

RSIC Newsletter



OAK RIDGE NATIONAL LABORATORY
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OPERATED BY MARTIN MARIETTA ENERGY SYSTEMS, INC.
FOR THE U.S. DEPARTMENT OF ENERGY

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Kites rise against, not with the wind. No man has ever worked his passage anywhere in a dead calm.—John Neal

ANS HONORS BUNCH AND LAHTI

The Radiation Protection and Shielding Division of the American Nuclear Society (ANS) continues to include in its Honors and Awards program recognition of members who have been judged as having given outstanding service to the international shielding community. Cited at the June 1984 meeting in New Orleans were *Wilber L. Bunch*, Hanford Engineering Development Laboratory (HEDL), and *Gerald P. Lahti*, Sargent and Lundy. The citations read as follows:

On behalf of the American Nuclear Society, the Radiation Protection and Shielding Division is pleased to present to

Wilber L. Bunch

its award for Outstanding Service to the Division and to the technical community it represents by virtue of the following contributions:

He has rendered a variety of outstanding services to the Radiation Protection and Shielding Division over an extended period of time. He was Chairman of the Division for 1977-78 and subsequently served as the Honors and Awards Chairman from 1981-83. Earlier, from 1974-76, he had been a member of the Division's program committee, but he also participated in the reverse role, as a presenter of papers at ANS meetings, which culminated in his winning the Best Paper Award at the 1981 Winter Meeting.

He was a member of ANS-6, the Shielding Standards Subcommittee, and has been an active member for many years of two of its standards working groups, ANS-6.4 and ANS-6.7. As a result he has directly contributed to the writing of two existing ANS shielding standards, as well as to two future standards.

He has made noteworthy technical contributions to the radiation protection and shielding field, beginning with the development of high density concretes for shielding and the shield design of plutonium production reactors. He subsequently became a leader in the areas of criticality and shield design of fast reactors in the United States, based on nearly 20 years of involvement in various phases of the Fast Flux Test Facility. In pursuit of technical advances related to the shield design and instrumentation of fast reactors he has traveled to both Japan and the Soviet Union representing American technology.

On behalf of the American Nuclear Society, the Radiation Protection and Shielding Division is pleased to present to

Gerald P. Lahti

its award for Outstanding Service to the Division and to the technical community it represents by virtue of the following contributions:

His services to the Radiation Protection and Shielding Division have been outstanding over an extended period of time. He was Chairman of the Division in 1980-81, and earlier served as Treasurer and as Chairman of several of the working committees. He was a long-time and tireless member of the Division Program Committee, participating in paper reviews and chairing sessions. He was the organizer of the important special session "Radiation Streaming in Power Reactors" at the 1978 ANS Winter Meeting.

He has been a national leader in the field of radiation protection for power reactors, representing that perspective as a program organizer of the Fifth and Sixth International Conferences on Radiation Shielding. In 1983 he visited the People's Republic of China as the radiological safety reviewer of the team that performed a design review of that country's nuclear power plant design.

He has made noteworthy technical contributions to the radiation protection and shielding field. His efforts have ranged from the applications of discrete ordinates calculations to space nuclear propulsion to dose assessment from nuclear power plant effluents. He led the early effort, culminating in the NSAC-17 report, that assessed the radiological safety "lessons learned" from the TMI-2 accident and developed post-accident radiation protection design criteria.

CHANGES TO THE COMPUTER CODES COLLECTION

During the month three changes were made to the computer codes collection. An existing code package was extended with a new hardware version and enhanced with additional software in an existing hardware version. Two new code systems were added to the collection.

