Committee Investigates Cultured Quartz Stockpiling

An NMAB committee was recently formed to address what types, forms, and amounts of cultured quartz should be held in the U. S. National Defense Stockpile, due to the material's value in timing and filtering functions in electronic systems and other special applications. The committee, convened at the request of the Federal Emergency Management Agency, will compile current data on natural and cultured quartz, including production technology, U. S. production capacity, major defense and civilian uses, and performance specifications.

The Committee on Cultured Quartz for the National Defense Stockpile consists of seven members, including MRS members R. A. Laudise of AT&T Bell Laboratories (committee chair) and W. B. White of Pennsylvania State University.

Japan Pursuing High-Technology Ceramics Technology

The Japanese consider high-technology ceramics to be an extremely significant emerging technology because of its wide impact on a large number of fields. This was the finding of a recently completed NMAB study which was instituted to assess the status of the ceramics industry in Japan and to develop an understanding of the institutional factors that have led to the successful industrial development of ceramics in Japan.

The Committee on High-Technology Ceramics in Japan consisted of members from both the United States and Japan, including MRS members A. R. C. Westwood of Martin Marietta Corporation (committee chair) and H. Kent Bowen of MIT.

The committee reported that Japan's efforts in ceramics technology involves substantial R&D funding, a vigorous educational program, targeted markets, and aggressive pricing strategies. It is noted that the Japanese work force consists of dedicated, flexible, and technology-oriented people and includes many young engineers. Strong competition among firms results in quick reaction and imaginative applications.

The committee concluded that the Japanese would welcome a cooperative program with the United States toward the development of common standards, exchange of nonproprietary information, and cooperative projects involving university and Japanese government laboratories.

U.S. Plasma Processing Technology Out-Paced by Russia, Germany, Japan

An NMAB committee formed to assess recent developments in processing materials through the use of plasma technology reports that noteworthy advances have occurred in several foreign countries and a number of new and improved methods for materials systems show great promise. While plasma processing technology has in general not advanced beyond laboratory-scale or the pilot-plant stage in this country, the committee stated, large-scale production has been achieved in the Soviet Union, East Germany, and Japan, as well as in other European countries. It emphasized that the United States would do well to invest funds for R&D in this area.

The report discusses thermal plasma melting and remelting technology, extracting and refining technology, plasma deposition, thermal plasma synthesis and consolidation, and processing using low-pressure nonequilibrium plasmas.

The Committee on Plasma Processing Materials included the following MRS members: Noel Jarrett, Alcoa Laboratories; Bernard H. Kear, Exxon Research and Engineering Company; Emil Pfender, University of Minnesota; Julian Szekely, MIT; Earl R. Thompson, United Technologies Research Center; Diran Apelian, Drexel University; Harold Winters, IBM Research Laboratory; Ward Roman, United Technologies Research Center. MRS members Philip A. Parrish, Army Research Office, served as committee liaison representative, and Donald G. Groves, National Academy of Science, served as NMAB staff officer.

Recommendations Made for Troubled Magnetic Materials Industry

An NMAB committee established at the request of the Department of Defense recently completed its report on how the United States might revive growth of magnetics technology, which is important in power distribution, microwave communication, and other areas, and is currently considered to be seriously threatened. The committee's recommendations are expected to be published shortly.

The committee includes MRS members Geoffrey Bate, Verbatim Corporation; T. H. Geballe, Stanford University; F. E. Luborsky, General Electric Company; and D. E. Polk, Office of Naval Research. MRS member Donald G. Groves, National Academy of Science, served as NMAB staff officer.

DOE Provides Free Materials Hotline

The Division of Materials Sciences, Office of Basic Energy Sciences, U. S. Department of Energy, has established the Materials Referral System and Hotline as part of the Materials Preparation Center at Ames Laboratory to assist scientists in obtaining services and information regarding the preparation and characterization of unique materials. The computerized data base of unusual materials and capabilities centers largely on the capabilities at the DOE National Laboratories and other specialty sources, but also includes commercial sources. In addition, an extensive network of researchers has been established to aid in answering inquiries.

Assistance is provided in two ways: direct answer or referral to someone capable of providing the needed service, information, or product. The service is intended primarily to support DOE programs, but is also available to the general research community. Services are provided at no charge. To utilize the hotline services, contact Tom Wessels, Materials Referral System and Hotline, Ames Laboratory, Ames, Iowa 50011; telephone (515) 294-8900, (FTS) 865-8900.

MRS Co-sponsors Rapidly Solidified Crystalline Alloys Meeting

The Materials Research Society is co-sponsoring the first Northeast Regional Meeting of The Metallurgical Society of AIME, being held May 1-3, 1985 in Morristown, New Jersey. Focusing on developments in Rapidly Solidified Crystalline Alloys, the meeting will report fundamentals and applications of ribbon and powder processing, and rapid solidification processing to various alloy systems such as aluminum, titanium, magnesium, iron, nickel, and copper base alloys. Microcrystalline brazing and magnetic alloys will also be covered.

Both invited speakers and poster presentations will be featured at the meeting. For further information, contact S. K. Das, Allied Corporation, P. O. Box 1021R, Morristown, NJ 07960; telephone (201) 455-2192.