMBER	1978
	D034	WASTE DISPOSAL	ASTM	NATL	DIAMONDSTONE, BARRY I.	551	MEMBER	12-79
					HAGAN, LUCY B.	550	MEMBER	6-80
	SC.02	EXTRACTION AND LEACHATE TESTING	ASTM	NATL	DIAMONDSTONE, BARRY I.	551	MEMBER	1-80
	E002	EMISSION SPECTROSCOPY	ASTM	NATL	ALVAREZ, R.	503	MEMBER	1954
					MICHAELIS, ROBERT E.	503	HONORARY	1953
					NORRIS, JOHN A.	551	SEC	6-66
					PELLA, PETER A.	553	MEMBER	1976
					RASBERRY, STANLEY D.	503	MEMBER	4-80
					URIANO, GEORGE A.	503	MEMBER	5-77
	SC.02	STATISTICS, CALIBRATION, AND STANDARDIZATION	ASTM	NATL	MICHAELIS, ROBERT E.	503	HONORARY	1977
	SC.04	STANDARD REFERENCE MATERIALS, SAMPLING, ELECTRODES & OTHER SPECTROCHEMICAL MATERIALS	ASTM	NATL				
					MICHAELIS, ROBERT E.	503	HONORARY	1956
					MYKLEBUST, ROBERT L.	553	MEMBER	7-76
					RASBERRY, STANLEY D.	503	MEMBER	11-80
	SC.05	COPPER, NICKEL, AND HIGH TEMPERATURE ALLOYS	ASTM	NATL	ALVAREZ, R.	503	MEMBER	1954
					MICHAELIS, ROBERT E.	503	HONORARY	1956
	SC.06	LEAD, TIN, ZINC, AND PRECIOUS METALS	ASTM	NATL	MICHAELIS, ROBERT E.	503	HONORARY	1956
	SC.07	ALUMINUM, MAGNESIUM, AND THEIR ALLOYS	ASTM	NATL	MICHAELIS, ROBERT E.	503	HONORARY	1956
	SC.08	REFRACTORY METALS, BERYLLIUM, AND THEIR ALLOYS	ASTM	NATL	MICHAELIS, ROBERT E.	503	HONORARY	1956
	SC.09	FERROUS ALLOYS	ASTM	NATL	MICHAELIS, ROBERT E.	503	HONORARY	1956
	SC.10	MISCELLANEOUS NON-METALLIC MATERIALS	ASTM	NATL	MICHAELIS, ROBERT E.	503	MEMBER-AT-LARGE	1956
					RAINS, THEODORE C.	551	MEMBER	1965
	SC.13	NOMENCLATURE	ASTM	NATL	RAINS, THEODORE C.	551	MEMBER	1970
	SC.90	EXECUTIVE COMMITTEE	ASTM	NATL	MICHAELIS, ROBERT E.	503	HONORARY	1956
	E003	CHEMICAL ANALYSIS OF METALS	ASTM	NATL	BURKE, ROBERT W.	551	MEMBER	10-78
					DIAMONDSTONE, BARRY I.	551	MEMBER	1-80
					MAIENTHAL, E. JUNE	551	MEMBER	1972
					MICHAELIS, ROBERT E.	503	LIAISON (S17)	1974
	SC.01	FERROUS METALS	ASTM	NATL	MAIENTHAL, E. JUNE	551	MEMBER	1972
	SC.02	GENERAL ANALYTICAL PRACTICES	ASTM	NATL	MAIENTHAL, E. JUNE	551	MEMBER	1972
	SC.05	NONFERROUS METALS	ASTM	NATL	MAIENTHAL, E. JUNE	551	MEMBER	1972
	E004	METALLOGRAPHY	ASTM	NATL	BALLARD, DAVID	564	MEMBER	6-66
					BLAU, PETER J.	564	MEMBER	11-79
					SWARTZENDRUBER, LYDON J.	564	MEMBER	1974
	SC.09	INCLUSIONS	ASTM	NATL	FIELDS, RICHARD J.	562	MEMBER	6-79
	SC.11	ELECTRON METALLOGRAPHY	ASTM	NATL	BALLARD, DAVID	564	MEMBER	6-66
					JENSEN, STEPHEN	737	MEMBER	1980
	WG.07	SCANNING ELECTRON MICROSCOPE STANDARDS	ASTM	NATL	BALLARD, DAVID B.	564	CHAIR	6-66

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRE-TARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
ASTM	WG.09	SCANNING ELECTRON MICROSCOPE - RESOLUTION AND MAGNIFICATION	ASTM	NATL				
					BALLARD, DAVID	564	CHAIR	10-71
	SC.14	QUANTITATIVE METALLOGRAPHY	ASTM	NATL	FIELDS, RICHARD J.	562	MEMBER	6-79
	E005	FIRE STANDARDS	ASTM	NATL	BENJAMIN, IRWIN A.	752	ALT REP	1968
					CLARKE, FREDERIC B.	750	MEMBER	7-78
					DAVIS, SANFORD	753	MEMBER	6-75
					GROSS, DANIEL	750	ALT REP	1970
					ROBERTSON, ALEXANDER F.	750	MEMBER	1953
	SC.11	BUILDING CONSTRUCTION	ASTM	NATL	BENJAMIN, IRWIN A.	752	MEMBER	1975
	SC.12	OPENINGS	ASTM	NATL	BENJAMIN, IRWIN A.	752	MEMBER	1975
	SC.13	LARGE SCALE TESTS	ASTM	NATL	BENJAMIN, IRWIN A.	752	MEMBER	1975
	-WG.01	STANDARD FIRE TEST	ASTM	NATL	PARKER, WILLIAM J.	753	MEMBER	1977
	SC.14	ROOFING	ASTM	NATL	GROSS, DANIEL	750	MEMBER	1975
	SC.15	BUILDING CONTENT	ASTM	NATL	BABRAUSKAS, VYTENIS	753	ALT REP	2-77
					DAVIS, SANFORD	753	MEMBER	6-75
	WG-D	FLOOR COVERINGS	ASTM	NATL	DAVIS, SANFORD	753	MEMBER	6-75
	WG-F	UPHOLSTERED FURNITURE	ASTM	NATL	DAVIS, SANFORD	753	MEMBER	6-75
	SC.16	APPLICATION - EQUIPMENT	ASTM	NATL	GANN, RICHARD G.	750	TECHNICAL ADVISOR	3-78
					WINGER, JAMES H.	753	MEMBER	5-78
	SC.17	TRANSPORT	ASTM	NATL	DAVIS, SANFORD	753	MEMBER	7-76
	WG.01	FIRE RISK ASSESSMENT	ASTM	NATL	DAVIS, SANFORD	753	MEMBER	12-78
	WG.02	LARGE SCALE TEST PROCEDURES	ASTM	NATL	DAVIS, SANFORD	753	CHAIR	12-78
	SC.21	SMOKE/TOXICOLOGY	ASTM	NATL	BIRKY, MERRITT M.	752	MEMBER	10-80
					ROBERTSON, ALEXANDER F.	750	MEMBER	1970
	-WG.01	REVISION OF SMOKE TEST METHOD	ASTM	NATL	ROBERTSON, ALEXANDER F.	750	MEMBER	1976
	-WG.02	RELEASE RATE TEST METHODS	ASTM	NATL	PARKER, WILLIAM J.	753	MEMBER	7-75
	WG.01	STATE-OF-THE-ART ON SMOKE TEST METHODS	ASTM	NATL	GROSS, DANIEL	750	MEMBER	1975
	WG.E622	SMOKE DENSITY CHAMBER	ASTM	NATL	PARKER, WILLIAM J.	753	MEMBER	1977
	SC.22	SURFACE FLAMMABILITY	ASTM	NATL	ROBERTSON, ALEXANDER F.	750	MEMBER	1953
	-WG.02	NEW CONCEPTS FOR E84	ASTM	NATL	PARKER, WILLIAM J.	753	MEMBER	1977
	WG.01A	NEW CONCEPTS FOR MEASURING THE E84 TUNNEL TEST	ASTM	NATL				
					PARKER, WILLIAM J.	753	CHAIR	1-78
	WG.09	RADIANT PANEL FLOOR COVERING TEST METHOD	ASTM	NATL	DAVIS, SANFORD	753	CHAIR	6-80
	WG.E162	E162	ASTM	NATL	PARKER, WILLIAM J.	753	MEMBER	1977
	SC.23	COMBUSTION	ASTM	NATL	GROSS, DANIEL	750	MEMBER	1975
	-WG.01	IGNITION SOURCES	ASTM	NATL	PARKER, WILLIAM J.	753	MEMBER	1977
	-WG.02	EASE OF IGNITION	ASTM	NATL	PARKER, WILLIAM J.	753	MEMBER	1977
	SC.31	TERMINOLOGY	ASTM	NATL	GROSS, DANIEL	750	MEMBER	1975
	SC.32	RESEARCH	ASTM	NATL	ROBERTSON, ALEXANDER F.	750	MEMBER	1960
	-WG.01	CRITERIA FOR TEST METHODS	ASTM	NATL	PARKER, WILLIAM J.	753	MEMBER	1977
	-WG.02	EVALUATION OF TEST METHODS	ASTM	NATL	PARKER, WILLIAM J.	753	MEMBER	1977
	SC.34	INTERNATIONAL STANDARDS	ASTM	NATL	GROSS, DANIEL	750	CHAIR	1975
	SC.35	GUIDE CRITERIA	ASTM	NATL	BENJAMIN, IRWIN A.	752	MEMBER	1975
	SC.91	PLANNING AND REVIEW	ASTM	NATL	GROSS, DANIEL	750	MEMBER	1974
	E006	PERFORMANCE OF BUILDING CONSTRUCTIONS	ASTM	NATL	CATTANEO, LOUIS E.	741	MEMBER	11-73
					GROSS, JAMES G.	744	MEMBER	1975
					HASTINGS, S. ROBERT	743	MEMBER	1978
					MARTIN, JONATHAN W.	741	MEMBER	3-79
					MASTERS, LARRY W.	741	MEMBER	6-74

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRETARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
ASTM					MATHEY, ROBERT G.	741	MEMBER	1966
					PFRANG, EDWARD O.	741	MEMBER	1966
					TRECHSEL, HEINZ R.	743	MEMBER	1962
	SC.11	STRUCTURAL PERFORMANCE OF HORIZONTAL STRUCTURES	ASTM	NATL	YANCEY, CHARLES	741	MEMBER	7-73
	SC.12	STRUCTURAL PERFORMANCE OF VERTICAL STRUCTURES	ASTM	NATL	YANCEY, CHARLES	741	SEC	7-73
	SC.13	STRUCTURAL PERFORMANCE OF JOINING AND FASTENING IN BUILDING CONSTRUCTION	ASTM	NATL	CATTANEO, LOUIS E.	741	MEMBER	11-73
	SC.21	SERVICEABILITY	ASTM	NATL	MATHEY, ROBERT G.	741	MEMBER	1972
	SC.22	DURABILITY PERFORMANCE OF BUILDING CONSTRUCTION	ASTM	NATL	FROHNSDORFF, GEOFFREY	741	MEMBER	6-74
					MARTIN, JONATHAN W.	741	MEMBER	3-79
					MASTERS, LARRY W.	741	MEMBER	6-74
	-WG.01	METHODOLOGIES FOR DURABILITY PREDICTION	US	NATL	MASTERS, LARRY W.	741	CHAIR	6-74
	SC.23	DURABILITY OF HONEYCOMB SANDWICH PANELS FOR TACTICAL SHELTERS	ASTM	NATL	MARTIN, JONATHAN W.	741	TECHNICAL ADVISOR	3-79
	SC.41	INFILTRATION PERFORMANCES	ASTM	NATL	TRECHSEL, HEINZ R.	743	CHAIR	1975
	SC.51	COMPONENT PERFORMANCE OF WINDOWS, CURTAIN WALLS, AND DOORS	ASTM	NATL	HASTINGS, S. ROBERT	743	MEMBER	1978
					TRECHSEL, HEINZ R.	743	MEMBER	1962
	SC.51.05	SPECIAL COMMITTEE ON SEALED INSULATING GLSS	ASTM	NATL	HAHN, MAHN HEE	742	MEMBER	3-80
	WG.04	AIR LEAKAGE	ASTM	NATL	TRECHSEL, HEINZ R.	743	MEMBER	1968
	WG.08	THERMAL PERFORMANCE	ASTM	NATL	TRECHSEL, HEINZ R.	743	MEMBER	1976
	WG.10	INSTALLATION PRACTICES	ASTM	NATL	TRECHSEL, HEINZ R.	743	CHAIR	1978
	WG.11	FIELD TESTING	ASTM	NATL	TRECHSEL, HEINZ R.	743	MEMBER	1978
	SC.62	COORDINATION OF DIMENSIONS FOR BUILDING MATERIALS AND SYSTEMS	ASTM	NATL	GROSS, JAMES G.	744	MEMBER	1975
	SC.81	BUILDING ECONOMICS	ASTM	NATL	MARSHALL, HAROLD E.	744	CHAIR	4-79
					PETERSEN, STEPHEN R.	744	MEMBER	1979
					RUEGG, ROSALIE T.	744	MEMBER	4-79
	SC.91	PLANNING	ASTM	NATL	TRECHSEL, HEINZ R.	743	MEMBER	1965
	SC.94	NOMENCLATURE AND DEFINITIONS	ASTM	NATL	CATTANEO, LOUIS E.	741	MEMBER	11-73
					STROIK, JOHN S.	743	MEMBER	1976
	E.07	NONDESTRUCTIVE TESTING	ASTM	NATL	BENNETT, LAWRENCE H.	564	MEMBER	1974
					BERGER, HAROLD	501	MEMBER	1974
					EITZEN, DONALD G.	737	MEMBER	1974
					FREE, GEORGE M.	521	MEMBER	1-77
					MORDFIN, LEONARD	501	MEMBER	1977
					POLANSKY, DANIEL	533	MEMBER	1-80
					SWARTZENDRUBER, LYDON J.	564	MEMBER	1978
	SC.01	RADIOGRAPHIC PRACTICE AND PENETRAMETERS	ASTM	NATL	BERGER, HAROLD	501	MEMBER	1974
					POLANSKY, DANIEL	533	MEMBER	1953
	WG.08	RADIOGRAPHIC FILM CLASSIFICATION	ASTM	NATL	PLACIOUS, ROBERT C.	533	CHAIR	1-77
	SC.02	REFERENCE RADIOGRAPHS	ASTM	NATL	POLANSKY, DANIEL	533	MEMBER	1953
	SC.03	MAGNETIC PARTICLE AND PENETRANT TESTING	ASTM	NATL	HOWELL, BARBARA F.	552	MEMBER	1-79
					MORDFIN, LEONARD	501	MEMBER	1977

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRETARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
ASTM	WG.02	PENETRANT	ASTM	NATL	HOWELL, BARBARA F.	552	MEMBER	1-79
	WG.03	E-270 GLOSSARY REVISION	ASTM	NATL	VELAPOLDI, RANCE A.	550	WORKING ADVISOR	I-78
	WG.05	MAGNETIC PARTICLE AND PENETRANT TESTING	ASTM	NATL	HOWELL, BARBARA F.	552	MEMBER	1-79
	WG.06	MAGNETIC PARTICLE METHODS	ASTM	NATL	HOWELL, BARBARA F.	552	MEMBER	I-79
	WG.07	MAGNETIC GLOSSARY	ASTM	NATL	HOWELL, BARBARA F.	552	MEMBER	1-79
	SC.04	ACOUSTIC EMISSION	ASTM	NATL	BRECKENRIDGE, FRANKLIN R.	737	MEMBER	10-76
					CLOUGH, ROGER B.	564	MEMBER	1979
					FEDERMAN, CHARLES	737	MEMBER	1977
					HSU, NELSON N.	737	MEMBER	1977
					SIMMONS, JOHN A.	564	VICE CHAIR	I-76
	-WG.01	ASTM/ASME JOINT WORKING GROUP ON ACOUSTIC EMISSION SYSTEM CALIBRATION	ASME	NATL	BRECKENRIDGE, FRANKLIN R.	737	MEMBER	I0-76
					SIMMONS, JOHN A.	564	CHAIR	5-76
	WG.02	ACOUSTIC EMISSION SENSORS	ASTM	NATL	EITZEN, DONALD G.	737	VICE CHAIR	I974
	SC.05	NEUTRON RADIOGRAPHY	ASTM	NATL	BERGER, HAROLD	501	MEMBER	I974
					GARRETT, DONALD A.	566	SEC	6-76
	SC.06	ULTRASONICS TESTING PROCEDURES	ASTM	NATL	BLESSING, GERALD V.	737	MEMBER	I0-80
	SSC.09	ULTRASONIC NDE INSTRUMENT CHARACTERIZATION (TRANSDUCER CHARACTERIZATION)	ASTM	NATL	FREDERICK, NOLAN V.	724	MEMBER	I-80
	WG.02	ALUMINUM REFERENCE BLOCKS	ASTM	NATL	EITZEN, DONALD G.	737	SEC	I974
	SC.07	ELECTROMAGNETIC METHODS	ASTM	NATL	FREE, GEORGE M.	52I	MEMBER	1977
	SC.08	LEAKAGE TESTING	ASTM	NATL	MORDFIN, LEONARD	501	SEC	I980
	SC.09	MATERIALS INSPECTION AND TESTING LABORATORIES	ASTM	NATL	FREE, GEORGE M.	52I	MEMBER	1977
	SC.91	USA COMMITTEE FOR ISO/TC135 (NONDESTRUCTIVE TESTING	ASTM	NATL/I	BERGER, HAROLD	50I	CHAIR	I974
	SC.92	EDITORIAL REVIEW	ASTM	NATL	BERGER, HAROLD	50I	MEMBER	1974
	SC.98	NEW METHODS REVIEW	ASTM	NATL	BERGER, HAROLD	501	MEMBER	I974
	E009	FATIGUE	ASTM	NATL	FONG, JEFFREY T.	7II	MEMBER	12-73
					MCKENNA, GREGORY B.	563	MEMBER	1977
					MORDFIN, LEONARD	50I	MEMBER	1962
	SC.01	RESEARCH	ASTM	NATL	DOBBYN, RONALD C.	564	MEMBER	9-79
					FONG, JEFFREY T.	711	MEMBER	12-73
	SC.02	RESIDUAL STRESS EFFECTS IN FATIGUE	ASTM	NATL	MORDFIN, LEONARD	50I	MEMBER	1977
	SC.03	FATIGUE OF COMPOSITES	ASTM	NATL	KASEN, MAURICE B.	562	MEMBER	1974
					MORDFIN, LEONARD	501	MEMBER	I970
	WG.03	RESIDUAL STRESS EFFECTS IN FATIGUE	ASTM	NATL	SIMMONS, JOHN A.	564	MEMBER	5-78
	SC.06	STATISTICAL ASPECTS OF FATIGUE	ASTM	NATL	ELLINGWOOD, BRUCE R.	741	MEMBER	5-73
					FONG, JEFFREY T.	711	MEMBER	12-75
	E010	NUCLEAR TECHNOLOGY AND APPLICATIONS	ASTM	NATL	NOYCE, JAMES R.	532	MEMBER	3-76
	SC.01	IRRADIATED NUCLEAR FUEL METROLOGY	ASTM	NATL	NOYCE, JAMES R.	532	MEMBER	3-76
	SC.02	BEHAVIOR AND USE OF METALLIC MATERIALS IN NUCLEAR SYSTEMS						
	WG.02D	INTERPRETATION OF CHARPY SURVEILLANCE DATA	ASTM	NATL	INTERRANTE, CHARLES G.	562	MEMBER	1974
	SC.05	NUCLEAR RADIATION METROLOGY	ASTM	NATL	GRUNDL, JAMES A.	532	MEMBER	I975