CCC-203/MORSE-CG

Several changes were made to this general purpose Monte Carlo multigroup neutron and gamma-ray transport code system. The package was extended to include a new CRAY hardware version, designated (E). This new version was contributed by the Computing and Telecommunications Division (CTD) (formerly the Computer Sciences Division) of the Oak Ridge National Laboratory (ORNL). The CDC (B) version of the package was updated to include the subroutines BANKR which writes a collision tape, SDATA for point detectors, and a second version of subroutine RELCOL for point detectors. The second RELCOL makes an estimate to each outgoing energy group rather than selecting a single group. The UNIVAC (A), CDC (B), IBM (C), and the VAX (D) versions were updated to include a series of sample problems, also contributed by the Computing and Telecommunications Division, ORNL. Formal documentation for the problems is included in the package. The CRAY version was not affected by this update since it already contained the series of sample problems. Reference: ORNL-4972/R2. FORTRAN IV; UNIVAC (A), CDC (B), IBM (C), VAX (D) and CRAY (E).

CCC-461/GETOUT

This code system for predicting one-dimensional radionuclide chain transport through geologic media is a contribution of the Office of Nuclear Waste Isolation, Battelle Project Management Division, Columbus, Ohio. The code system models the migration of radionuclides from an underground source to a surface body of water. Output from the code comprises (1) a nuclide discharge summary file suitably formatted for input to an existing biosphere model, and (2) printed reports showing discharge profiles for selected nuclides by four release models. Reference: ONWI-433. FORTRAN IV; CDC CYBER 176.

CCC-462MICRO/NCRP49

This X-ray shield calculation system is a contribution of the Rhode Island Department of Health, Providence, Rhode Island. The package calculates the primary and/or secondary leakage/scatter barrier requirements (in mm of lead) for diagnostic radiographic and/or fluoroscopic X-ray units operating at 50, 70, 100, or 150 kV. Reference: Informal notes. BASIC; TRS-80 Model II/12/16 and Model 4.

Standards Action

The following information regarding standards activities in the field of radiation shielding is given for the benefit of the reader.

Comment

Call for comment is requested by November 13, 1984, for

BSR/ANS-5.1 *Decay Heat Power in Light Water Reactors*, a reaffirmation of ANSI/ANS-5.1-1979, available from ANS for \$25.

Approved

The following standards have been approved.

ANSI/ASME NQA-1b- *Quality Assurance Program Requirements for Nuclear Facilities (addenda to ANSI/ASME NQA-1-1983); date Aug. 6, 1984.*

ANSI N44.1-1973(R1984) *Integrity and Test Specifications for Selected Brachytherapy Sources* (reaffirmation).

ANSI N44.2-1973(R1984) *Leak Testing Radioactive Brachytherapy Sources* (reaffirmation).

ANSI N44.3-1973(R1984) *Thyroid Radioiodine Uptake Measurements Using a Neck Phantom* (reaffirmation).

ANSI N449-1974(R1984) *Guidelines for Maintaining Cobalt-60 and Cesium-137 Teletherapy Equipment* (reaffirmation).

ANSI N449.1-1978(R1984) *Procedures for Periodic Inspection of Cobalt-60 and Cesium-137 Teletherapy Equipment* (reaffirmation).

ANSI/ANS-2.5-1984 *Standard for Determining Meteorological Information at Nuclear Power Sites* (new standard).

Newly Published

ISO 6980 1984 *Reference Beta Radiations for Calibrating Dosimeters and Doseratemeters and for Determining Their Response as a Function of Beta Radiation Energy*.

ASTM

The standards listed below are available from ASTM for \$8.00.

C 1020-84 *Matrix for LWR Fuel Reprocessing* (new standard).

C 859-84 *Definitions of Terms Relating to Nuclear Materials* (revision).

E 170-83 *Terminology Relating to Radiation Measurements and Dosimetry* (revision).

Guide to Blocked Records Available

As a service to RSIC customers, a staff member has published *Beginner's Guide to Blocked Records on Magnetic Tape*, ORNL/TM-9250. The report is a guide to better utilization of tape space using fixed block 80- or 133-byte-length records. The report is available from RSIC upon request.

PERSONAL ITEMS

In serving a specialized area of scientific endeavor, it seems important that we take note of the movement of people concerned with radiation protection, transport, and shielding in the nuclear industry. We, therefore, continue to carry personal items as they are brought to our attention. During the past month we have been informed of the following changes.