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRETARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
ASTM					MCGARRY, EMMERT D.	532	SEC	7-78
					NOYCE, JAMES R.	532	MEMBER	3-76
	SC.07	RADIATION EFFECTS ON ELECTRONIC MATERIALS AND DEVICES	ASTM	NATL				
					BULLIS, W. MURRAY	721	MEMBER	1971
					CHAPPELL, SAMUEL E.	513	CHAIR	1-72
					HUMPHREYS, JIMMY C.	533	VICE CHAIR	1975
					MCLAUGHLIN, WILLIAM L.	533	MEMBER	10-74
					PLACIOUS, ROBERT C.	533	MEMBER	6-71
	SC.92	EXECUTIVE COORDINATING COMMITTEE FOR NUCLEAR STANDARDS	ASTM	NATL				
					CHAPPELL, SAMUEL E.	513	MEMBER	1974
	E011	STATISTICAL METHODS	ASTM	NATL	EISENHART, CHURCHILL	710	AFFILIATE MEMBER	10-76
					FONG, JEFFREY T.	711	MEMBER	12-76
					MANDEL, JOHN	500	MEMBER	1958
					NATRELLA, MARY G.	714	MEMBER	11-74
					PAULE, ROBERT C.	500	MEMBER	3-80
	SC.02	SAMPLING AND ESTIMATION	ASTM	NATL	NATRELLA, MARY G.	714	MEMBER	4-76
	SC.03	STATISTICAL ANALYSIS AND CONTROL TECHNIQUES	ASTM	NATL	KU, HARRY H.	714	MEMBER	1965
					NATRELLA, MARY G.	714	CHAIR	4-76
	SC.04	DEVELOPMENT AND EVALUATION OF TEST METHODS	ASTM	NATL	KU, HARRY H.	714	TECHNICAL ADVISOR	1965
					MANDEL, JOHN	500	CHAIR	1968
	E012	APPEARANCE OF MATERIALS	ASTM	NATL	HSIA, JACK J.	534	MEMBER	8-74
	SC.01	EDITORIAL AND TERMINOLOGY	ASTM	NATL	HSIA, JACK J.	534	MEMBER	1974
	SC.02	SPECTROPHOTOMETRY AND COLORIMETY	ASTM	NATL	HSIA, JACK J.	534	MEMBER	1974
	SC.03	GEOMETRIC PROPERTIES	ASTM	NATL	HSIA, JACK J.	534	MEMBER	1974
	E013	MOLECULAR SPECTROSCOPY	ASTM	NATL	JOHANNESEN, ROLF B.	561	MEMBER	1970
					MIELENZ, KLAUS D.	500	MEMBER	7-78
					SEWARD, RICHARD W.	503	MEMBER	11-79
					VELAPOLDI, RANCE A.	550	MEMBER	1974
	SC.01	ULTRAVIOLET AND VISIBLE SPECTROSCOPY	ASTM	NATL	SEWARD, RICHARD W.	503	MEMBER	11-79
	SC.06	MOLECULAR LUMINESCENCE	ASTM	NATL	MIELENZ, KLAUS D.	500	MEMBER	7-78
					SEWARD, RICHARD W.	503	MEMBER	11-79
					VELAPOLDI, RANCE A.	550	MEMBER	1974
	WG.01	PRESENTATION OF CORRECTED FLUORESCENCE SPECTRA	ASTM	NATL	VELAPOLDI, RANCE A.	550	MEMBER	1974
	WG.02	RECOMMENDED PRACTICES ON MOLECULAR FLUORESCENCE SPECTROSCOPY	ASTM	NATL				
					VELAPOLDI, RANCE A.	550	MEMBER	1974
	SC.07	NUCLEAR MAGNETIC RESONANCE SPECTROSCOPY	ASTM	NATL	COXON, BRUCE	552	SEC	2-75
					JOHANNESEN, ROLF B.	561	CHAIR	1970
	E016	SAMPLING AND ANALYSIS OF METAL BEARING ORES AND RELATED MATERIALS	ASTM	NATL	MICHAELIS, ROBERT E.	503	LIAISON (S17)	1974
	E018	SENSORY EVALUATION OF MATERIALS AND PRODUCTS	ASTM	NATL	MOLINO, JOHN A.	743	MEMBER	11-73
	E020	TEMPERATURE MEASUREMENT	ASTM	NATL	FURUKAWA, GEORGE T.	522	MEMBER	1974
					GALLAGHER, WILLIAM H.	738	MEMBER	1969
					SCHNEIDER, SAMUEL J., JR.	560	MEMBER	1970
					SCHOOLEY, JAMES F.	522	MEMBER	1974
					SPARKS, LARRY L.	773	MEMBER	1964

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRE-TARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
ASTM					STIEHLER, ROBERT D.	741	HONORARY MEMBER	1962
	SC.01	EDITORIAL AND NOMENCLATURE	ASTM	NATL	WISE, JACQUELYN A.	522	MEMBER	1-78
	SC.03	RESISTANCE THERMOMETERS	ASTM	NATL	FURUKAWA, GEORGE T.	522	MEMBER	1974
					MANGUM, B. W.	522	MEMBER	11-76
	SC.04	THERMOCOUPLES	ASTM	NATL	BURNS, GEORGE W.	522	MEMBER	1960
					FURUKAWA, GEORGE T.	522	MEMBER	1974
					SPARKS, LARRY L.	773	MEMBER	1964
	SC.05	LIQUID-IN-GLASS THERMOMETERS AND HYDROMETERS	ASTM	NATL	GALLAGHER, WILLIAM H.	738	MEMBER	1969
					WISE, JACQUELYN A.	522	SEC	1-78
	SC.06	NEW THERMOMETERS	ASTM	NATL	FURUKAWA, GEORGE T.	522	SEC	1974
					MANGUM, B. W.	522	CHAIR	1978
	SC.07	FUNDAMENTALS IN THERMOMETRY	ASTM	NATL	FURUKAWA, GEORGE T.	522	MEMBER	1974
					MANGUM, B. W.	522	MEMBER	11-78
	SC.08	MEDICAL THERMOMETRY	ASTM	NATL	MANGUM, B. W.	522	MEMBER	1974
	WG.02	FEVER THERMOMETERS	ASTM	NATL	MANGUM, B. W.	522	MEMBER	1974
	WG.02A	ELECTRONIC FEVER THERMOMETERS	ASTM	NATL	MANGUM, B. W.	522	MEMBER	1974
	WG.02B	MERCURY-IN-GLASS FEVER THERMOMETERS	ASTM	NATL	MANGUM, B. W.	522	MEMBER	1974
	WG.02C	DISPOSABLE FEVER THERMOMETERS	ASTM	NATL	MANGUM, B. W.	522	MEMBER	1974
	WG.03	CONTINUOUS CLINICAL TEMPERATURE MONITORING SYSTEMS	ASTM	NATL	MANGUM, B. W.	522	MEMBER	1974
	WG.04	CLINICAL LABORATORY TEMPERATURE MEASUREMENT	ASTM	NATL	MANGUM, B. W.	522	MEMBER	1974
	SC.09	ADVISORY COMMITTEE	ASTM	NATL	MANGUM, B. W.	522	MEMBER	6-78
	E021	SPACE SIMULATION AND APPLICATIONS OF SPACE TECHNOLOGY	ASTM	NATL	RUTHBERG, STANLEY	721	MEMBER	1964
	SC.04	SPACE SIMULATION TEST METHODS						
	-WG.01	REVISION OF STANDARDS E296-70 AND E297-70	ASTM	NATL	TILFORD, CHARLES R.	522	TECHNICAL ADVISOR	5-80
	SC.09	SOLAR ELECTRIC AND POWER APPLICATIONS	ASTM	NATL	CELLAROSI, MARIO J.	565	MEMBER	1977
	E024	FRACTURE TESTING	ASTM	NATL	DEWIT, ROLAND	562	MEMBER	1-75
					FREIMAN, STEPHEN W.	562	MEMBER	12-76
					FULLER, EDWIN R., JR.	562	MEMBER	10-77
					INTERRANTE, CHARLES G.	562	MEMBER	1972
					SMITH, JOHN H.	562	MEMBER	7-72
					TOBLER, RALPH L.	562	MEMBER	1975
	SC.01	FRACTURE MECHANICS TEST METHODS	ASTM	NATL	DEWIT, ROLAND	562	MEMBER	1975
					HICHO, GEORGE E.	562	MEMBER	5-73
					SMITH, JOHN H.	562	MEMBER	1-75
	SC.02	FRACTOGRAPHY AND ASSOCIATED MICROSTRUCTURES	ASTM	NATL	DEWIT, ROLAND	562	MEMBER	1975
					HICHO, GEORGE E.	562	VICE CHAIR	9-70
	SC.03	ALTERNATIVE FRACTURE TEST METHODS	ASTM	NATL	CHRIST, BRUCE W.	562	CHAIR	8-78
					DEWIT, ROLAND	562	MEMBER	1975
					LOW, SAMUEL R. III	562	MEMBER	7-80
					SMITH, JOHN H.	562	MEMBER	3-78
	WG.03	PRECRACKED CHARPY TESTING METHODS	ASTM	NATL	INTERRANTE, CHARLES G.	562	MEMBER	1973
	SC.04	SUBCRITICAL CRACK GROWTH	ASTM	NATL	DEWIT, ROLAND	562	MEMBER	1975
					SMITH, JOHN H.	562	MEMBER	1-74
	SC.05	TERMINOLOGY	ASTM	NATL	DEWIT, ROLAND	562	MEMBER	1975

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRE-TARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
ASTM					INTERRANTE, CHARLES G.	562	CHAIR	1974
	SC.06	FRACTURE MECHANICS APPLICATIONS	ASTM	NATL	DEWIT, ROLAND	562	MEMBER	1975
					SMITH, JOHN H.	562	MEMBER	1-74
	SC.07	FRACTURE TOUGHNESS OF BRITTLE NONMETALLIC MATERIALS	ASTM	NATL				
					DEWIT, ROLAND	562	MEMBER	1977
					FREIMAN, STEPHEN W.	562	CHAIR	12-76
					FULLER, EDWIN R., JR.	562	MEMBER	10-77
	WG.02	DOUBLE-TORSION TECHNIQUE	ASTM	NATL	FULLER, EDWIN R., JR.	562	MEMBER	10-77
	WG.03	PREDICTIONS OF STRUCTURAL RELIABILITY	ASTM	NATL	WIEDERHORN, SHELDON M.	562	MEMBER	9-77
	WG.04	METHODS FOR ROCKS AND CONCRETE	ASTM	NATL	FULLER, EDWIN R., JR.	562	MEMBER	10-77
	WG.05	DOUBLE CONTILEVEL BEAM TESTS	ASTM	NATL	FREIMAN, STEPHEN W.	562	MEMBER	10-77
	SC.08	ELASTIC/PLASTIC FRACTURE MECHANICS TERMINOLOGY	ASTM	NATL				
					DEWIT, ROLAND	562	MEMBER	1978
					HICHO, GEORGE E.	562	MEMBER	6-78
					SMITH, JOHN H.	562	MEMBER	3-78
	E027	HAZARD POTENTIAL OF CHEMICALS	ASTM	NATL	DOMALSKI, EUGENE S.	543	MEMBER	4-75
	SC.02	THERMAL STABILITY	ASTM	NATL	CHURNEY, KENNETH L.	543	MEMBER	1975
	SC.04	FLAMMABILITY AND IGNITABILITY OF LIQUID CHEMICALS	NBS	NATL				
					LOFTUS, JOSEPH J.	753	MEMBER	4-79
	E028	MECHANICAL TESTING	ASTM	NATL	DISE, JOHN R.	782	MEMBER	1968
					MORDFIN, LEONARD	501	MEMBER	1963
					PROCTOR, THOMAS M.	737	MEMBER	5-79
	SC.01	CALIBRATION OF MECHANICAL TESTING MACHINES AND APPARATUS	ASTM	NATL				
					DISE, JOHN R.	782	MEMBER	1968
	SC.04	TENSION TESTING						
	WG.03	VERIFICATION OF ALIGNMENT UNDER TENSILE LOAD	ASTM	NATL				
					CHRIST, BRUCE W.	562	CHAIR	1977
	SC.05	COMPRESSION TESTING	ASTM	NATL	DISE, JOHN R.	782	MEMBER	1968
	SC.10	BEND AND FLEXURE TESTING	ASTM	NATL	DISE, JOHN R.	782	CHAIR	1973
	SC.11	STRESS RELAXATION	ASTM	NATL	MORDFIN, LEONARD	501	MEMBER	1966
	SC.13	RESIDUAL STRESS MEASUREMENT	ASTM	NATL	MORDFIN, LEONARD	501	CHAIR	4-79
					PROCTOR, THOMAS M.	737	CHAIR	5-79
	SC.90	EXECUTIVE	ASTM	NATL	DISE, JOHN R.	782	MEMBER	1973
	E029	PARTICLE SIZE MEASUREMENT	ASTM	NATL	KIRBY, R. KEITH	503	MEMBER	1976
					MCKENZIE, RAYMOND L.	553	MEMBER	1980
					SWYT, DENNIS A.	737	MEMBER	2-79
					YOUNG, RUSSELL D.	739	MEMBER	4-79
	SC.02	SUBSIEVE TESTING	ASTM	NATL	SWYT, DENNIS A.	737	MEMBER	2-79
	SC.03	INTERNATIONAL COOPERATION ON TERMINOLOGY, STANDARDS, AND METHODS	ASTM	NATL				
					SWYT, DENNIS A.	737	MEMBER	2-79
	SC.04	LIQUID PARTICLE MEASUREMENT	ASTM	NATL	BRIGHT, DAVID S.	553	DELEGATE	5-77
					SWYT, DENNIS A.	737	MEMBER	2-79
	SC.05	REFERENCE MATERIALS	ASTM	NATL	KIRBY, R. KEITH	503	MEMBER	10-79
	E030	FORENSIC SCIENCES	ASTM	NATL	MILLS, ROBERT	760	MEMBER	1975
					THOMAS, DOUGLAS B.	782	MEMBER	8-78
	E031	COMPUTERIZED LABORATORY SYSTEMS	ASTM	NATL	CROSSON, ROBERT J.	713	MEMBER	12-78
	E032	CRITERIA FOR EVALUATING AGENCIES CONCERNED WITH SYSTEM ANALYSIS, TESTING AND/OR COMP	ASTM	NATL				
					PIELERT, JAMES H.	744	MEMBER	7-76
	SC.60	SYSTEMS ANALYSIS	ASTM	NATL	PIELERT, JAMES H.	744	MEMBER	7-76

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRETARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
ASTM	SC.70	COMPLIANCE ASSURANCE	ASTM	NATL	PIELERT, JAMES H.	744	MEMBER	7-76
	SC.91	DEFINITIONS AND NOMENCLATURE	ASTM	NATL	PIELERT, JAMES H.	744	MEMBER	7-76
	E033	ENVIRONMENTAL ACOUSTICS	ASTM	NATL	BARTEL, THOMAS W.	743	MEMBER	2-80
					FOWELL, ANDREW J.	762	MEMBER	1973
					YANIV, SIMONE L.	743	MEMBER	1977
	SC.01	SOUND ABSORPTION	ASTM	NATL	BARTEL, THOMAS W.	743	MEMBER	2-80
					YANIV, SIMONE L.	743	MEMBER	1977
	SC.03	SOUND TRANSMISSION	ASTM	NATL	BARTEL, THOMAS W.	743	MEMBER	2-80
					HUANG, PETER H.	743	MEMBER	1979
					YANIV, SIMONE L.	743	MEMBER	1977
	WG.03J	STEADY STATE METHODS (ABSORPTION)	ASTM	NATL	BARTEL, THOMAS W.	743	CHAIR	2-80
	SC.05	RESEARCH	ASTM	NATL	YANIV, SIMONE L.	743	MEMBER	1977
	SC.06	INTERNATIONAL STANDARDS	ASTM	NATL	FOWELL, ANDREW J.	762	MEMBER	1973
					YANIV, SIMONE L.	743	VICE CHAIR	7-79
	SC.07	DEFINITIONS AND EDITORIAL	ASTM	NATL	YANIV, SIMONE L.	743	MEMBER	1977
	SC.08	MECHANICAL AND ELECTRICAL SYSTEM NOISE	ASTM	NATL	YANIV, SIMONE L.	743	MEMBER	1977
	WG.08B	PLUMBING NOISE	ASTM	NATL	FOWELL, ANDREW J.	762	MEMBER	1973
	E034	OCCUPATIONAL HEALTH AND SAFETY	ASTM	NATL	BRINCKMAN, F. E.	561	MEMBER	1975
					TAYLOR, JOHN K.	550	MEMBER	1976
	SC.10	DEFINITIONS AND NOMENCLATURE	ASTM	NATL	BRINCKMAN, F. E.	561	MEMBER	1975
	E035	PESTICIDES						
	SC.21	SAFETY TO MAN AND ENVIRONMENT						
	WG.02	ENVIRONMENTAL CHEMISTRY-FATE MODELING	ASTM	NATL	HERRON, JOHN T.	542	CHAIR	3-79
	E036	CRITERIA FOR THE EVALUATION OF TESTING AND/OR INSPECTION AGENCIES	ASTM	NATL	BERMAN, GERALD A.	782	CHAIR	9-78
					MILLS, ROBERT	760	MEMBER	1975
					PIELERT, JAMES H.	744	MEMBER	5-77
	E037	THERMAL MEASUREMENTS	ASTM	NATL	ARMSTRONG, GEORGE T.	543	MEMBER	1974
					CHURNEY, KENNETH L.	543	MEMBER	1973
					GUTTMAN, CHARLES M.	500	MEMBER	1975
					HAHN, THOMAS A.	565	MEMBER	1976
					HSIA, JACK J.	534	MEMBER	2-77
					KIRBY, R. KEITH	503	MEMBER	1976
	SC.01	TEST METHODS AND RECOMMENDED PRACTICES	ASTM	NATL	CHANG, SHU-SING	563	MEMBER	1977
					CHURNEY, KENNETH L.	543	MEMBER	1973
					GUTTMAN, CHARLES M.	500	MEMBER	1975
	WG.05	PURITY METHODS	ASTM	NATL	GUTTMAN, CHARLES M.	500	CHAIR	1975
	SC.02	STANDARD REFERENCE MATERIALS	ASTM	NATL	HUST, JEROME G.	773	MEMBER	1976
					KIRBY, R. KEITH	503	MEMBER	1974
	SC.03	NOMENCLATURE AND DEFINITIONS	ASTM	NATL	FLYNN, JOSEPH H.	563	CHAIR	9-76
	SC.05	THERMOPHYSICAL PROPERTIES	ASTM	NATL	ARMSTRONG, GEORGE T.	543	MEMBER	6-76
					CEZAIRLIYAN, ARED	544	MEMBER	1976
					CHANG, SHU-SING	563	MEMBER	1977
					HAHN, THOMAS A.	565	MEMBER	1976
					HUST, JEROME G.	773	MEMBER	1976
					KIRBY, R. KEITH	503	CHAIR	1976
	WG.00	STANDARDS FOR REACTION CALORIMETRY	ASTM	NATL	ARMSTRONG, GEORGE T.	543	CHAIR	7-76
	WG.01	THERMODYNAMICS						
	WG.01.5	RELATIVE ENTHALPY CALORIMETRY	ASTM	NATL	DITMARS, DAVID A.	543	MEMBER	4-76
	WG.01B	INTERFEROMETRY	ASTM	NATL	HAHN, THOMAS A.	565	MEMBER	1978