Shelby Brewer resigned from his post as Assistant Secretary for Nuclear Energy in the Department of Energy, effective September 1, at which time he became Vice President-Operations of the Nuclear Power Systems Division of Combustion Engineering, Inc. On January 1, he will succeed the retiring *John West* as senior vice president of the same division at C-E.

Paul S. Webb has left General Electric Nuclear Energy Division, Pleasanton, California to join the staff of Lawrence Livermore National Laboratory in Livermore.

R. Bruce Thom left the Atomic Energy Research Establishment-Harwell to take a position with the Atomic Energy Establishment-Winfrith in Dorchester, United Kingdom.

Milton McLain has joined the staff of Texas A&M University in College Station.

Laurence D. Eisenhart recently left the staff of Brookhaven National Laboratory in Upton, New York, to join S. Levy, Inc., in Campbell, California.

Visitors to RSIC

During the month the following persons came for an orientation visit and/or to use RSIC facilities: *Yoshihisa Hayashida*, NAIG Nuclear Research Laboratory, Japan; *Hiroyuki Hashikura*, Univ. of Tokyo, Japan; *Zenro Suzuoki*, Mitsubishi Atomic Power, Inc., Tokyo, Japan; *H. V. Klapdor*, Max Planck Institut für Kernphysik, Heidelberg, Fed. Rep. Germany; *Pietro Barbucci*, ENEL, Centro di Ricerca Termica e Nucleare, Pisa, Italy; *Jean Gonnord* and *Terese Vergnaud*, CEN/Saclay, Gif-sur-Yvette, France; *Kenneth J. Adams*, Science Applications, Inc., McLean, Virginia; *John Hendricks*, Los Alamos National Laboratory, New Mexico; and *Adolf S. Garcia*, Argonne National Laboratory-West, Idaho Falls, Idaho.

COURSES, CONFERENCES, SYMPOSIA

RSIC attempts to keep its users/contributors advised of conferences, courses, and symposia in the field of radiation shielding, protection, and transport through this section of the newsletter. Should you be involved in the planning/organization of such conferences, courses, or symposia, feel free to send your announcements and calls for papers to RSIC.

HPS Midyear Topical Symposium

The HPS 18th Midyear Topical Symposium will be held January 10-16, 1985, in Colorado Springs, Colorado. A program of oral presentation and poster sessions is planned around the following topics:

- Public Concerns and Information;
- Environmental Monitoring: Design and Experience;
- Environmental Monitoring: Emergency Situations;
- Regulations and Uncertainties in Dose Estimates;

- Remedial Action;
- Environmental Monitoring: Methodologies and Results;
- Radon and Thoron Measurements; and
- Design and Verification of Environmental Transport Models.

In addition to the preceding program, the Environmental Radiation Section of the Health Physics Society will coordinate a mini-symposium on "De Minimis Levels — Concepts and Consequences." The schedule will include continuing education courses and technical tours to the Cotter Uranium Mine and Mill or to Kaman Nuclear.

M&C Plans '85 Topical

The 11th meeting of the biennial series organized by the Mathematics and Computation Division of the ANS will be held April 9–11, 1985, in Knoxville, Tennessee. Cosponsors of the meeting include the European Nuclear Society, the Atomic Energy Society of Japan, Oak Ridge National Laboratory, and the University of Tennessee. The program, strong in international participation, will include plenary sessions on advances in computing with invited presentations from Europe, Japan, and the U.S. A second plenary session on experiences in code vectorization and a poster session on computational software and benchmarking activities will complete the first day. The second and third days will feature eight parlor sessions with presentations on computational methodology for particle transport and fluid dynamics analyses.

For registration and other information contact R. M. Westfall, Oak Ridge National Laboratory, P.O. Box X, Bldg. 6025, Oak Ridge, TN 37831 USA (phone 615-574-5267).