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRE-TARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
ASTM	SC.07	LIAISON	ASTM	NATL	ARMSTRONG, GEORGE T.	543	MEMBER	7-76
	E038	RESOURCE RECOVERY	ASTM	NATL	BERKE, JOSEPH G.	506	MEMBER	7-78
					COLBERT, JENNIFER C.	543	MEMBER	10-80
					EARLY, JAMES G.	562	SEC	7-78
					FROHNSDORFF, GEOFFREY	741	MEMBER	6-74
					KIRKLIN, DUANE R.	543	MEMBER	12-77
					MITCHELL, DAVID J.	753	MEMBER	1976
					ROBBINS, CARL R.	565	MEMBER	6-79
					YAKOWITZ, HARVEY	506	MEMBER	1976
	SC.01	ENERGY	ASTM	NATL	CHURNEY, KENNETH L.	543	MEMBER	1979
					COLBERT, JENNIFER C.	543	MEMBER	10-80
					KIRKLIN, DUANE R.	543	MEMBER	12-77
					MITCHELL, DAVID J.	753	MEMBER	1976
					PAULE, ROBERT C.	500	STATISTICAL CONSULTANT	3-80
	SC.02	FERROUS METALS	ASTM	NATL	EARLY, JAMES G.	562	SEC	11-74
	SC.05	GLASS	ASTM	NATL	CELLAROSI, MARIO J.	565	MEMBER	1977
	SC.06	CONSTRUCTION MATERIALS FROM OTHER RECOVERED MATERIALS	ASTM	NATL	FROHNSDORFF, GEOFFREY	741	MEMBER	6-74
	SC.06.03	FLY ASH IN CONSTRUCTION MATERIALS	ASTM	NATL	ROBBINS, CARL R.	565	MEMBER	6-79
	SC.07	HEALTH AND SAFETY ASPECTS OF RESOURCE RECOVERY	ASTM	NATL	MITCHELL, DAVID J.	753	MEMBER	1976
	SC.92	RESEARCH	ASTM	NATL	KIRKLIN, DUANE R.	543	MEMBER	7-79
					MITCHELL, DAVID J.	753	MEMBER	1974
	SC.94	LONG RANGE PLANNING	ASTM	NATL	BERKE, JOSEPH G.	506	VICE CHAIR	3-78
	E040	TECHNICAL ASPECTS OF PRODUCT LIABILITY LITIGATION	ASTM	NATL	CLARKE, FREDERIC B.	750	MEMBER	8-78
					PHUCAS, CHARLES B.	110	MEMBER	1974
					TROY, TERRANCE N.	781	MEMBER	10-80
	SC.01	TERMINOLOGY AND DEFINITIONS	ASTM	NATL	PHUCAS, CHARLES B.	110	MEMBER	1974
	SC.02	COLLECTION AND PRESERVATION OF POTENTIAL TECHNICAL EVIDENCE	ASTM	NATL	PHUCAS, CHARLES B.	110	MEMBER	1974
	SC.03	EXAMINATION AND TESTING SEQUENCES	ASTM	NATL	PHUCAS, CHARLES B.	110	MEMBER	1974
	SC.04	EVALUATION OF TECHNICAL DATA	ASTM	NATL	PHUCAS, CHARLES B.	110	MEMBER	1974
	E041	LABORATORY APPARATUS	ASTM	NATL	DISE, JOHN R.	782	MEMBER	1975
	SC.01	GLASS AND PLASTIC APPARATUS	ASTM	NATL	TAYLOR, JOHN K.	550	MEMBER	1972
	SC.06	WEIGHING DEVICES	ASTM	NATL	DAVIS, RICHARD S.	523	MEMBER	12-78
					SCHOONOVER, RANDALL M.	523	MEMBER	12-78
	E042	SURFACE ANALYSIS	ASTM	NATL	COHEN, GABRIELLE G.	564	MEMBER	1-81
					CUTHILL, JOHN R.	564	MEMBER	9-76
					ERICKSON, NILS E.	544	MEMBER	4-75
					MADEY, THEODORE E.	541	MEMBER	1976
					MCALISTER, ARCHIE J.	564	MEMBER	1976
					NEWBURY, DALE E.	553	MEMBER	10-76
					POWELL, CEDRIC J.	541	CHAIR	1975
					YATES, JOHN T., JR.	541	TECHNICAL ADVISOR	1974
	SC.03	AUGER SUBCOMMITTEE	ASTM	NATL	FINE, JOSEPH	541	MEMBER	3-75
					POWELL, CEDRIC J.	541	MEMBER	1975
	SC.04	ESCA	ASTM	NATL	ERICKSON, NILS E.	544	MEMBER	4-75

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRE-TARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
ASTM					POWELL, CEDRIC J.	541	MEMBER	1975
	SC.08	ION BEAM SPUTTERING	ASTM	NATL	FINE, JOSEPH	541	MEMBER	3-76
	SC.09	STANDARD REFERENCE MATERIALS	ASTM	NATL	FINE, JOSEPH	541	CHAIR	3-77
	E043	METRIC PRACTICE	ASTM	NATL	BARBROW, LOUIS E.	511	MEMBER	5-77
					GOLDMAN, DAVID T.	500	MEMBER	6-79
					STIEHLER, ROBERT D.	741	HONORARY MEMBER	1977
	SC.10	TECHNICAL	ASTM	NATL	BARBROW, LOUIS E.	511	MEMBER	1977
					GOLDMAN, DAVID T.	500	MEMBER	6-79
					STIEHLER, ROBERT D.	741	HONORARY MEMBER	1977
	WG.01	UNITS AND UNIT USE	ASTM	NATL	BARBROW, LOUIS E.	511	CHAIR	1977
	SC.20	EDITORIAL	ASTM	NATL	GOLDMAN, DAVID T.	500	SEC	6-79
					STIEHLER, ROBERT D.	741	HONORARY MEMBER	1977
	SC.30	OPERATIONS	ASTM	NATL	GOLDMAN, DAVID T.	500	MEMBER	6-79
	E044	SOLAR ENERGY CONVERSION	ASTM	NATL	BROWN, PAUL W.	741	MEMBER	1977
					CLARK, ELIZABETH J.	741	SEC	6-76
					DIKKERS, ROBERT D.	744	MEMBER	1-77
					GODETTE, MCCLURE	741	MEMBER	4-78
					MASTERS, LARRY W.	741	MEMBER	8-75
					METZ, FRANKLIN E.	744	MEMBER	10-80
					SCHAFFT, HARRY A.	721	MEMBER	1-79
					WAKSMAN, DAVID	744	MEMBER	1975
	SC.04	MATERIALS PERFORMANCE	ASTM	NATL	BROWN, PAUL W.	741	MEMBER	1978
					CLARK, ELIZABETH J.	741	MEMBER	6-78
					MASTERS, LARRY W.	741	CHAIR	3-76
					WAKSMAN, DAVID	744	MEMBER	6-78
	WG.02	COVER PLATES	ASTM	NATL	CLARK, ELIZABETH J.	741	SEC	6-78
	WG.07	NONMETALLIC CONTAINMENT MATERIALS	ASTM	NATL	CLARK, ELIZABETH J.	741	MEMBER	6-78
	SC.05	HEATING AND COOLING SUBSYSTEMS	ASTM	NATL	WAKSMAN, DAVID	744	MEMBER	6-78
	SC.09	PHOTOVOLTAIC ELECTRIC POWER SYSTEMS	ASTM	NATL	SCHAFFT, HARRY A.	721	MEMBER	1-79
	SC.14	PASSIVE HEATING AND COOLING SYSTEMS	ASTM	NATL	METZ, FRANKLIN E.	744	MEMBER	10-80
	E045	GEOTHERMAL RESOURCES AND ENERGY	ASTM	NATL	KRAUSE, RALPH F., JR.	562	MEMBER	5-79
	SC.10	FIELD DEVELOPMENT						
	SC.10.02	MATERIALS	ASTM	NATL	KEARSLEY, ELLIOT A.	563	MEMBER	8-80
	E046	QUALITY SYSTEMS	ASTM	NATL	BELANGER, BRIAN C.	512	MEMBER	12-78
	SC.10	TECHNOLOGY	ASTM	NATL	BELANGER, BRIAN C.	512	MEMBER	12-78
	SC.90	EXECUTIVE COMMITTEE	ASTM	NATL	BELANGER, BRIAN C.	512	MEMBER-AT-LARGE	12-78
	SC.91	INTERFACE	ASTM	NATL	BELANGER, BRIAN C.	512	CHAIR	9-79
	E047	BIOLOGICAL EFFECTS AND ENVIRONMENTAL FATE						
	SC.03	MAMMALIAN TOXICOLOGY	ASTM	NATL	LEVIN, BARBARA C.	752	MEMBER	11-80
	F001	ELECTRONICS	ASTM	NATL	BAGHDADI, ASLAN	721	MEMBER	1980
					BULLIS, W. MURRAY	721	MEMBER	1965
					EHRSTEIN, JAMES R.	721	MEMBER	1969
					FRENCH, JUDSON C.	720	MEMBER	1960
					HARMAN, GEORGE G.	721	MEMBER	6-71
					MAYO-WELLS, JOHN F.	720	MEMBER	6-74
					NOVOTNY, DONALD B.	721	MEMBER	1973

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRETARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
ASTM					PHILLIPS, WILLIE E.	721	MEMBER	11-67
					SCACE, ROBERT I.	721	FIRST VICE-CHAIR	1959
					SCHAFFT, HARRY A.	721	MEMBER	I-75
					THURBER, W. ROBERT	721	MEMBER	6-67
	SC.02	LASERS	ASTM	NATL	BULLIS, W. MURRAY	721	MEMBER	1965
					FELDMAN, ALBERT	565	EDITOR	1972
	WG.06	LASER POWER AND ENERGY	ASTM	NATL	SANDERS, AARON A.	724	MEMBER	8-74
	SC.03	METALLIC MATERIALS	ASTM	NATL	BULLIS, W. MURRAY	721	MEMBER	1965
	SC.04	SEMICONDUCTOR PHYSICAL PROPERTIES	ASTM	NATL	BAGHDADI, ASLAN	721	MEMBER	1980
					BULLIS, W. MURRAY	721	EDITOR	1965
					EHRSTEIN, JAMES R.	721	MEMBER	1969
					PHILLIPS, WILLIE E.	721	MEMBER	6-71
					THURBER, W. ROBERT	721	MEMBER	6-67
	SC.05	ENCAPSULANTS	ASTM	NATL	BULLIS, W. MURRAY	721	MEMBER	1965
	SC.06	ELECTRICAL AND OPTICAL MEASUREMENT	ASTM	NATL	BULLIS, W. MURRAY	721	MEMBER	1965
					EHRSTEIN, JAMES R.	721	VICE CHAIR	1969
					PHILLIPS, WILLIE E.	721	MEMBER	2-70
					THURBER, W. ROBERT	721	MEMBER	6-67
	SC.07	INTERCONNECTION BONDING	ASTM	NATL	BULLIS, W. MURRAY	721	MEMBER	1965
	SC.08	MICROELECTRONIC IMAGING	ASTM	NATL	BULLIS, W. MURRAY	721	MEMBER	1965
					CELLAROSI, MARIO J.	565	MEMBER	1975
					JERKE, JOHN M.	721	MEMBER	1974
					NOVOTNY, DONALD B.	721	EDITOR	1973
	SC.09	ENCLOSURES, SUBSTRATES AND FILMS	ASTM	NATL	BULLIS, W. MURRAY	721	MEMBER	1978
	WG.04	HERMETICITY	ASTM	NATL	RUTHBERG, STANLEY	721	CHAIR	1973
	SC.10	PROCESS CHEMICALS	ASTM	NATL	BULLIS, W. MURRAY	721	MEMBER	1978
	SC.11	QUALITY AND HARDNESS ASSURANCE	ASTM	NATL	BULLIS, W. MURRAY	721	MEMBER	1965
					HUMPHREYS, JIMMY C.	533	MEMBER	1975
	SC.90	EXECUTIVE	ASTM	NATL	BULLIS, W. MURRAY	721	MEMBER-AT-LARGE	1971
	SC.91	EDITORIAL SUBCOMMITTEE	ASTM	NATL	MAYO-WELLS, JOHN F.	720	CHAIR	6-74
	SC.92	TERMINOLOGY	ASTM	NATL	BULLIS, W. MURRAY	721	MEMBER	1975
					MAYO-WELLS, JOHN F.	720	CHAIR	6-75
	F002	FLEXIBLE BARRIER MATERIALS	ASTM	NATL	BARNES, JOHN D.	563	MEMBER	11-75
	SC.30	TEST METHODS	ASTM	NATL	BARNES, JOHN D.	563	CHAIR	11-75
	SC.93	STATISTICAL MATTERS	ASTM	NATL	BARNES, JOHN D.	563	CHAIR	I-79
	F004	MEDICAL AND SURGICAL MATERIALS AND DEVICES	ASTM	NATL	BRAUER, GERHARD M.	563	MEMBER	1972
					EBY, RONALD K.	563	MEMBER	1973
					MCKENNA, GREGORY B.	563	MEMBER	1976
					RUFF, ARTHUR W.	564	MEMBER	5-74
	SC.20	RESOURCES	ASTM	NATL	BRAUER, GERHARD M.	563	MEMBER	1972
					CASSEL, JAMES M.	563	MEMBER	1974
	SC.20.01	POLYMERIC MATERIALS	ASTM	NATL	BRAUER, GERHARD M.	563	CHAIR	I-76
	SC.20.02	METALLURGICAL MATERIALS	ASTM	NATL	RUFF, ARTHUR W.	564	MEMBER	5-74
	SC.20.05	TEST METHODS						
	WG.17	WEAR TESTS	ASTM	NATL	FRAKER, ANNA C.	564	CHAIR	5-77
					RUFF, ARTHUR W.	564	MEMBER	5-74
	WG.09	CORROSION OF IMPLANT MATERIALS	ASTM	NATL	FRAKER, ANNA C.	564	MEMBER	5-77

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRETARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
ASTM	F007	AEROSPACE INDUSTRY METHODS						
	SC.01	CONTAMINATION						
	WG.05	AUTOMATIC PARTICLE COUNTERS	ASTM	NATL	SWYT, DENNIS A.	737	MEMBER	2-79
	SC.06	FLAMMABILITY	ASTM	NATL	DAVIS, SANFORD	753	MEMBER	7-80
	F008	SPORTS EQUIPMENT AND FACILITIES	ASTM	NATL	CALVANO, NICHOLAS J.	763	SEC	9-72
	SC.53	HEADGEAR	ASTM	NATL	BERGER, ROBERT E.	763	MEMBER	5-76
					CALVANO, NICHOLAS J.	763	MEMBER	9-72
	F012	SECURITY SYSTEMS AND EQUIPMENT	ASTM	NATL	MOORE, RAYMOND T.	652	MEMBER	8-73
	SC.07	ELECTRONIC SECURITY FOR VOICE AND SIGNAL TRANSMISSION	ASTM	NATL	TREADO, MARSHALL J.	760	MEMBER	9-72
	SC.50	LOCKING DEVICES	ASTM	NATL	STROIK, JOHN S.	743	MEMBER	1975
	SC.60	FIRE AND SAFETY ASPECTS	ASTM	NATL	FRANK, DANIEL E.	760	MEMBER	9-80
					PLACIOUS, ROBERT C.	533	MEMBER	7-80
	F013	SAFETY AND TRACTION FOR FOOTWEAR	ASTM	NATL	TONER, SAMUEL D.	763	MEMBER	1-73
	SC.91	DEFINITIONS AND NOMENCLATURE	ASTM	NATL	TONER, SAMUEL D.	763	CHAIR	2-73
	F015	CONSUMER PRODUCTS	ASTM	NATL	BLOSS, ROSCOE L.	763	MEMBER	5-79
					LEIGHT, WALTER G.	763	MEMBER	10-75
					STIEHLER, ROBERT D.	741	HONORARY MEMBER	1973
	-SC.01	EXECUTIVE SUBCOMMITTEE	ASTM	NATL	LEIGHT, WALTER G.	763	MEMBER	10-75
	F023	CHEMICAL PROTECTIVE CLOTHING	ASTM	NATL	KRASNY, JOHN F.	753	MEMBER	1977
	G001	CORROSION OF METALS	ASTM	NATL	BERTOCCI, UGO	561	MEMBER	1975
					CLIFTON, JAMES R.	741	MEMBER	1977
					ESCALANTE, EDWARD	561	MEMBER	1970
					GERHOLD, WILLIAM F.	561	MEMBER	1-64
					IVERSON, WARREN P.	561	MEMBER	1969
					KRUGER, JEROME	561	MEMBER	1-66
					UGIANSKY, GILBERT	500	MEMBER	1976
					WAN, CHIAAN A.	762	MEMBER	12-77
	SC.01	RESEARCH	ASTM	NATL	GERHOLD, WILLIAM F.	561	MEMBER	1963
	SC.02	NOMENCLATURE	ASTM	NATL	KRUGER, JEROME	561	MEMBER	1967
	SC.04	ATMOSPHERIC CORROSION	ASTM	NATL	GERHOLD, WILLIAM F.	561	MEMBER	1963
	SC.05	LABORATORY CORROSION TESTS	ASTM	NATL	GERHOLD, WILLIAM F.	561	MEMBER	1963
	SC.06	STRESS CORROSION CRACKING AND CORROSION FATIGUE	ASTM	NATL	GERHOLD, WILLIAM F.	561	VICE CHAIR	1963
					PUGH, EDISON N.	561	MEMBER	11-79
					UGIANSKY, GILBERT	500	CHAIR	1978
	SC.10	CORROSION IN SOILS	ASTM	NATL	ESCALANTE, EDWARD	561	CHAIR	1972
					IVERSON, WARREN P.	561	MEMBER	1969
	-WG.02	ELECTROCHEMICAL POLARIZATION TECHNIQUE FOR MEASUREMENT OF CORROSION RATES IN SOIL	ASTM	NATL	IVERSON, WARREN P.	561	CHAIR	1976
	SC.11	ELECTROCHEMICAL MEASUREMENTS IN CORROSION TESTING	ASTM	NATL	BERTOCCI, UGO	561	MEMBER	1976
	SC.90	EXECUTIVE COMMITTEE	ASTM	NATL	KRUGER, JEROME	561	MEMBER	1977
	SC.98	ADVISORY COMMITTEE ON EXPOSURE TESTING FACILITIES	ASTM	NATL	GERHOLD, WILLIAM F.	561	CHAIR	1963
	SC.99	STANDING COMMITTEE ON LIAISON	ASTM	NATL	KRUGER, JEROME	561	CHAIR	1977
	G002	EROSION AND WEAR	ASTM	NATL	BHANSALI, KIRIT J.	564	MEMBER	7-80
					BLAU, PETER J.	564	MEMBER	11-79

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRETARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
ASTM					IVES, LEWIS K.	564	MEMBER	1974
					RUFF, ARTHUR W.	564	VICE CHAIR	7-78
	SC.20	EROSION BY SOLID PARTICLE IMPACT	ASTM	NATL	IVES, LEWIS K.	564	MEMBER	1974
	WG.01	SOLID PARTICLE IMPINGEMENT TEST METHODS	ASTM	NATL	RUFF, ARTHUR W.	564	MEMBER	11-76
	SC.30	WEAR	ASTM	NATL	BLAU, PETER J.	564	MEMBER	11-79
					IVES, LEWIS K.	564	MEMBER	1974
					RUFF, ARTHUR W.	564	MEMBER	1978
	WG.02	DRY SAND/RUBBER WHEEL	ASTM	NATL	IVES, LEWIS K.	564	MEMBER	1976
	SC.90	EXECUTIVE COMMITTEE	ASTM	NATL	IVES, LEWIS K.	564	MEMBER	1977
					RUFF, ARTHUR W.	564	MEMBER	4-77
	SC.91	TERMINOLOGY AND DEFINITIONS	ASTM	NATL	IVES, LEWIS K.	564	CHAIR	1976
	SC.93	EDITORIAL	ASTM	NATL	RUFF, ARTHUR W.	564	MEMBER	1977
	G003	DURABILITY OF NONMETALLIC MATERIALS	ASTM	NATL	CLARK, ELIZABETH J.	741	MEMBER	1-78
					MASTERS, LARRY W.	741	MEMBER	7-76
	SC.02	NATURAL ENVIRONMENTAL TESTING	ASTM	NATL	CLARK, ELIZABETH J.	741	MEMBER	1-78
	SC.03	SIMULATED AND CONTROLLED ENVIRONMENTAL TESTS	ASTM	NATL	CLARK, ELIZABETH J.	741	MEMBER	1-78
	G004	COMPATIBILITY/SENSITIVITY OF MATERIALS IN OXYGEN ENRICHED ATMOSPHERES	ASTM	NATL	CLARK, ALAN F.	724	MEMBER	1975
					HUGGETT, CLAYTON	750	MEMBER	2-75
	SC17	COORDINATING COMM FOR SRM'S FOR METALS, METAL BEARING ORES, AND RELATED MATERIALS	ASTM	NATL	MICHAELIS, ROBERT E.	503	HONORARY	1974
	SC21	COORDINATING COMMITTEE FOR STANDARD REFERENCE MATERIALS FOR PARTICLE METROLOGY	ASTM	NATL	HAINES, RUTH A.	111	MEMBER	1978
					KIRBY, R. KEITH	503	MEMBER	11-78
ASTM; SAE	-C004	UNIFIED NUMBERING SYSTEM FOR METALS AND ALLOYS	ASTM	NATL	BENNETT, LAWRENCE H.	564	MEMBER	1972
					CUTHILL, JOHN R.	564	ALT REP	1972
AVS	-C004	STANDARDS	AVS	NATL	HYLAND, RICHARD W.	522	SEC	7-78
					RUTHBERG, STANLEY	721	MEMBER	1963
					TILFORD, CHARLES R.	522	ASST. CHAIR	6-76
	-SC.01	GAGING	AVS	NATL	HYLAND, RICHARD W.	522	SEC	1976
					TILFORD, CHARLES R.	522	CHAIR	1979
	-C006	BOARD OF DIRECTORS	AVS	NATL	MADEY, THEODORE E.	541	PRESIDENT-ELECT	1-78
BIPM	-C002	COMMITTEE ON PRESSURE STANDARDS	BIPM	INTL	TILFORD, CHARLES R.	522	MEMBER	12-78
	-WG.01	WORKING GROUP ON HIGH PRESSURES	BIPM	INTL	TILFORD, CHARLES R.	522	MEMBER	3-79
	-WG.02	WORKING GROUP ON LOW PRESSURES	BIPM	INTL	TILFORD, CHARLES R.	522	CHAIR	3-79
	-WG.03	WORKING GROUP ON BAROMETRIC PRESSURES	BIPM	INTL	TILFORD, CHARLES R.	522	MEMBER	3-79
CAP	-C002	NUCLEAR MEDICINE RESOURCE	CAP	NATL	MANN, WILFRID B.	532	MEMBER	1975
CAS	-C002	ADVISORY COMMITTEE ON CODEN	CAS	INTL	GARVIN, DAVID	543	MEMBER	1976
CCITT/ IFC	-C002	OPTICAL FIBERS						
	WG.0	TERMINOLOGY	CCITT/ IEC	INTL	DAY, GORDON W.	724	MEMBER	9-79
CEQ	-C002	ENVIRONMENTAL DATA AND MONITORING						
	-SC.01	AIR POLLUTION DATA AND MONITORING						
	-WG.01	ANTICIPATORY MONITORING	CEQ	NATL	HERTZ, HARRY S.	552	MEMBER	1-78
CGA	-C004	CRYOGENIC FLUID FLOW MEASUREMENT MONITORING	CGA	NATL	HASKO, STEPHEN	511	MEMBER	10-69

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRETARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
CGPM	CIPM	INTERNATIONAL COMMITTEE FOR WEIGHTS AND MEASURES	FRANCE	INTL	AMBLER, ERNEST	100	MEMBER	6-75
	CCEMRI	CONSULTATIVE COMMITTEE FOR IONIZING RADIATIONS MEASUREMENT STANDARDS	FRANCE	INTL	AMBLER, ERNEST	100	CHAIR	10-74
CIE	TC02.2	DETECTORS						
	-SC.01	ABSOLUTE DETECTORS OF OPTICAL RADIATION	CIE	INTL	GEIST, JON C.	534	MEMBER	1-78
	TC02.3	MATERIALS	US	INTL	MIELENZ, KLAUS D.	500	CHAIR	1976
	-SC.01	GLOSS	CIE	INTL	HSIA, JACK J.	534	DELEGATE	1977
	-SC.02	POLARIZATION	CIE	INTL	SHUMAKER, JOHN B.	534	DELEGATE	2-77
CIPM	CCDM	CONSULTATIVE COMMITTEE FOR THE DEFINITION OF THE METER	BIPM	INTL	HALL, JOHN L.	525	DELEGATE	1970
					KESSLER, KARL G.	520	DELEGATE	1959
	CCDS	CONSULTATIVE COMMITTEE FOR THE DEFINITION OF THE SECOND	BIPM	INTL	BARNES, JAMES A.	524	DELEGATE	5-73
	CCE	CONSULTATIVE COMMITTEE ON ELECTRICITY	CIPM	INTL	TAYLOR, BARRY N.	521	MEMBER	1-75
	SC.01	HIGH FREQUENCY	BIPM	INTL	ALLRED, C. MCKAY	724	MEMBER	4-78
	CCEMRI	CONSULTATIVE COMMITTEE FOR IONIZING RADIATION MEASUREMENT STANDARDS	BIPM	INTL	CASWELL, RANDALL S.	532	DELEGATE	1969
	SEC.01	X AND GAMMA RAYS AND ELECTRONS	BIPM	INTL	LOEVINGER, ROBERT	533	DELEGATE	1975
	SEC.02	RADIONUCLIDS	BIPM	INTL	MANN, WILFRID B.	532	DELEGATE	1-70
	-WG.01	LIQUID SCINTILLATION COUNTING FOR RADIONUCLIDES WHICH DECAY BY EMITTING LOW ENERGY	BIPM	INTL	COURSEY, BERT M.	532	DELEGATE	12-75
	SEC.03	NEUTRON MEASUREMENTS SECTION	BIPM	INTL	CASWELL, RANDALL S.	532	CHAIR	1969
	CCT	CONSULTATIVE COMMITTEE ON THERMOMETRY						
	SC.01	REPLACEMENT OF IPTS-68	BIPM	INTL	SCHOOLEY, JAMES F.	522	DELEGATE	1978
	CCU	CONSULTATIVE COMMITTEE ON UNITS	BIPM	INTL	GOLDMAN, DAVID T.	500	DELEGATE	12-77
					LIDE, DAVID R., JR.	504	DELEGATE	1978
CODASYL	-C002	CODASYL EXECUTIVE COMMITTEE						
	-C.01	COBOL	US	NATL	VICKERS, MABEL V.	641	MEMBER	4-67
	-C.02	DATA DESCRIPTION LANGUAGE	CODASYL	NATL	COLLICA, JOSEPH C.	642	MEMBER	12-79
CS	-C002	SPECTRAL EVALUATION						
	-SC.01	SPECIFICATIONS FOR INFRARED VAPOR PHASE SPECTRA	CS	INTL	LAFFERTY, WALTER J.	545	MEMBER	11-77
DIN	A221	TESTING INORGANIC SEMICONDUCTOR MATERIALS	GERMANY	INTL	SCACE, ROBERT I.	721	MEMBER	12-76
DOC	-C008	RADIATION PRESERVATION OF FOOD	DOC	NATL	MCLAUGHLIN, WILLIAM L.	533	CHAIR	1975
	-C010	SEMICONDUCTOR TECHNICAL ADVISORY COMMITTEE	DOC	NATL	SCACE, ROBERT I.	721	MEMBER	9-75
	PS020	AMERICAN LUMBER STANDARDS COMMITTEE	DOC	NATL	FRENCH, JAMES E.	780	ALT REP	10-80
					WARSHAW, STANLEY I.	760	EX-OFFICIO MEMBER	10-80
DOD	-C008	GIDEP GOVERNMENT ADVISORY GROUP	NAVY	NATL	VOGT, JACKIE L.	512	MEMBER	12-78
	-C010	GIDEP METROLOGY COMMITTEE	NAVY	NATL	EDINGER, KENNETH W.	512	MEMBER	4-80
	-C012	JOINT TECHNICAL COORDINATION GROUP ON AIRCRAFT SURVIVABILITY						
	-SC.01	COUNTERMEASURES						
	-WG.01	JOINT INFRARED STANDARDS (JIRS)	DOD	NATL	NICODEMUS, FRED E.	534	TECHNICAL ADVISOR	8-79
	-C014	ADVISORY BOARD FOR THE DARPA/AFML QUANTITATIVE NDE PROGRAM	DOD	NATL	BIRNBAUM, GEORGE	501	MEMBER	1-77
DOE	-C002	CROSS SECTION EVALUATION WORKING GROUP	DOE	NATL/I	CARLSON, ALLAN D.	532	MEMBER	11-72

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRETARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
DOE	-C.01	EVALUATION						
	-SC.01	DATA STATUS AND REQUESTS	DOE	NATL	BEHRENS, JAMES W.	532	MEMBER	12-77
	-SC.01	STANDARDS	DOE	NATL/I	BOWMAN, CHARLES D.	532	TECHNICAL ADVISOR	10-78
					CARLSON, ALLAN D.	532	CHAIR	1972
	-SC.02	SHIELDING	NNDC	NATL	HUBBELL, JOHN H.	533	MEMBER	7-65
	-C006	US NATIONAL INSTRUMENTATION COMMITTEE	DOE	NATL	COSTRELL, LOUIS	535	CHAIR	1964
	-C008	ATOMIC AND MOLECULAR DATA FOR FUSION RESEARCH	DOE	NATL	WEISS, ANDREW W.	531	MEMBER	2-77
	-C010	HALF-LIFE EVALUATION FOR PU ISOTOPES PHYSICAL CONSTANTS	US	NATL	MANN, WILFRID B.	532	MEMBER	10-76
	-C012	NUCLEAR DATA	DOE	NATL	BOWMAN, CHARLES D.	532	TECHNICAL ADVISOR	8-77
	-C020	NEUTRON DOSIMETRY STEERING COMMITTEE	DOE	NATL	CASWELL, RANDALL S.	532	MEMBER	12-80
DOI	005	CHEMICAL AND PHYSICAL QUALITY OF WATER AND SEDIMENTS						
	WG.G	AUTOMATIC WATER-QUALITY MONITORS	DOI	NATL	DURST, RICHARD A.	552	MEMBER	1975
DOT	-C004	TECHNICAL PIPELINE SAFETY STANDARDS	DOT	NATL	CHRIST, BRUCE W.	562	MEMBER	1976
	-C006	SPECIAL AVIATION FIRE AND EXPLOSION REDUCTION (SAFER) ADVISORY COMMITTEE	FAA	NATL	HUGGETT, CLAYTON	750	MEMBER	11-78
EIA	JT006	TV PICTURE TUBES	JEDEC	NATL	CELLAROSI, MARIO J.	565	MEMBER	1976
	JT032	HEALTH AND SAFETY COMMITTEE FOR ELECTRON TUBES	JEDEC	NATL	CELLAROSI, MARIO J.	565	MEMBER	1976
	P006	FIBER OPTICS						
	SC.06	WORKING GROUP ON FIBERS AND MATERIALS	EIA	NATL	FRANZEN, DOUGLAS L.	724	MEMBER	5-78
	WG.01	TASK GROUP ON ROUND ROBIN TESTING	EIA	NATL	FRANZEN, DOUGLAS L.	724	CHAIR	10-79
EPA	-C006	FEDERAL GUIDANCE FOR OCCUPATIONAL EXPOSURES TO IONIZING RADIATION	EPA	NATL	SPENCER, LEWIS V.	533	MEMBER	1977
ETPC	-C002	EUROPEAN THERMOPHYSICAL PROPERTIES						
	-SC.01	COMMISSION ON STANDARDIZATION OF THERMOPHYSICAL MEASUREMENT METHODS	ETPC	INTL	CEZAIRLIYAN, ARED	544	MEMBER	1978
FDA	-C002	TECHNICAL ELECTRONIC PRODUCT RADIATION SAFETY	FDA	NATL	EISENHOWER, ELMER H.	530	MEMBER	9-77
FEMA	-C002	INTERAGENCY COMMITTEE ON SEISMIC SAFETY IN CONSTRUCTION						
	SC.02	BUILDING STANDARDS	FEMA	NATL	LEYENDECKER, EDGAR V.	741	CHAIR	10-78
	-C004	INTERAGENCY COMMITTEE ON DAM SAFETY	FEMA	NATL	ALSPACH, WALLACE J.	723	MEMBER	10-80
FPA	-C002	FEDERAL RESPONSE PLAN FOR PEACETIME NUCLEAR EMERGENCIES	FPA	NATL	SPENCER, LEWIS V.	533	MEMBER	1974
GSA	-C002	FEDERAL TELECOMMUNICATIONS STANDARDS COMMITTEE						
	-SC.02	DIGITAL COMMUNICATIONS PERFORMANCE PARAMETERS	NCA	NATL	GRUBB, DANA S.	652	MEMBER	1974
HEW/ FDA	-C004	CHEMISTRY TASK FORCE OF THE NATIONAL SHELLFISH SANITATION PROGRAM	HEW/ FDA	NATL	BARNES, I. L.	551	MEMBER	8-75
HPS	-C002	HEALTH PHYSICS SOCIETY STANDARDS COMMITTEE						
	WG.01.4	CRITERIA FOR PERSONNEL DOSIMETRY PERFORMANCE	HPS	NATL	EHRLICH, MARGARETE	533	CHAIR	7-75
IAAHWGNDE	-C002	INTERGOVERNMENT AGENCY AD HOC WORKING GROUP ON NDE	IAAHWGNDE	NATL	BIRNBAUM, GEORGE	501	MEMBER	5-78

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRETARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
IAAHWGN DE	-C.01	AD HOC COMMITTEE ON QUANTITATIVE EDDY CURRENT NDT	IAAHWGN DE	NATL	BIRNBAUM, GEORGE	501	CHAIR	5-78
IAEA	-C002	CHEMICAL THERMODYNAMICS OF ACTINIDE ELEMENTS AND COMPOUNDS						
	-WG.01	ACTINIDE HALIDE THERMODYNAMICS	AUSTRIA	NATL/I	PARKER, VIVIAN B.	543	MEMBER	6-75
IAEA/ WHO	-C002	ADVISORY COUNCIL TO NETWORK OF SECONDARY STANDARD DOSIMETRY LABORATORIES	IAEA/ WHO	INTL	LOEVINGER, ROBERT	533	MEMBER	1975
IAPS	-C002	EXECUTIVE COMMITTEE						
	WG.02	TRANSPORT PROPERTIES OF STEAM AND HEAVY WATER	NBS	INTL	SENGERS, JAN V.	544	MEMBER	1974
	C01	THERMODYNAMIC PROPERTIES	NBS	INTL	HAAR, LESTER	544	MEMBER	1975
					SENGERS, JOHANNA M. H.	544	MEMBER	1974
	IAPS	INTERNATIONAL ASSOCIATION FOR THE PROPERTIES OF STEAM	ASME	INTL	WHITE, HOWARD J., JR.	504	EXECUTIVE SECRETARY	I-75
IAU	014	FUNDAMENTAL SPECTROSCOPIC DATA	IAU	INTL	CORLISS, CHARLES H.	531	MEMBER	1964
	031	TIME	IAU	INTL	BARNES, JAMES A.	524	TECHNICAL ADVISOR	1968
ICAO	ADISP	AUTOMATED DATA INTERCHANGE SYSTEMS PANEL	ICAO	INTL	CLARK, GEORGE E.	652	TECHNICAL ADVISOR	1976
ICG	-C002	GLASS						
	SC.08	STANDARD REFERENCE GLASSES	ICG	INTL	HALLER, WOLFGANG K.	565	VICE CHAIR	4-79
	A002	DURABILITY AND ANALYSIS	ICG	INTL	HALLER, WOLFGANG K.	565	MEMBER	8-72
ICNW	-C002	NET WEIGHTS	ICNW	NATL	BRICKENKAMP, CARROLL S.	511	CHAIR	1975
ICRU	-C002	INTERNATIONAL COMMISSION ON RADIATION UNITS AND MEASUREMENTS	ICRU	INTL	MANN, WILFRID B.	532	CONSULTANT	2-70
	-C004	MICRODOSIMETRY	US	INTL	COYNE, J. JOSEPH	532	MEMBER	5-77
	0028	RADIATION: X-RAYS, GAMMA-RAYS AND ELECTRONS						
	-WG.01	RADIATION DOSIMETRY	ICRU	INTL	HUBBELL, JOHN H.	533	TECHNICAL ADVISOR	7-65
ICSU	-C002	COMMITTEE ON DATA FOR SCIENCE AND TECHNOLOGY						
	-C.01	INTERNATIONALIZATION AND STANDARDIZATION OF THERMODYNAMICS DATA	CODATA	INTL	GARVIN, DAVID	543	SEC	1977
					WHITE, HOWARD J., JR.	504	CHAIR	5-76
	-C.03	CHEMICAL KINETICS	ICSU	INTL	HAMPSON, ROBERT F., JR.	542	SEC	1-77
	-C.04	EXECUTIVE COMMITTEE OF CODATA	CODATA	INTL	LIDE, DAVID R., JR.	504	MEMBER	1978
	-C.05	FUNDAMENTAL CONSTANTS	CODATA	INTL	TAYLOR, BARRY N.	521	MEMBER	I-76
ICUMSA	-C002	INTERNATIONAL COMMISSION FOR UNIFORM METHODS OF SUGAR ANALYSIS						
	SC.05	100 DEGREE S POINT OF SUGAR SCALE	ICUMSA	INTL	COXON, BRUCE	552	ASSOCIATE REFEREE	1974
	005	POLARIMETRY	GERMANY	INTL	CUMMINGS, ARTHUR L.	561	ASSOCIATE REFEREE	1-79
	006	QUARTZ CONTROL PLATES	GERMANY	INTL	CUMMINGS, ARTHUR L.	561	ASSOCIATE REFEREE	1-79
IEC	TC013	ELECTRICAL MEASURING EQUIPMENT	HUNGARY	INTL	TURGEL, RAYMOND S.	722	TECHNICAL ADVISOR	1971
	SC.13B	ELECTRICAL MEASURING INSTRUMENTS	HUNGARY	INTL	TURGEL, RAYMOND S.	722	TECHNICAL ADVISOR	1974

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRE-TARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
IEC	TC025	QUANTITIES AND UNITS, AND THEIR LETTER SYMBOLS	US	INTL	CUTKOSKY, ROBERT D.	521	ASSISTANT SECRETARY	1969
	TC029	ELECTROACOUSTICS						
	SC.29C	MEASURING DEVICES						
	WG.12	CALIBRATION OF HALF-INCH MICROPHONES	SWITZER LAND	INTL	NEDZELNITSKY, VICTOR	739	MEMBER	9-77
	TC042	HIGH VOLTAGE TESTING TECHNIQUES						
	WG.04	IMPULSE OSCILLOSCOPES AND PEAK READING VOLTMETERS	USNC/ IEC	INTL	PETERSONS, OSKARS	722	MEMBER	7-75
	TC045	NUCLEAR INSTRUMENTATION	GERMANY	INTL	COSTRELL, LOUIS	535	DELEGATE	1961
	WG.01	CLASSIFICATION AND TERMINOLOGY	GERMANY	INTL	COSTRELL, LOUIS	535	MEMBER	1962
	WG.03	INTERCHANGEABILITY	GERMANY	INTL	COSTRELL, LOUIS	535	MEMBER	1962
	WG.09	RADIATION DETECTORS	GERMANY	INTL	COSTRELL, LOUIS	535	CHAIR	1963
	TC046	CABLES, WIRES, AND WAVEGUIDES FOR TELECOMMUNICATION EQUIPMENT						
	SC.46D	CONNECTORS FOR RF CABLES	GERMANY	INTL	JESCH, RAMON L.	723	DELEGATE	12-73
	WG.01	REVISION OF IEC PUBLICATION 169-1 (PORTIONS ON REFLECTION COEFFICIENT)	UNITED KINGDOM	INTL	JESCH, RAMON L.	723	MEMBER	11-76
	WG.04	REVISION OF IEC PUBLICATION 169-1, EXCEPT SUB-CLAUSES 14.1 AND 14.8	UNITED KINGDOM	INTL	JESCH, RAMON L.	723	MEMBER	9-78
	WG.03	MEASURING METHODS OF POLYETHYLENE	US	INTL	ZAPAS, LOUIS J.	563	MEMBER	1972
	TC062	ELECTRICAL EQUIPMENT IN MEDICAL PRACTICE						
	SC.62C	HIGH-ENERGY RADIATION EQUIPMENT AND EQUIPMENT FOR NUCLEAR MEDICINE						
	WG.03	PERFORMANCE OF DOSIMETERS	UNITED KINGDOM	INTL	LOEVINGER, ROBERT	533	MEMBER	1970
IEEE	-C068	CRYOELECTRICAL ENGINEERING						
	-SC.01	MEASUREMENTS AND STANDARDS	IEEE	NATL	CLARK, ALAN F.	724	CHAIR	1976
	-C092	NETWORK APPLICATIONS AND STANDARDS						
	-SC.01	A/D AND D/A CONVERTERS	IEEE	NATL	SCHOENWETTER, HOWARD K.	722	MEMBER	1-74
					SOUDERS, THOMAS M.	722	MEMBER	1-74
	014	STANDARDS COORDINATING COMMITTEE ON QUALITY AND UNITS						
	SC.01	METRIC PRACTICE	IEEE	NATL	GOLDMAN, DAVID T.	500	MEMBER	1-80
	C	COMPUTER SCCIETY						
	-C.01	SOFTWARE ENGINEERING						
	-SC.01	SOFTWARE ENGINEERING STANDARDS	IEEE	NATL	FIFE, DENNIS W.	640	MEMBER	1977
	-SC.01	MICROPROCESSOR STANDARDS	IEEE	NATL	CARPENTER, ROBERT J.	652	ALT REP	2-79
					GRUBB, DANA S.	652	MEMBER	11-79
	P896	BACKPLANE BUS WORKING GROUP	IEEE	NATL	CARPENTER, ROBERT J.	652	ALT REP	10-79
					GRUBB, DANA S.	652	MEMBER	11-79
	CHMT	SOCIETY ON COMPONENTS, HYBRIDS, AND MANUAL TECHNOLOGY						
	TC.03	TECHNICAL COMMITTEE ON HYBRID MICROELECTRONICS	IEEE	NATL	HARMAN, GEORGE G.	721	MEMBER	4-78

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRE-TARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
IEEE	CCM	COMMUNICATIONS SOCIETY						
	-CCM08	TRANSMISSION SYSTEMS						
	-SC.01	FIBER OPTICS	IEEE	NATL	DAY, GORDON W.	724	MEMBER	2-78
	ED	ELECTRON DEVICES SOCIETY	IEEE	NATL	BUEHLER, MARTIN G.	722	MEMBER	9-78
	-C.01	STANDARDS	IEEE	NATL	BUEHLER, MARTIN G.	722	MEMBER	9-78
					SCHAFFT, HARRY A.	721	MEMBER	1974
	EI	ELECTRICAL INSULATION SOCIETY						
	-EI01	LIQUID INSULATION						
	SC.01	PERFORMANCE AND RELIABILITY	IEEE	NATL	HEBNER, ROBERT E.	722	MEMBER	1978
	WG.01	GUIDE TO INSULATING FLUID CHARACTERISTICS	IEEE	NATL	HEBNER, ROBERT E.	722	CHAIR	1979
	EMC	ELECTROMAGNETIC COMPATIBILITY						
	-C.01	STANDARDS	IEEE	NATL	TAGGART, HAROLD E.	723	CHAIR	6-76
	IAS	INDUSTRY APPLICATIONS SOCIETY						
	-IAS03	APPLIANCE INDUSTRY	IEEE	NATL	YEE, KENNETH W.	762	MEMBER	6-77
	-IAS18	POWER SEMICONDUCTOR						
	-SC.01	STANDARDS	IEEE	NATL	OETTINGER, FRANK F.	721	VICE CHAIR	9-75
	IM	INSTRUMENTATION AND MEASUREMENT						
	TC-2	DC AND LF STANDARDS	NBS	NATL	BELECKI, NORMAN B.	521	MEMBER	7-78
					BELL, BARRY A.	722	CHAIR	7-76
					CUTKOSKY, ROBERT D.	521	MEMBER	1968
	TC-3	FREQUENCY AND TIME	IEEE	NATL	ALLAN, DAVID W.	524	MEMBER	1-79
					BARNES, JAMES A.	524	MEMBER	1964
	-SC.01	FREQUENCY STABILITY	IEEE	NATL	BARNES, JAMES A.	524	MEMBER	1964
	TC-4	HF INSTRUMENTATION AND MEASUREMENTS						
	-SC.03	SAMPLING AND STORAGE OSCILLOSCOPES	IEEE	NATL	ANDREWS, JAMES R.	724	MEMBER	4-73
	-SC.05	PULSE TECHNIQUES	IEEE	NATL	NAHMAN, NORRIS S.	724	MEMBER	1967
	NPSS	NUCLEAR AND PLASMA SCIENCES						
	-NPSS01	NUCLEAR INSTRUMENTS AND DETECTORS	IEEE	NATL	COSTRELL, LOUIS	535	SEC	1954
	PES	POWER ENGINEERING SOCIETY						
	-PES06	POWER SYSTEM INSTRUMENTATION AND MEASUREMENTS	IEEE	NATL				
					KOTTER, F. RALPH	722	MEMBER	1962
					PETERSONS, OSKARS	722	MEMBER	1977
	-SC.01	ELECTRICITY METERING	IEEE	NATL	TURGEL, RAYMOND S.	722	MEMBER	2-77
	-WG.01	HARMONICS	IEEE	NATL	OLDHAM, NILE M.	722	CHAIR	1979
	-SC.04	DICTIONARY	IEEE	NATL	TURGEL, RAYMOND S.	722	CHAIR	11-78
	-SC.06	DIGITAL TECHNIQUES IN ELECTRICAL MEASUREMENTS	IEEE	NATL				
					PETERSONS, OSKARS	722	MEMBER	1978
	-SC.07	HIGH VOLTAGE TESTING TECHNIQUES	IEEE	NATL	KOTTER, F. RALPH	722	MEMBER	1962
					PETERSONS, OSKARS	722	MEMBER	1970
	-WG.01	LIGHTNING AND SWITCHING IMPULSE TEST	IEEE	NATL	HEBNER, ROBERT E.	722	MEMBER	1978
	-SC.08	TEMPERATURE AND ENVIRONMENTAL EFFECTS	IEEE	NATL	KOTTER, F. RALPH	722	MEMBER	1962
	-PES12	TRANSFORMERS						
	-SC.01	INSTRUMENT TRANSFORMER	IEEE	NATL	HILLHOUSE, DAVID L.	722	MEMBER	1975
	-PES13	TRANSMISSION AND DISTRIBUTION						
	-SC.01	CORONA AND FIELD EFFECTS						
	-WG.01	AC FIELDS	IEEE	NATL	MISAKIAN, MARTIN	722	MEMBER	1976
	-WG.02	BIOLOGICAL EFFECTS OF POWER FREQUENCY ELECTRIC AND MAGNETIC FIELDS	IEEE	NATL	MCKNIGHT, RONALD H.	722	MEMBER	5-80

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRE-TARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
IEEE	-SC.01	PSYCHOACOUSTICS						
	-WG.01	AUDIBLE NOISE	IEEE	NATL	MOLINO, JOHN A.	743	MEMBER	1979
IERI	-C001	RESEARCH EXECUTIVE COMMITTEE ON LIGHT AND VISION	US	NATL/I	RUBIN, ARTHUR I.	743	MEMBER	9-73
IES	-C004	COLOR COMMITTEE	IES	NATL	GLASS, ROBERT A.	743	MEMBER	10-80
					HOWETT, GERALD L.	743	MEMBER	1-73
	-C006	EMERGENCY LIGHTING COMMITTEE	IES	NATL	HOWETT, GERALD L.	743	MEMBER	11-72
	-C008	ENERGY MANAGEMENT	IES	NATL	YONEMURA, GARY T.	743	MEMBER	4-75
	-C010	PHOTOBIOLOGY	IES	NATL	KOSTKOWSKI, HENRY J.	534	MEMBER	5-78
					SAUNDERS, ROBERT D., JR.	534	ALT REP	7-78
	-C014	RECOMMENDATIONS FOR QUALITY AND QUANTITY OF ILLUMINATION	IES	NATL	HOWETT, GERALD L.	743	MEMBER	8-75
	TPC	TESTING PROCEDURES	IES	NATL	MCSPARRON, DONALD A.	534	MEMBER	6-77
IFCC	-C002	EXPERT PANEL ON INSTRUMENTATION						
	-SC.01	ATOMIC ABSORPTION	IFCC	INTL	EPSTEIN, MICHAEL S.	551	MEMBER	4-77
	-C004	SCIENTIFIC						
	-SC.01	ANALYTICAL SECTION						
	-WG.01	EXPERT PANEL ON PH AND BLOOD GASES	SWITZERLAND	INTL	DURST, RICHARD A.	552	SEC	1975
	-C006	COMMITTEE ON STANDARDS						
	-C.01	EXPERT PANEL ON DRUG EFFECTS IN CLINICAL CHEMISTRY	UNITED KINGDOM	INTL	REEDER, DENNIS J.	552	MEMBER	8-78
IIA	-C002	INTERNATIONAL EDP AUDITING	IIA	NATL	JEFFERY, SEYMOUR	640	TECHNICAL ADVISOR	2-78
IIW	015	FUNDAMENTALS OF DESIGN AND FABRICATION FOR WELDING	IIW	INTL	SMITH, JOHN H.	562	DELEGATE	2-78
IMCO	-C002	INTERGOVERNMENTAL MARITIME CONSULTATIVE ORGANIZATION						
	-SC.01	FIRE PROTECTION						
	-WG.01	AD HOC GROUP ON FIRE TEST METHODS	IMCO	INTL	ROBERTSON, ALEXANDER F.	750	CHAIR	11-78
IMEKO	TC002	PHOTON DETECTORS	HUNGARY	INTL	GEIST, JON C.	534	MEMBER	1-79
ISA	SP071	ENVIRONMENTAL CONDITIONS FOR PROCESS MEASUREMENT AND CONTROL SYSTEMS	ISA	NATL	BOYLE, DON R.	713	MEMBER	7-75
ISCC	-C004	MEMBER BODY DELEGATES TO INTER-SOCIETY COLOR COUNCIL	ISCC	NATL	HOWETT, GERALD L.	743	DELEGATE	8-75
ISO	INFCO	STANDING COMMITTEE FOR THE STUDY OF SCIENTIFIC & TECHNICAL INFORMATION ON STANDARDS	ISO	INTL	DONALDSON, JOHN L.	760	DELEGATE	8-80
	-C.01	ISONET MANAGEMENT BOARD	ISO	INTL	DONALDSON, JOHN L.	760	MEMBER	8-80
	TC021	EQUIPMENT FOR FIRE PROTECTION AND FIRE FIGHTING						
	SC.01	TERMINOLOGY, SYMBOLS, SIGNS, AND CLASSIFICATION OF FIRE	FRANCE	INTL	PIERMAN, BRIAN C.	743	DELEGATE	7-78
	SC.03	FIRE DETECTION AND ALARM SYSTEMS						
	WG.01	TEST FIRES	UNITED KINGDOM	INTL	BRIGHT, RICHARD G.	751	CONVENER	10-77

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRETARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
ISO	SC.05	FIXED FIRE EXTINGUISHING SYSTEMS						
	WG.01	SPRINKLER SYSTEMS	GERMANY	INTL	O'NEILL, JOHN G.	752	DELEGATE	10-78
	TC022	ROAD VEHICLES						
	SC.03	ELECTRICAL CONNECTIONS	GERMANY	INTL	CRAWFORD, MYRON L.	723	DELEGATE	6-77
	WG.03	ELECTRICAL INTERFERENCES	FRANCE	INTL	CRAWFORD, MYRON L.	723	VICE CHAIR	6-77
	TC028	PETROLEUM PRODUCTS						
	SC.03	STATIC PETROLEUM MEASUREMENT						
	WG.01	NON-TRADITIONAL METHODS FOR TANK CALIBRATION	SWITZERLAND	INTL	HAIGHT, WILLIAM C.	738	DELEGATE	12-78
	TC038	TEXTILES						
	SC.19	BURNING BEHAVIOR OF TEXTILES AND TEXTILE PRODUCTS	CANADA	INTL	WINGER, JAMES H.	753	DELEGATE	1973
	WG.02	APPAREL	AUSTRALIA	INTL	WINGER, JAMES H.	753	DELEGATE	1973
	WG.03	FURNISHINGS	WEST GERMANY	INTL	WINGER, JAMES H.	753	DELEGATE	1973
	WG.04	BURNING BEHAVIOR OF INDUSTRIAL TEXTILES	ENGLAND	INTL	WINGER, JAMES H.	753	DELEGATE	9-79
	WG.05	FLOOR AND WALL COVERINGS	FRANCE	INTL	WINGER, JAMES H.	753	DELEGATE	1973
	WG.06	RISK DATA ANALYSIS	US	INTL	WINGER, JAMES H.	753	DELEGATE	1973
	TC043	ACOUSTICS						
	SC.01	NOISE	DENMARK	INTL	YANIV, SIMONE L.	743	DELEGATE	7-79
	SC.02	BUILDING ACOUSTICS						
	WG.05	RATING AND SOUND INSULATION FOR BUILDINGS AND BUILDING ELEMENTS	DIN	INTL	YANIV, SIMONE L.	743	DELEGATE	7-79
	TC048	LABORATORY GLASSWARE AND RELATED APPARATUS						
	SC.01	VOLUMETRIC GLASSWARE	GERMANY	INTL	TAYLOR, JOHN K.	550	DELEGATE	1965
	TC057	METROLOGY AND PROPERTIES OF SURFACES						
	SC.02	ROUGHNESS COMPARISON SPECIMENS AND DEVICES FOR CALIBRATION OF INSTRUMENTS						
	WG.01	CALIBRATION SPECIMENS	UNITED KINGDOM	INTL	TEAGUE, E. CLAYTON	737	TECHNICAL ADVISOR	8-77
	TC085	NUCLEAR ENERGY						
	SC.01	TERMINOLOGY, DEFINITIONS, UNITS, AND SYMBOLS						
	WG.01	DEFINITIONS	US	INTL	GOLDMAN, DAVID T.	500	DELEGATE	1-69
					MCLAUGHLIN, WILLIAM L.	533	TECHNICAL ADVISOR	7-68
	SC.02	RADIATION PROTECTION						
	WG.02	PHOTOGRAPHIC DOSIMETERS AND REFERENCE RADIATION	DIN	INTL	EHRLICH, MARGARETE	533	DELEGATE	1-76
	WG.03	NEUTRON REFERENCE RADIATIONS	US	INTL	SCHWARTZ, ROBERT B.	532	DELEGATE	9-77
	SC.04	RADIOACTIVE SOURCES	POLAND	INTL	EISENHOWER, ELMER H.	530	DELEGATE	10-74
	TC092	FIRE TESTS ON BUILDING MATERIALS, COMPONENTS AND STRUCTURES						
	SC.01	REACTION TO FIRE						
	WG.02	COMBUSTIBILITY AND HEAT RELEASE	BSI	INTL	BENJAMIN, IRWIN A.	752	DELEGATE	1967
					ROBERTSON, ALEXANDER F.	750	DELEGATE	1976

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRE-TARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
ISO	WG.04	IGNITABILITY, FLAME SPREAD AND SMOKE GENERATION	BSI	INTL				
					BENJAMIN, IRWIN A.	752	DELEGATE	1967
					ROBERTSON, ALEXANDER F.	750	DELEGATE	1976
	SC.02	FIRE RESISTANCE						
	WG.03	FIRE RESISTANCE: DOORS, SHUTTERS AND GLAZED ELEMENTS	BSI	INTL				
					GROSS, DANIEL	750	DELEGATE	1974
	WG.11	FIRE RESISTANCE: GENERAL REQUIREMENTS	BSI	INTL	GROSS, DANIEL	750	DELEGATE	1974
	WG.14	VENTILLATION DUCTS	SWEDEN	INTL	GROSS, DANIEL	750	DELEGATE	1976
	SC.03	TOXIC HAZARDS IN FIRE	GENEVA	INTL	BIRKY, MERRITT M.	752	DELEGATE	1-76
					ROBERTSON, ALEXANDER F.	750	CONVENOR	11-75
	WG.07	ADVISORY AND LIAISON	BSI	INTL	ROBERTSON, ALEXANDER F.	750	DELEGATE	11-75
	WG.10	MEASURING INSTRUMENTS	BSI	INTL	ROBERTSON, ALEXANDER F.	750	DELEGATE	4-72
	WG.13	EXTERNAL EXPOSURE OF ROOFS	AFNOR	INTL	GROSS, DANIEL	750	DELEGATE	1976
	TC097	COMPUTERS AND INFORMATION PROCESSING						
	SC.01	VOCABULARY	ANSI	INTL	WALKOWICZ, JOSEPHINE L.	642	DELEGATE	1968
	SC.02	CHARACTER SETS AND CODING	FRANCE	INTL	LITTLE, JOHN L.	652	DELEGATE	1975
	WG.04	CODED CHARACTER SETS FOR TEXT COMMUNICATION	NETHERL ANDS	INTL	LITTLE, JOHN L.	652	DELEGATE	1978
	WG.05	CODING OF CHARACTER SETS FOR MICR AND OCR	GERMANY	INTL	LITTLE, JOHN L.	652	DELEGATE	1979
	SC.05	PROGRAMMING LANGUAGES						
	-WG.01	INTERNATIONAL COBOL EXPERTS GROUP	US	INTL	VICKERS, MABEL V.	641	DELEGATE	11-77
	SC.14	REPRESENTATIONS OF DATA ELEMENTS	ANSI	INTL	WHITE, HARRY S., JR.	600	CHAIR	1970
	SC.16	OPEN SYSTEMS INTERCONNECTION	US	INTL	HEAFNER, JOHN F.	651	DELEGATE	1979
	WG.05	WORKING GROUP 5	US	INTL	HEAFNER, JOHN F.	651	DELEGATE	1979
	WG.06	WORKING GROUP 6	US	INTL	HEAFNER, JOHN F.	651	DELEGATE	1979
	TC106	DENTISTRY	ANSI	INTL	RUPP, NELSON W.	563	DELEGATE	1970
					TESK, JOHN A.	563	DELEGATE	1980
	-WG.01	COLOR STABILITY TEST	GREAT BRITAIN	INTL	BRAUER, GERHARD M.	563	DELEGATE	1974
	TC107	METALLIC AND OTHER NON-ORGANIC COATINGS	ITALY	INTL	OGBURN, FIELDING	561	DELEGATE	1973
	SC.01	TERMINOLOGY	SWITZERLAND	INTL	OGBURN, FIELDING	561	DELEGATE	1974
	SC.02	METHODS OF INSPECTION AND CO-ORDINATION OF TEST METHODS	ITALY	INTL	OGBURN, FIELDING	561	DELEGATE	1973
	SC.03	ELECTRODEPOSITED COATINGS AND RELATED FINISHES	UNITED KINGDOM	INTL	OGBURN, FIELDING	561	DELEGATE	1973
	SC.07	CORROSION TESTS	POLAND	INTL	OGBURN, FIELDING	561	DELEGATE	1973
	TC146	AIR QUALITY	GERMANY	INTL	TAYLOR, JOHN K.	550	DELEGATE	1972
	SC.01	STATIONARY SOURCE EMISSIONS	US	INTL	TAYLOR, JOHN K.	550	DELEGATE	1972
	SC.02	WORK PLACE ATMOSPHERES	US	INTL	TAYLOR, JOHN K.	550	DELEGATE	1972
	SC.03	AMBIENT ATMOSPHERES	SWEDEN	INTL	TAYLOR, JOHN K.	550	DELEGATE	1972
	WG.08	DETERMINATION OF THE CONCENTRATION OF OZONE IN AIR	SWEDEN	INTL	HODGESON, JIMMIE A.	553	CHAIR	12-77
	SC.04	GENERAL ASPECTS	GERMANY	INTL	TAYLOR, JOHN K.	550	DELEGATE	1972
	TC147	WATER QUALITY	US	INTL	TAYLOR, JOHN K.	550	CHAIR	1972
	SC.02	PHYSICAL, CHEMICAL, AND BIOCHEMICAL METHODS	US	INTL	TAYLOR, JOHN K.	550	DELEGATE	1972
	TC154	DOCUMENTS AND DATA ELEMENTS IN ADMINISTRATION, COMMERCE, AND INDUSTRY	SIS	INTL	WHITE, HARRY S., JR.	600	DELEGATE	1974

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRETARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
ISO	SC.03	DATA ELEMENTS AND INTERCHANGE FORMATS	ANSI	INTL	WHITE, HARRY S., JR.	600	CHAIR	1974
	TC156	CORROSION OF METALS AND ALLOYS	USSR	INTL	UGIANSKY, GILBERT M.	500	DELEGATE	1978
	WG.02	STRESS CORROSION CRACKING	UNITED KINGDOM	INTL	UGIANSKY, GILBERT M.	500	DELEGATE	1978
	TC158	ANALYSIS OF GASES	FRANCE	INTL	HUGHES, ERNEST E.	553	DELEGATE	12-75
	SC.01	METHODS OF PREPARATION AND DEFINITION OF GAS MIXTURES FOR CALIBRATION	FRANCE	INTL	HUGHES, ERNEST E.	553	DELEGATE	12-75
	WG.01	TERMINOLOGY	ANSI	INTL	HUGHES, ERNEST E.	553	SEC	12-75
	WG.02	TRANSFER LINES AND SAMPLING	SPAIN	INTL	HUGHES, ERNEST E.	553	DELEGATE	12-75
	WG.03	EVALUATION OF THE CHARACTERISTICS OF ANALYZERS	FRANCE	INTL	HUGHES, ERNEST E.	553	DELEGATE	12-75
	WG.04	ANALYSIS OF NATURAL GASES	NETHERLANDS	INTL	HUGHES, ERNEST E.	553	DELEGATE	12-75
	WG.05	ANALYTICAL METHODS	FRANCE	INTL	HUGHES, ERNEST E.	553	DELEGATE	12-75
	TC163	THERMAL INSULATION	SWEDEN	INTL	POWELL, FRANK J.	790	DELEGATE	1976
	SC.01	TEST AND MEASUREMENT METHODS						
	WG.06	INTERNATIONAL ROUND ROBIN	SWEDEN	INTL	POWELL, FRANK J.	790	CHAIR	1976
	SC.02	CALCULATION METHODS	NORWAY	INTL	POWELL, FRANK J.	790	DELEGATE	1976
	WG.02	NON STEADY STATE	GERMANY	INTL	POWELL, FRANK J.	790	DELEGATE	1976
	TC171	MICROGRAPHICS						
	WG.06	MICROGRAPHICS EQUIPMENT	ANSI	INTL	BAGG, THOMAS C.	652	CHAIR	10-74
ISR	-C002	INTERNATIONAL COMMISSION ON RADIATION UNITS AND MEASUREMENT	ISR	INTL	CASWELL, RANDALL S.	532	SEC	1975
IUCR	-C002	CRYSTALLOGRAPHIC APPARATUS						
	-WG.01	X-RAY ABSORPTION COEFFICIENTS	UNITED KINGDOM	INTL	HUBBELL, JOHN H.	533	SEC	6-78
IUPAC	-C002	INTERDIVISIONAL COMMITTEE ON NOMENCLATURE AND SYMBOLS	UNITED KINGDOM	INTL	LIDE, DAVID R., JR.	504	ASSOCIATE MEMBER	1976
	001	PHYSICAL CHEMISTRY DIVISION						
	C.01.1	PHYSICOCHEMICAL SYMBOLS, TERMINOLOGY, AND UNITS	UNITED KINGDOM	INTL	LIDE, DAVID R., JR.	504	CHAIR	1971
	C.01.2	COMMISSION ON THERMODYNAMICS	UNITED KINGDOM	INTL	ARMSTRONG, GEORGE T.	543	MEMBER	8-77
	-SC.01	EXPRESSION OF UNCERTAINTIES OF EXPERIMENTAL THERMODYNAMIC DATA	UNITED KINGDOM	INTL	ARMSTRONG, GEORGE T.	543	MEMBER	11-77
					HAAR, LESTER	544	MEMBER	12-69
	-SC.02	THERMODYNAMIC TABLES	UNITED KINGDOM	INTL	WHITE, HOWARD J., JR.	504	SEC	9-73
	C.01.5	MOLECULAR STRUCTURE AND SPECTROSCOPY						
	-SC.01	NOTATIONS AND CONVENTIONS FOR MOLECULAR SPECTROSCOPY	IUPAC	INTL	HOUGEN, JON T.	545	MEMBER	11-79
	002	INORGANIC CHEMISTRY DIVISION	ENGLAND	INTL	HORTON, WILLIAM S.	561	MEMBER	1977

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRE-TARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
IUPAC	C.02.1	ATOMIC WEIGHTS	IUPAC	INTL	MURPHY, THOMAS J.	551	MEMBER-TITULAR	1-80
	-SC.01	ASSESSMENT OF ISOTOPIC ABUNDANCES	IUPAC	INTL	BARNES, I. L.	551	MEMBER	8-75
	C.02.2	NOMENCLATURE OF INORGANIC CHEMISTRY	IUPAC	INTL	COYLE, THOMAS D.	561	SEC	1977
	C.02.3	HIGH TEMPERATURES AND REFRACTORY MATERIALS	ENGLAND	INTL	HORTON, WILLIAM S.	561	MEMBER	1973
	-SC.01	CHARACTERIZATION AND TERMINOLOGY OF CARBON	ENGLAND	INTL	HORTON, WILLIAM S.	561	VICE CHAIR	8-78
	005	ANALYTICAL CHEMISTRY DIVISION						
	C.05.5	ELECTROANALYTICAL CHEMISTRY	UNITED KINGDOM	INTL	DURST, RICHARD A.	552	MEMBER	1979
	C.05.8	SOLUBILITY DATA	UK	INTL	GEVANTMAN, LEWIS H.	504	SEC	1979
IUPAC-IUB-IUPAB	-C002	INTERUNION COMMISSION ON BIOTHERMODYNAMICS	UNITED KINGDOM	INTL	ARMSTRONG, GEORGE T.	543	MEMBER	1975
	-WG.01	KEY VALUES FOR BIOTHERMODYNAMICS	UNITED KINGDOM	INTL	ARMSTRONG, GEORGE T.	543	CHAIR	1977
	-WG.02	CLASSIFICATION AND CHARACTERIZATION OF CALORIMETERS	UNITED KINGDOM	INTL	ARMSTRONG, GEORGE T.	543	CHAIR	12-78
	-WG.03	CLASSIFICATION OF CALORIMETRIC INSTRUMENTS	UNITED KINGDOM	INTL	ARMSTRONG, GEORGE T.	543	COORDINATOR	1978
JCPDS-ICDD	-C002	JCPDS-INTERNATIONAL CENTRE FOR DIFFRACTION DATA	JCPDS	NATL/I	BLOCK, STANLEY	565	MEMBER	1966
					HUBBARD, CAMDEN R.	565	MEMBER	1-74
	-C.01	TECHNICAL COMMITTEE	JCPDS-ICDD	NATL/I	HUBBARD, CAMDEN R.	565	MEMBER	1-76
	-SC.01	EDUCATION SUBCOMMITTEE	JCPDS-ICDD	NATL/I	HUBBARD, CAMDEN R.	565	CHAIR	1-74
	-SC.02	COMPUTER DATA BASE	JCPDS-ICDD	NATL/I	HUBBARD, CAMDEN R.	565	MEMBER	1-74
	-WG.01	DATA BASE (AIDS)	JCPDS-ICDD	NATL/I	HUBBARD, CAMDEN R.	565	CHAIR	7-78
	-WG.02	CHEMICAL INFORMATION SYSTEM	JCPDS-ICDD	NATL/I	HUBBARD, CAMDEN R.	565	MEMBER	10-78
	-C.02	BOARD OF DIRECTORS	JCPDS-ICDD	NATL/I	HUBBARD, CAMDEN R.	565	MEMBER	3-80
	-SC.01	LONG RANGE PLANNING	JCPDS-ICDD	NATL/I	HUBBARD, CAMDEN R.	565	MEMBER	3-80
JEDEC	JC013.1	GOVERNMENT LIAISON FOR DISCRETE SEMICONDUCTOR DEVICES	EIA	NATL	OETTINGER, FRANK F.	721	TECHNICAL ADVISOR	1-75
	JC022	RECTIFIER DIODES AND THYRISTORS	EIA	NATL	OETTINGER, FRANK F.	721	TECHNICAL ADVISOR	11-70
	JC025	LOW FREQUENCY POWER TRANSISTORS	EIA	NATL	BLACKBURN, DAVID L.	721	MEMBER	6-76

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRE-TARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
JEDEC					OETTINGER, FRANK F.	721	TECHNICAL ADVISOR	11-70
JPL	-C002	HYDROGEN MASER COMPARISON TEST FORMAL REVIEW BOARD	JPL	NATL	BARNES, JAMES A.	524	TECHNICAL ADVISOR	2-80
MPC	007	FRACTURE TOUGHNESS	MPC	NATL	SMITH, JOHN H.	562	MEMBER	1-77
NACE	-C002	UNDERGROUND CORROSION CONTROL	NACE	NATL	ESCALANTE, EDWARD	561	MEMBER	1976
	T003	CORROSION SCIENCE AND TECHNOLOGY	NACE	NATL	KRUGER, JEROME	561	MEMBER	1-66
	SC.L	ELECTROCHEMICAL TECHNIQUES FOR CORROSION MEASUREMENT AND CONTROL	NACE	NATL	IVERSON, WARREN P.	561	MEMBER	1975
NAS	-C008	ASTRONOMY SURVEY						
	-WG.01	SOLAR PHYSICS	NAS	NATL	LINSKY, JEFFREY L.	525	MEMBER	5-79
NAS/ NRC	-C014	SPACE SCIENCE BOARD	NAS/ NRC	NATL	BENDER, PETER L.	525	MEMBER	7-77
	-SC.01	EARTH SCIENCES	NAS/ NRC	NATL	BENDER, PETER L.	525	MEMBER	7-77
	-SC.03	SPACE ASTRONOMY AND ASTROPHYSICS	NRC	NATL	LINSKY, JEFFREY L.	525	MEMBER	8-79
	-C018	FUNDAMENTAL CONSTANTS	NAS/ NRC	NATL	HALL, JOHN L.	525	MEMBER	1977
	-C020	US NATIONAL COMMITTEE FOR URSI						
	-SC.01	COMMISSION A: ELECTROMAGNETIC METROLOGY	NAS/ NRC	NATL/I	ANDREWS, JAMES R.	724	MEMBER	12-74
					NAHMAN, NORRIS S.	724	MEMBER	1966
NASA	-C008	APPLICATIONS STEERING COMMITTEE						
	-SC.01	SUPPORTING RESEARCH AND TECHNOLOGY	NASA	NATL	MANNING, JOHN R.	564	MEMBER	11-78
	-C010	LABORATORY MEASUREMENT COMMITTEE OF THE NASA CHLOROFLUOROMETHANE ASSESSMENT PROGRAM	NASA	NATL	HAMPSON, ROBERT F., JR.	542	MEMBER	10-76
					KURYLO, MICHAEL J., III	542	MEMBER	7-78
	-C012	SPACE AND TERRESTRIAL APPLICATIONS STEERING COMMITTEE						
	-SC.01	PROPOSAL EVALUATION ADVISORY COMMITTEE	NASA	NATL	CORIELL, SAM R.	564	MEMBER	7-80
NBS	-C008	FEDERAL INFORMATION PROCESSING STANDARDS COORDINATING AND ADVISORY COMMITTEE						
	WG.09	COBOL STANDARDS	NBS	NATL	VICKERS, MABEL V.	641	CHAIR	7-71
	WG.14	DOCUMENTATION FOR INFORMATION PROCESSING	NBS	NATL	LEONG-HONG, BELKIS W.	642	MEMBER	1-78
	WG.17	DATA ELEMENTS DICTIONARY/DIRECTORY	NBS	NATL	LEONG-HONG, BELKIS W.	642	MEMBER	3-76
	WG.20	USER-TERMINAL PROTOCOLS	NBS	NATL	ROSENTHAL, ROBERT	650	MEMBER	6-75
	-C018	FEDERAL COBOL INTERPRETATIONS	NBS	NATL	VICKERS, MABEL V.	641	CHAIR	6-74
	-C020	US ADVISORY COMMITTEE FOR OIML (ACILM)	NBS	NATL/I	BRICKENKAMP, CARROLL S.	511	ALT REP	1976
					EDGERLY, DAVID E.	513	SEC	1974
					MCCOUBREY, ARTHUR O.	510	CHAIR	1978
					THOLEN, ALBERT D.	511	MEMBER	1978
					WARNLOF, OTTO K.	511	TECHNICAL ADVISOR	1978
					WOLLIN, HAROLD F.	511	ALT REP	3-78
	-C022	INTERAGENCY POLICY COMMITTEE ON PERSONNEL RADIATION MONITORING TESTING	NBS	NATL	EISENHOWER, ELMER H.	530	CHAIR	4-79

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRE-TARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
NBS	PS05	MEASUREMENT OF VOLUMES OF LIQUIDS						
	-WG.01	USNWG FOR OIML/PS5, MEASUREMENT OF VOLUMES OF LIQUIDS	NBS	NATL/I	WARNLOF, OTTO K.	511	MEMBER	1975
	PS07	MEASUREMENT OF MASS						
	-WG.01	USNWG FOR OIML/PS7, MEASUREMENT OF MASS	NBS	NATL/1	OPPERMANN, HENRY V.	511	MEMBER	1977
	RS1	TERMINOLOGY						
	-WG.01	USNWG FOR OIML/PS7/RS1, TERMINOLOGY	NBS	NATL/I	WARNLOF, OTTO K.	511	MEMBER	1977
	RS2	MASS MEASUREMENT GENERAL QUESTIONS						
	-WG.01	USNWG FOR OIML/PS7/RS2, MASS MEASUREMENT GENERAL QUESTIONS	NBS	NATL/I	WARNLOF, OTTO K.	511	MEMBER	1977
	RS7	IN SERVICE CONTROL PROCEDURES						
	-WG.01	USNWG FOR OIML/PS7/RS7, IN SERVICE CONTROL PROCEDURES	NBS	NATL/I	OPPERMANN, HENRY V.	511	SEC	12-77
					WARNLOF, OTTO K.	511	MEMBER	1975
	RS8	LOAD CELLS						
	-WG.01	USNWG FOR OIML/PS7/RS8, LOAD CELLS	NBS	NATL/1	EDGERLY, DAVID E.	513	SEC	1976
					WARNLOF, OTTO K.	511	MEMBER	1977
	PS12	MEASUREMENT OF TEMPERATURE AND CALORIFIC ENERGY						
	RS4	ELECTRICAL THERMISTOR THERMOMETERS						
	-WG.01	USNWG FOR OIML/PS12/RS4, ELECTRICAL THERMISTOR THERMOMETERS	NBS	NATL/I	MANGUM, B. W.	522	MEMBER	10-75
	PS13	MEASUREMENT OF ELECTRICAL AND MAGNETIC QUANTITIES						
	-WG.01	USNWG FOR OIML/PS13, MEASUREMENT OF ELECTRICAL AND MAGNETIC QUANTITIES	NBS	NATL/I	BELECKI, NORMAN B.	521	MEMBER	11-74
	PS19	MEASUREMENT OF THE CHARACTERISTICS OF MATERIALS						
	RS2	MACHINES FOR TESTING MATERIALS						
	-WG.01	USNWG FOR OIML/PS19/RS2, MACHINES FOR TESTING MATERIALS	NBS	NATL/1	EDGERLY, DAVID E.	513	SEC	1976
	RS5	STRAIN GAUGES						
	-WG.01	USNWG FOR OIML/PS19/RS5, STRAIN GAUGES	NBS	NATL/I	PHUCAS, CHARLES B.	110	MANAGER	1975
	PS22	PRINCIPLES OF METROLOGICAL CONTROL						
	RS3	PRINCIPLES ON WHICH PATTERN EVALUATION WILL BE CONDUCTED						
	-WG.01	USNWG FOR OIML/PS22/RS3, PRINCIPLES ON WHICH PATTERN EVALUATION WILL BE CONDUCTED	NBS	NATL/I	EDGERLY, DAVID E.	513	CHAIR	1976
	RS4	PRINCIPLES FOR INITIAL AND SUBSEQUENT VERIFICATION AND CALIBRATION OF INSTRUMENTS						
	-WG.01	USNWG FOR OIML/PS22/RS4, PRINCIPLES FOR VERIFICATION AND CALIBRATION OF INSTRUMENTS	NBS	NATL/I	EDGERLY, DAVID E.	513	CHAIR	1976
	RS6	PRINCIPLES OF ASSURANCE OF METROLOGICAL CONTROL						
	-WG.01	PRINCIPLES OF ASSURANCE OF METROLOGICAL CONTROL	NBS	NATL/I	BELANGER, BRIAN C.	512	CHAIR	9-77

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRE-TARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
NBS	PS27	GENERAL PRINCIPLES FOR THE USE OF REFERENCE MATERIALS IN LEGAL METROLOGY						
	RS2	CLASSIFICATION OF REFERENCE MATERIALS						
	-WG.01	USNWG FOR OIML/PS27/RS2, CLASSIFICATION OF REFERENCE MATERIALS	NBS	NATL/I				
					URIANO, GEORGE A.	503	CHAIR	1976
NCCLS	-C002	AREA COMMITTEE ON CLINICAL CHEMISTRY	NCCLS	NATL	SCHAFFER, ROBERT	552	MEMBER	I-74
	-SC.01	ENZYME ASSAY CONDITION						
	-WG.01	TEMPERATURE MEASUREMENT AND CONTROL	NCCLS	NATL	MANGUM, B. W.	522	MEMBER	1976
	-SC.02	CONTROL MATERIALS	US	NATL	MANDEL, JOHN	500	MEMBER	1974
					SCHAFFER, ROBERT	552	MEMBER	I-73
	-SC.03	QUANTITIES AND UNITS	NCCLS	NATL	SCHAFFER, ROBERT	552	MEMBER	I-73
	-SC.04	TOTAL PROTEIN	US	NATL	REEDER, DENNIS J.	552	MEMBER	II-75
	-SC.05	PH AND BLOOD GASES	NCCLS	NATL	DURST, RICHARD A.	552	MEMBER	1975
	-SC.06	SPECIFIC PLASMA PROTEINS	NCCLS	NATL	REEDER, DENNIS J.	552	CHAIR	I2-78
	-C010	AREA COMMITTEE ON INSTRUMENTATION						
	-SC.01	TEMPERATURE	NCCLS	NATL	MANGUM, B. W.	522	SEC	1974
	-SC.02	ELECTROANALYTICAL CHEMISTRY	NCCLS	NATL	DURST, RICHARD A.	552	MEMBER	1979
	-C012	NOMENCLATURE AND DEFINITIONS	US	NATL	URIANO, GEORGE A.	503	MEMBER	6-78
	-C014	NATIONAL REFERENCE SYSTEM IN CLINICAL CHEMISTRY						
	-SC.01	NOMENCLATURE AND DEFINITIONS	NCCLS	NATL	SCHAFFER, ROBERT	552	MEMBER	3-78
	-C016	NATIONAL COMMITTEE FOR CLINICAL LABORATORY STANDARDS	NCCLS	NATL	HERTZ, HARRY S.	552	MEMBER	9-79
NCRP	-C002	NATIONAL COUNCIL ON RADIATION PROTECTION AND MEASUREMENTS	NCRP	NATL				
					CASWELL, RANDALL S.	532	MEMBER	1967
					SPENCER, LEWIS V.	533	MEMBER	1978
	-C.01	BOARD OF DIRECTORS	NCRP	NATL	CASWELL, RANDALL S.	532	MEMBER	1976
	SC.52	CONCEPTUAL BASIS OF CALCULATIONS OF DOSE DISTRIBUTIONS	NCRP	NATL	SPENCER, LEWIS V.	533	MEMBER	1980
	SC.63	RADIATION EXPOSURE CONTROL FOLLOWING A NUCLEAR EMERGENCY	NCRP	NATL	SPENCER, LEWIS V.	533	CHAIR	1980
	-C006	AD HOC COMMITTEE ON SI UNITS	NCRP	NATL	CASWELL, RANDALL S.	532	CHAIR	1978
	018A	STANDARDS AND MEASUREMENT OF RADIOACTIVITY FOR RADIOLOGICAL USE	US	NATL	MANN, WILFRID B.	532	CHAIR	8-72
	026	HIGH-ENERGY X-RAY DOSIMETRY	NCRP	NATL	LOEVINGER, ROBERT	533	MEMBER	1970
NCS	-C002	FEDERAL TELECOMMUNICATION STANDARDS COMMITTEE	NCS	NATL	GRUBB, DANA S.	652	ALT REP	I2-79
					MOORE, RAYMOND T.	652	MEMBER	12-78
NCSL	-C002	MEASUREMENT ASSURANCE	NBS	NATL	BELANGER, BRIAN C.	512	MEMBER	1977
					BELECKI, NORMAN B.	521	MEMBER	1975
NCWM	-C002	SPECIFICATIONS AND TOLERANCE	NBS	NATL	WARNLOF, OTTO K.	511	TECHNICAL ADVISOR	1967
	-C004	LAWS AND REGULATIONS	NBS	NATL	VADELUND, ERIC A.	760	STAFF ADVISER	3-79
					WOLLIN, HAROLD F.	511	SEC	1967
	-C006	SPECIFICATIONS AND TOLERANCE	NBS	NATL	WOLLIN, HAROLD F.	511	SEC	1967
NFPA	-C002	AIR CONDITIONING	NFPA	NATL	BENJAMIN, IRWIN A.	752	MEMBER	1973
	-C006	AUTOMATIC SPRINKLERS	NFPA	NATL	CUSTER, RICHARD L. P.	753	ALT REP	6-74
					O'NEILL, JOHN G.	752	MEMBER	I0-77
	-C018	BUILDING CONSTRUCTION	NFPA	NATL	NELSON, HAROLD E.	752	CHAIR	1973
	-SC.01	PLASTICS IN BUILDING CONSTRUCTION	NFPA	NATL	DAVIS, SANFORD	753	CHAIR	3-80

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRE-TARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
NFPA	-C020	CHIMNEYS AND OTHER HEAT AND VAPOR REMOVAL EQUIPMENT						
	-SC.01	CHIMNEYS, FIREPLACES, AND VENTING SYSTEMS FOR HEAT PRODUCING APPLIANCES	NFPA	NATL	PEACOCK, RICHARD D.	753	MEMBER	9-78
	-C030	DWELLING FIRE PREVENTION AND PROTECTION	NFPA	NATL	BUCHBINDER, BENJAMIN	752	ALT REP	1-80
	-C048	FIRE DEPARTMENT EQUIPMENT						
	-SC.03	FIRE DETECTION EQUIPMENT	NEMA	NATL/I	BRIGHT, RICHARD G.	751	MEMBER	1974
	-C052	FIRE DOORS AND WINDOWS	NFPA	NATL	VOGEL, BERTRAM M.	752	MEMBER	4-77
	-C064	FIRE REPORTING	NFPA	NATL	BUCHBINDER, BENJAMIN	752	MEMBER	1-75
					GOMBERG, ALAN	752	ALT REP	1-79
	-C080	FIRE TESTS	NFPA	NATL	BENJAMIN, IRWIN A.	752	MEMBER	1973
	-SC.03	INTERIOR FURNISHINGS	NFPA	NATL	DAVIS, SANFORD	753	MEMBER	6-75
	-WG.01	SMOKE AND HEAT RELEASE	NFPA	NATL	ROBERTSON, ALEXANDER F.	750	MEMBER	1974
	-C142	RAIL RAPID TRANSIT SYSTEMS	NFPA	NATL	DAVIS, SANFORD	753	MEMBER	6-76
	-C144	RECORD PROTECTION	NFPA	NATL	NELSON, HAROLD E.	752	MEMBER	1959
	-C146	SAFETY TO LIFE	NFPA	NATL	BENJAMIN, IRWIN A.	752	MEMBER	1973
	-SC.03	HEALTH CARE OCCUPANCIES	NFPA	NATL	NELSON, HAROLD E.	752	MEMBER	8-75
	-SC.04	RESIDENTIAL OCCUPANCIES	NFPA	NATL	BENJAMIN, IRWIN A.	752	CHAIR	1980
					VOGEL, BERTRAM M.	752	SEC	11-76
	-SC.05	MEANS OF EGRESS	NFPA	NATL	MORDFIN, LEONARD	501	MEMBER	3-78
					VOGEL, BERTRAM M.	752	MEMBER	10-79
	-C150	SIGNALING SYSTEMS						
	-SC.02	DETECTION DEVICES	NFPA	NATL	BUKOWSKI, RICHARD W.	752	MEMBER	4-76
	-SC.02.1	SMOKE DETECTORS (CHAPTER 4)	NFPA	NATL	BUKOWSKI, RICHARD W.	752	MEMBER	4-76
	-SC.02.2	GAS DETECTORS (CHAPTER 6)	NFPA	NATL	BUKOWSKI, RICHARD W.	752	MEMBER	4-76
	-SC.03	HOUSEHOLD FIRE WARNING EQUIPMENT	NFPA	NATL	BRIGHT, RICHARD G.	751	CHAIR	1973
	-SC.04	PROTECTIVE SIGNALING SYSTEMS	NFPA	NATL	BUKOWSKI, RICHARD W.	752	MEMBER	6-76
	-C154	STATIC ELECTRICITY	NFPA	NATL	BRAUN, EMIL	753	MEMBER	7-80
	-C156	BOARD OF DIRECTORS	NFPA	NATL/I	LYONS, JOHN W.	700	MEMBER	5-78
	-C160	STANDARDS COUNCIL	NFPA	NATL	HUGGETT, CLAYTON	750	MEMBER	9-79
	-C164	PROTECTION EQUIPMENT FOR FIREFIGHTERS						
	-SC.01	FIREFIGHTER HEAD PROTECTION	NFPA	NATL	CALVANO, NICHOLAS J.	763	MEMBER	6-76
	-C166	MINING FACILITIES	NFPA	NATL	WINGER, JAMES H.	753	MEMBER	10-77
	-C180	APPLICATION OF SYSTEMS CONCEPTS TO STRUCTURES	NFPA	NATL	NELSON, HAROLD E.	752	MEMBER	1973
	-C182	FIRE SAFETY SYMBOLS	NFPA	NATL	LERNER, NEIL D.	743	ALT REP	8-80
					PIERMAN, BRIAN C.	743	CHAIR	9-78
	-SC.01	VISUAL ALERTING SYMBOLS	NFPA	NATL	COLLINS, BELINDA L.	743	ALT REP	11-79
					LERNER, NEIL D.	743	CHAIR	8-80
					PIERMAN, BRIAN C.	743	CHAIR	9-78
	-SC.02	GRAPHIC DISPLAY SYMBOLS	NFPA	NATL	STAHL, FRED I.	743	CHAIR	11-80
	-C184	FIRE SAFETY FOR MANUFACTURED BUILDINGS	NFPA	NATL	KLEIN, DAVID P.	753	MEMBER	8-79
NMAB	-C002	ASSESSMENT OF CURRENT HG CD TE PRODUCTION TECHNOLOGY	NMAB	NATL	BULLIS, W. MURRAY	721	LIAISON REPRESENTATIVE	12-79
	-C004	ASSESSMENT OF THE IMPACT OF THE DOD VERY HIGH SPEED INTEGRATED CIRCUITS (VHSIC)	NMAB	NATL	BULLIS, W. MURRAY	721	LIAISON REPRESENTATIVE	4-80

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRETARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
NMAB	-C006	PREPARATION OF ULTRA-HIGH PURITY, LOW-BORON SILICON	NMAB	NATL	BULLIS, W. MURRAY	721	LIAISON REPRESENTATIVE	8-78
NRAO	-C002	USER'S COMMITTEE	NRAO	NATL	JOHNSON, DONALD R.	500	MEMBER	1975
NRC	-C006	VISION						
	WG.41	PROCEDURES FOR TESTING COLOR VISION	NRC	NATL	HOWETT, GERALD L.	743	MEMBER	7-73
	-C008	LINE SPECTRA OF THE ELEMENTS	NRC	NATL	READER, JOSEPH	531	MEMBER	9-74
	-C010	ADVISORY COMMITTEE ON FUNDAMENTAL CONSTANTS OF THE NUMERICAL DATA ADVISORY BOARD	NAS	NATL/I	TAYLOR, BARRY N.	521	MEMBER	1-69
	-C014	SPACE SCIENCE BOARD						
	-SC.02	AD HOC COMMITTEE ON GRAVITATIONAL PHYSICS	NRC	NATL	BENDER, PETER L.	525	MEMBER	5-78
	-C016	SOLID STATE SCIENCES	NRC	NATL	THOMSON, ROBB M.	560	SFC	1976
	-C018	FEDERAL CONSTRUCTION COUNCIL						
	-C.01	STANDING COMMITTEE ON ELECTRICAL ENGINEERING	BRAB	NATL	FAISON, THOMAS K.	745	MEMBER	6-80
	-C.02	STANDING COMMITTEE ON SIGNS AND SYMBOLS	BRAB	NATL	GLASS, ROBERT A.	743	VICE CHAIR	9-77
	-C.03	STANDING COMMITTEE ON FIRE PROTECTION AND SAFETY ENGINEERING	BRAB	NATL	O'NEILL, JOHN G.	752	MEMBER	9-77
	-C.04	STANDING COMMITTEE ON STRUCTURAL ENGINEERING	BRAB	NATL	LEYENDECKER, EDGAR V.	741	MEMBER	1978
NSF	-C002	ATOMIC AND MOLECULAR PHYSICS GROUP	NSF	NATL	TAYLOR, BARRY N.	521	MEMBER	11-76
OIML	CIML	INTERNATIONAL COMMITTEE OF LEGAL METROLOGY	BIML	INTL	MCCOUBREY, ARTHUR O.	510	DELEGATE	1978
	PS05	MEASUREMENT OF VOLUMES OF LIQUIDS						
	RS.15	METERS AND MEASURING SYSTEMS FOR CRYOGENIC LIQUIDS	US	INTL	MANN, DOUGLAS B.	773	VICE CHAIR	1977
	PS07	MEASUREMENT OF MASS	US	INTL	WARNLOF, OTTO K.	511	TECHNICAL ADVISOR	1977
	PS12	MEASUREMENT OF TEMPERATURE AND CALORIFIC ENERGY	WEST GERMANY	INTL	SCHOOLEY, JAMES F.	522	DELEGATE	1975
	PS13	MEASUREMENT OF ELECTRICAL AND MAGNETIC QUANTITIES	US	INTL	TAYLOR, BARRY N.	521	TECHNICAL ADVISOR	9-77
	RS.01	INTL COMPATIBILITY OF NATIONAL PRIMARY STANDARDS USED FOR INSTRUMENT VERIFICATION	US	INTL	BELECKI, NORMAN B.	521	DELEGATE	11-74
					TAYLOR, BARRY N.	521	TECHNICAL ADVISOR	11-74
	PS16	IONIZING RADIATIONS						
	RS.01	DOSIMETERS AND PROTECTIVE INSTRUMENTS	SWITZERLAND	INTL	LOEVINGER, ROBERT	533	MEMBER	1976
	RS.02	SECONDARY STANDARD DOSIMETRY LABORATORIES	HUNGARY	INTL	LOEVINGER, ROBERT	533	MEMBER	1976
	PS18	MEASUREMENT OF CHARACTERISTICS OF FOOD PRODUCTS						
	RS.01	INSTRUMENTS FOR MEASURING THE MOISTURE CONTENT OF CEREAL GRAINS AND OILSEEDS	FRANCE	INTL	BRICKENKAMP, CARROLL S.	511	TECHNICAL ADVISOR	1976
OSA	-C004	STANDARDS	OSA	NATL	FELDMAN, ALBERT	565	MEMBER	11-80

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRETARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
RILEM	-C002	INTERNATIONAL UNION OF TESTING AND RESEARCH LABORATORIES FOR MATERIALS AND STRUCTURE	FRANCE	INTL	WRIGHT, JAMES R.	700	VICE PRESIDENT	10-79
	-C006	GENERAL ACTIVITIES	FRANCE	INTL	CULLEN, WILLIAM C.	780	CHAIR	9-75
	-SC.01	COORDINATING GROUP	FRANCE	INTL	CULLEN, WILLIAM C.	780	CHAIR	9-75
RTCA	-C002	RADIO TECHNICAL COMMISSION FOR AERONAUTICS						
	SC.133	SPECIAL COMMITTEE ON AIRBORNE WEATHER AND GROUND MAPPING PULSED RADARS	RTCA	NATL	GLASS, ROBERT A.	743	MEMBER	9-79
SAE	-C002	ELECTRONIC SYSTEMS	SAE	NATL/I	CRAWFORD, MYRON L.	723	MEMBER	1975
	-C.01	STEERING COMMITTEE	SAE	NATL	OETTINGER, FRANK F.	721	TECHNICAL ADVISOR	6-74
	-SC.01	EMI STANDARDS AND TEST METHODS	SAE	NATL	CRAWFORD, MYRON L.	723	CHAIR	1973
	-C006	FUEL SUPPLY SYSTEMS	SAE	NATL	HASKO, STEPHEN	511	MEMBER	3-73
	-C008	SPEEDOMETER AND TACHOMETER	SAE	NATL	HASKO, STEPHEN	511	MEMBER	4-70
	-C012	IRON AND STEEL						
	SC.25	NONDESTRUCTIVE TEST METHODS	SAE	NATL	MORDFIN, LEONARD	501	MEMBER	2-78
	A002	AEROSPACE ELECTRICAL AND ELECTRONIC EQUIPMENT						
	WG.H	FIBER OPTICS	SAE	NATL	DAY, GORDON W.	724	MEMBER	2-80
	A004	AIRCRAFT INSTRUMENTS	SAE	NATL	GLASS, ROBERT A.	743	MEMBER	9-79
	A020	AIRCRAFT LIGHTING	SAE	NATL	GLASS, ROBERT A.	743	MEMBER	9-79
	AE004	EMC						
	SC.88	EMC ANTENNAS	SAE	NATL	TAGGART, HAROLD E.	723	CHAIR	1974
	E033	IN-FLIGHT PROPULSION MEASUREMENT AND UNCERTAINTY	SAE	NATL	ROSENBLATT, JOAN R.	710	CONSULTANT	11-78
	F	ELECTRONIC MATERIALS AND PROCESSES	SAE	NATL	BULLIS, W. MURRAY	721	MEMBER	1970
SEMI	-C001	STANDARDS COMMITTEE	SEMI	NATL	SCACE, ROBERT I.	721	MEMBER	5-75
SFPE	-C002	MEASUREMENT OF FIRE PHENOMENA	SFPE	NATL	NELSON, HAROLD E.	752	MEMBER	1-75
SNM	-C002	MEDICAL INTERNAL RADIATION DOSE	SNM	NATL	LOEVINGER, ROBERT	533	MEMBER	1968
SSPC	-C002	STEEL STRUCTURES PAINTING COUNCIL	SSPC	NATL	CAMPBELL, PAUL G.	741	MEMBER	1970
SSS	-C002	STANDARDS						
	-WG.01	HUMAN FACTORS	SSS	NATL	VAN COTT, HAROLD P.	761	CHAIR	6-79
TAPPI	-C002	BINDERS COMMITTEE	TAPPI	NATL	BLANCHARD, DAVID B.	560	MEMBER	6-72
	-C014	SYNTHETIC PAPERS	TAPPI	NATL	FLETCHER, DONALD G.	560	SEC	1974
	-C018	STOCK PREPARATION	TAPPI	NATL	HERMSEN, KENNETH F.	560	VICE CHAIR	4-76
URSI	-C004	INTERNATIONAL SCIENTIFIC RADIO UNION	URSI	INTL	BARNES, JAMES A.	524	DELEGATE	1968
US CONGRESS	-C002	JOINT COMMITTEE ON PRINTING						
	-C.01	PAPER SPECIFICATIONS AND STANDARDS	JCP	NATL	FLETCHER, DONALD G.	560	MEMBER	4-77
USCC	-C002	COMMITTEE ON STANDARDS	USCC	NATL	GOLDBERG, ROBERT N.	543	MEMBER	1973
USFA	-C002	FEDERAL FACILITIES DESIGN STANDARDS						
	-WG.01	FIRE PROTECTION	USFA	NATL	O'NEILL, JOHN G.	752	MEMBER	7-77
USGS	-C002	INTERAGENCY WORK GROUP ON RECOMMENDED METHODS FOR WATER DATA ACQUISITION						
	WG.05	METHODS FOR CHEMICAL QUALITY	USGS	NATL	ROOK, HARRY L.	553	MEMBER	1976
	WG.05F	RADIOACTIVE METHODS	USGS	NATL	ROOK, HARRY L.	553	CHAIR	1976
USNC/CIE	-C002	US NATIONAL COMMITTEE FOR CIE	USNC/CIE	NATL/I	GLASS, ROBERT A.	743	MEMBER	1980
					HOWETT, GERALD L.	743	MEMBER	9-72

PARENT ORG.	ACTIVITY NUMBER	ACTIVITY NAME	SECRE-TARIAT	TYPE	NAME	DIV.	POSITION HELD	DT. OF APPT.
USNC/ CIE					MIELENZ, KLAUS D.	500	MEMBER	1975
					NICODEMUS, FRED E.	534	MEMBER-AT-LARGE	2-78
					TECH, JACK L.	534	SEC	1-76
	-C.01	EXECUTIVE COMMITTEE	USNC/ CIE	NATL/I	TECH, JACK L.	534	SEC	1-76
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WRC	-C.01	MATERIALS DIVISION						
	-SC.01	HYDROGEN EMBRITTLEMENT	WRC	NATL	INTERRANTE, CHARLES G.	562	MEMBER	1965
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	-WG.01	FIELD WELDING	WRC	NATL	KASEN, MAURICE B.	562	MEMBER	1977

AA	Aluminum Association
AAAS	American Association for the Advancement of Science
AACC	American Association of Clinical Chemistry
AAMA	Architectural Aluminum Manufactuers Association
AAMI	Association for the Advancement of Medical Instrumentation
AAMVA	American Association of Motor Vehicle Administrators
AAPM	American Association of Physicists in Medicine
AASHTO	American Association of State Highway and Transportation Officials
AATCC	American Association of Textile Chemists and Colorists
ABA	American Bankers Association
ACI	American Concrete Institute
ACIL	American Council of Independent Laboratories
ACS	American Chemical Society
ADA	American Dental Association
ADISP	Automated Data Interchange Systems Panel
AECL	Atomic Energy of Canada, Limited
AF	Air Force, U.S.
AFML	Air Force Materials Laboratory
AFNOR	French Association of Standardization
AFOSR	Air Force Office of Scientific Research
AGA	American Gas Association
AGS	American Gem Society
AHEA	American Home Economics Association
AI	Asphalt Institute
AIA	American institute of Architects
AICHE	American Institute of Chemical Engineers
AIF	Atomic Industrial Forum
AIIE	American Institute of Industrial Engineers
AIME	American Institute of Mining, Metallurgical, and Petroleum Engineers
AIRAPT	International Association for the Advancement of High Pressure Science and Technology
ALSC	American Lumber Standards Committee
AMS	American Meteorological Society
ANMC	American National Metric Council
ANS	American Nuclear Society
ANSI	American National Standards Institute
AOAC	Association of Official Analytical Chemists
APHA	American Public Health Association
API	American Petroleum Institute
APS	American Physical Society
ARBA	American Road Builders' Association
ARMA	Asphalt Roofing Manufacturers' Association
ARPA	Advanced Research Projects Agency
ARTBA	American Road and Transportation Builders Association
ASA	Acoustical Society of America
ASCE	American Society of Civil Engineers
ASEE	American Society for Engineering Education
ASHRAE	American Society of Heating, Refrigerating, and Air-Conditioning Engineers
ASIS	American Society for Industrial Security
ASLE	American Society of Lubrication Engineers
ASM	American Society for Metals
ASME	American Society of Mechanical Engineers
ASNT	American Society for Nondestructive Testing
ASQC	American Society for Quality Control
ASSE	American Society of Sanitary Engineering
ASTM	American Society for Testing and Materials
AVS	American Vacuum Society
BIML	International Bureau of Legal Metrology
BIPM	International Bureau of Weights and Measures
BMD	Ballistic Missile Defense
BMDATC	Ballistic Missile Defense Advanced Technology Center
BRAB	Building Research Advisory Board
BRH	Bureau of Radiological Health, FDA
BRL	Bendix Research Laboratory
BSI	British Standards Institution
CAC	Center for Analytical Chemistry, NBS
CAP	College of American Pathologists
CAPQ	Center for Absolute Physical Quantities, NBS
CAS	Chemical Abstracts Service
CBEMA	Computer and Business Equipment Manufacturers Association
CCIR	International Radio Consultative Committee
CCITT	International Telephone and Telegraph Consultative Committee
CEQ	Council on Environmental Quality
CGA	Compressed Gas Association
CGPM	General Conference on Weights and Measures
CIB	International Council for Building Research, Studies and Documentation

CIE	International Commission on Illumination
CIPM	International Committee on Weights and Measures
CMG	Color Marketing Group
CMS	Center for Materials Science, NBS
CNLIA	Council of National Library and Information Associations
CODASYL	Conference on Data Systems Languages
CODATA	Committee on Data for Science and Technology
CPSC	Consumer Product Safety Commission
CRR	Center for Radiation Research, NBS
CS	Coblentz Society
CTMS	Center for Thermodynamics and Molecular Science, NBS
CTS	Collaborative Testing Services, Inc.
DARPA	Defense Advanced Research Projects Agency
DBMS	Data Base Management System
DIN	German Institute for Standardization
DNA	Defense Nuclear Agency
DOC	Department of Commerce, U.S.
DOD	Department of Defense, U.S.
DOE	Department of Energy, U.S.
DOI	Department of the Interior, U.S.
DOJ	Department of Justice, U.S.
DOL	Department of Labor, U.S.
DOT	Department of Transportation, U.S.
EIA	Electronic Industries Association
EPA	Environmental Protection Agency
EPRI	Electric Power Research Institute
ETPC	European Thermophysical Properties Committee
FAA	Federal Aviation Administration
FCC	Federal Construction Council
FCST	Federal Council for Science and Technology
FDA	Food and Drug Administration
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIPS	Federal Information Processing Standards
FPA	Federal Preparedness Agency
FRA	Federal Railroad Administration
GIDEP	Government-Industry Data Exchange Program
GSA	General Services Administration
GWI	Grinding Wheel Institute
HHS	Department of Human and Health Services
HIMA	Health Industry Manufacturers Association
HPS	Health Physics Society
HUD	Department of Housing and Urban Development, U.S.
IAAHWGNDE	Intergovernment Agency Ad Hoc Working Group on Nondestructive Evaluation
IABSE	International Association for Bridge and Structural Engineering
IACCD	Interagency Advisory Committee on Center Data
IAEA	International Atomic Energy Agency
IAHPR	International Association on High Pressure Research
IAPS	International Association for the Properties of Steam
IAU	International Astronomical Union
ICAO	International Civil Aviation Organization
ICG	International Commission on Glass
ICNW	Interagency Committee on Net Weights
ICRU	International Commission on Radiological Units and Measurements
ICSU	International Council of Scientific Unions
ICTA	International Confederation for Thermal Analysis
ICUMSA	International Commission for Uniform Methods of Sugar Analysis
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineers
IERI	Illuminating Engineering Research Institute
	Illuminating Engineering Society
IFCC	International Federation of Clinical Chemistry
IIA	Institute of Internal Auditors
IIW	International Institute of Welding
IMCO	Inter-Governmental Maritime Consultative Organization
IMEKO	International Measurement Confederation
INMM	Institute of Nuclear Materials Management
ISA	Instrument Society of America
ISCC	Inter-Society Color Council
ISO	International Organization for Standardization
ISONET	International Organization for Standardization Information Network
ISR	International Society of Radiology
ITU	International Telecommunications Union
IUB	International Union of Biochemistry

IUCR	International Union of Crystallography
IUPAB	International Union of Pure and Applied Biophysics
IUPAC	International Union of Pure and Applied Chemistry
JCP	Joint Committee on Printing
JCPCS-ICDD	Joint Committee on Powder Diffraction Standards-International Centre for Diffraction Data
JEDEC	Joint Electron Devices Engineering Council
JPL	Jet Propulsion Laboratory
LEAA	Law Enforcement Assistance Administration
MIT	Massachusetts Institute of Technology
MPC	Metal Properties Council
NACE	National Association of Corrosion Engineers
NAPM	National Association of Photographic Manufacturers
NAS	National Academy of Sciences
NAS/NRC	National Academy of Sciences/National Research Council
NASA	National Aeronautics and Space Administration
NBS	National Bureau of Standards
NCCLS	National Committee for Clinical Laboratory Standards
NCI	National Cancer Institute
NCRP	National Council on Radiation Protection and Measurements
NCS	National Communications Systems
NCSL	National Conference of Standards Laboratories
NCWM	National Conference on Weights and Measures
NEMA	National Electrical Manufacturers Association
NES	National Easter Seal
NFPA	National Fire Protection Association
NIH	National Institutes of Health
NIJ	National Institute of Justice
NIOSH	National Institute for Occupational Safety and Health (HHS)
NMA	National Micrographics Association
NMAB	National Materials Advisory Board
NNDC	National Nuclear Data Center
NOJC	National Oil Jobbers Council
NPCA	National Paint and Coatings Association
NPS	National Park Service
NRAO	National Radio Astronomy Observatory
NRC	National Research Council
NRCA	National Roofing Contractors Association
NSC	National Safety Council
NSF	National Science Foundation
NSRDS	National Standards Reference Data System
OD	Office of the Director, NBS
OEM	Office of Environmental Measurements, NBS
OHMO	Office of Hazardous Materials Operations, DOT
OIML	International Organization of Legal Metrology
ORSA	Operations Research Society of America
OSA	Optical Society of America
OSHA	Occupational Safety and Health Administration
OSRM	Office of Standard Reference Materials, NBS
OWM	Office of Weights and Measures, NBS
PCEH	President's Committee on Employment of Handicapped
PCI	Prestressed Concrete Institute
PHS	Public Health Service
PSI	Polish Standards Institute
RILEM	International Union of Testing and Research Laboratories for Materials and Structures
RTCA	Radio Technical Commission for Aeronautics
SAE	Society of Automotive Engineers
SAMA	Scientific Apparatus Makers Association
SAMI	Standards Assistance and Management Information
SEMI	Semiconductor Equipment and Materials Institute
SERI	Solar Energy Research Institute
SESA	Society for Experimental Stress Analysis
SFPE	Society of Fire Protection Engineers
SIS	Swedish Standardization Institute
SME	Society of Manufacturing Engineers
SNM	Society of Nuclear Medicine
SPARC	Standards Planning and Requirements Committee
SSPC	Steel Structures Painting Council
SSS	System Safety Society
TAPPI	Technical Association of the Pulp and Paper Industry
TCA	Tile Council of America
TG	The Telephone Group
TRB	Transportation Research Board
UL	Underwriters Laboratories, Inc.

UN	United Nations
URSI	International Union of Radio Science
USCC	U.S. Calorimetry Conference
USCG	U.S. Coast Guard
USFA	U.S. Fire Administration
USFG	U.S. Forest Service
USGS	U.S. Geological Survey
USNC/CIE	U.S. National Committee/International Commission on Illumination
USNC/ ICUMSA	U.S. National Committee/International Commission for Uniform Methods of Sugar Analysis
USNC/IEC	U.S. National Committee/International Electrotechnical Commission
USNC/IIR	U.S. National Committee/International Institute of Refrigeration
USNC/ITU	U.S. National Committee/International Telecommunications Union
USPC	U.S. Pharmacopeial Convention, Inc.
VA	Veterans Administration
WHO	World Health Organization
WRC	Welding Research Council

Abbreviations

A	Annuitant
APPT. DATE	Appointment Date
C	Parent Committee
CC	Committee that is subordinate to a Parent Committee
CHAIR	Chairperson
DIV	Division
EMP. STATUS	Employment Status
ENCR	Encryption
EXPIR. DATE	Expiration Date
FTP	Full-time Permanent employment status
FT TEMP	Full-time Temporary employment status
INTL	Denotes an activity under the auspices of a international organization
NATL	Denotes an activity under the auspices of a U.S. organization
NATL/I	Denotes an activity under the auspices of a U.S. organization which also has major international responsibilities
NBS,OA	Combination of NBS and Other Agency funding
NON-V	Non-voting status
NO.	Number
N/A	Not Applicable
OA	Other Agency
PARNT ORG	Parent Organization
PROF	Professional
PT PERM	Part-time Permanent employment status
RA	Research Associate
SC	Subcommittee
SSC	Subcommittee that is subordinate to another Subcommittee
TC	Technical Committee
USNC	U.S. National Committee
USNWG	U.S. National Work Group
US TAG	U.S. Technical Advisory Group
WG	Work Group
WG2	Work Group of a Parent Committee
WG4	Work Group of a SSC
-C002	Committee number assigned by SAMI office for record purposes
-SC.01	Subcommittee number assigned by SAMI office for record purposes
-WG.01	Working Group number assigned by SAMI office for record purposes (All numbers assigned consecutively)

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American Association of Clinical Chemistry
American Association of Physicists in Medicine
American Association of Textile Chemists and Colorists
American Bankers Association
American Ceramic Society
American Chemical Society
American Concrete Institute
American Institute of Architects
American Institute of Chemical Engineers
American Institute of Mining, Metallurgical, and Petroleum Engineers
American National Metric Council
American National Standards Institute
American Nuclear Society
American Paper Institute
American Petroleum Institute
American Physical Society
American Society of Civil Engineers
American Society of Heating, Refrigerating, and Air-Conditioning Engineers
American Society of Industrial Security
American Society of Mechanical Engineers
American Society for Metals
American Society for Nondestructive Testing
American Society for Testing and Materials
American Vacuum Society
Army, U.S.
Association of Official Analytical Chemists
Atomic Industrial Forum
Chemical Abstracts Service
Coblentz Society
College of American Pathologists
Color Marketing Group
Compressed Gas Association, Inc.
Conference on Data Systems Langauge
Congress, U.S.
Council on Environmental Quality
Department of Commerce, U.S.
Department of Defense, U.S.
Department of Energy, U.S.
Department of the Interior, U.S.
Department of Transportation, U.S.
Electric Power Research Institute
Electronic Industries Association
Environmental Protection Agency
Federal Council on Science and Technology
Federal Preparedness Agency
Food and Drug Administration
General Services Administration
Health Physics Society
Illuminating Engineering Society
illumination Engineering Research Institute
Institute of Electrical and Electronic Engineers, Inc.
Institute of Internal Auditors
Instrument Society of America
Interagency Committee on Net Weights
Inter-Society Color Council
Joint Electron Devices Engineering Councils
Mail Order Association of America
Massachusetts Institute of Technology
Metals Properties Council
National Academy of Sciences
National Aeronautics and Space Administration
National Association of Corrosion Engineers
National Committee for Clinical Laboratory Standards
National Conference of Standards Laboratories
National Conference on Weights and Measures
National Council on Radiation Protection and Measurements
National Fire Prevention & Control Administration
National Fire Protection Association
National Institute of Health
National Radio Astronomy Observatory
National Research Council
National Safety Council
National Science Foundation
Optical Society of America
Prestressed Concrete Institute
Public Health Service
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Society of Automotive Engineers, Inc.
Society of Experimental Stress Analysis
Society of Fire Protection Engineers
Society of Nuclear Medicine
Steel Structures Painting Council
Technical Association of the Pulp & Paper Industry
Transportation Research Board
Underwriters Laboratories, Inc.
U.S. Calorimetry Conference
U.S. Geolocial Survey
U.S. National Committee for the International Commission on Illumination
U.S. National Committee for the International Committee on Illumination
U.S. National Committee for the International Electro-technical Commission
U.S. National Committee for the International Institute of Refrigeration
Welding Research Council

International and Foreign National

Committee on Data Science and Technology
German Institute for Standardization
International Association for the Properties of Steam
International Astronomical Union
International Atomic Energy Agency
International Civil Aviation Organization
International Commission on Glass
International Commission on Radiation Units and Measurements
International Committee on Illumination
International Committee on Weights and Measures
International Confederation for Thermal Analysis
International Council of Scientific Unions
International Electrotechnical Commission
International Federation of Clinical Chemists
International Institute of Welding
International Microwave Power Institute
International Organization of Legal Metrology
International Organization for Standardization
International Scientific Radio Union
International Society of Radiology
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International Union of Crystallography
International Union of Pure and Applied Chemistry
United Nations

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11. ABSTRACT (A 200-word or less factual summary of most significant information. If document includes a significant bibliography or literature survey, mention it here)

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For further information on NBS standards activities, contact OSIAD, National Bureau of Standards, Technology Building, Room B166, Washington, D.C. 20234, (301) 921-2092.

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annual report; committee participation; standards committees.

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