ANS Call for Papers

The official call for papers has been issued for the ANS 1985 Annual Meeting, which will be held in Boston, Massachusetts, June 9–14, 1985. Summaries are requested for papers describing work that is new, significant, and relevant to the nuclear industry. To facilitate an adequate review, the summary should be at ANS headquarters by **January 4, 1985**. Complete instructions for the preparation of the summary and other information is available from ANS headquarters or from John R. Coombe, Technical Program Chairman, (Attn: TRANSACTIONS OFFICE), American Nuclear Society, 555 N. Kensington Ave., La Grange Park, IL 60525 USA.

Calendar

Your attention is directed to the following additional events of interest to the radiation shielding and protection community.

October 1984

International Symposium on the Implementation of the IAEA Codes of Practice and Safety Guides for Nuclear Power Plants, October 29–November 2, 1984, Vienna. Contact: Conf. Svc. Sect., IAEA, P.O. Box 100, A-1400 Vienna, Austria.

Biological Effects of Ionizing Radiation, October 30–November 1, 1984, a course offered by Harvard School of Public Health. Contact: Office of Continuing Education, Dept. A, Harvard School of Public Health, 677 Huntington Ave., Boston, MA 02115.

Nuclear Power Systems Symposium, October 31–November 2, 1984, Orlando, Florida, sponsored by the Institute of Electrical and Electronics Engineers. Contact: D. Louis Costrell, National Bureau of Standards, C333 Radiation Physics, Washington, DC 20234 (phone 301-921-2518).

Nuclear Science Symposium, October 31–November 2, 1984, Orlando, Florida. Contact: L. C. Oakes, Oak Ridge National Lab., P.O. Box X, Oak Ridge, TN 37831 (phone 615-574-5527).

November 1984

National Conference on Biomedical Physics and Engineering November 3–4, 1984, in Sofia, Bulgaria, sponsored by the Bulgarian National Society of Biomedical Physics and Engineering. Contact: Chair of Physics and Biophysics, c/o eng. Peter Trindev, Medical Academy - Base No. 1, 1431 Sofia / 1 Boul. G. Sofiski, Bulgaria.

Inter-Regional Seminar on Practical Problems Encountered in the Safe Transport of Radioactive Materials, November 5–8, 1984, Vienna. Contact: Conf. Svc. Sect., IAEA, P.O. Box 100, A-1400 Vienna, Austria.

Joint Meeting of the American Nuclear Society, the Atomic Industrial Forum, and the European Nuclear Society, November 11–16, 1984, Washington. Contact: George W. Cunningham, Nuclear Studies, Mitre Corp., 1820 Dolly Madison Blvd., McLean, Virginia 22102 USA.

Safety of Radioactive Waste Management, November 12–13, 1984, Cologne, F. R. Germany, sponsored by the Society for Reactor Safety. Contact: Gesellschaft für Reaktorsicherheit (GRS) mbH, Schwertnergasse 1, Postfach 10 16 50, D-5000 Köln 1, F. R. Germany.

8th Conference on the Applications of Accelerators in Research and Industry, November 12–14, 1984, Denton, Texas, sponsored by North Texas State University. Contact: Accelerator Conference, Physics Dept., North Texas State Univ., Box 5368, Denton, TX 76203-5368.

Criticality Accident Dosimetry, November 12–16, 1984, a course conducted at the Dosimetry Applications Research Facility at the Oak Ridge National Laboratory, Oak Ridge, Tennessee. Contact: R. E. Swaja or C. S. Sims, ORNL, P.O. Box X, Bldg. 7710, Oak Ridge, TN 37831 (phone 615-574-5851).

International Conference on Power Plant Simulation, November 19–21, 1984, Cuernavaca, Mexico, sponsored by the Instituto de Investigaciones Eléctricas, Mexico, with the sponsorship of the Nuclear Regulatory Commission (NRC). Contact: for USA and Canada; David Hetrick, Dept. of Nuclear and Energy Engineering, Univ. of Arizona, Tucson, AZ 85721; and for other countries, Dra. elia Méndez, Instituto de Investigaciones Eléctricas, Depto. de Simulación, Leibnitz 14, 3er. piso, Co. Anzures, 11590, Mexico, D. F.

International Symposium on Assessment of Radioactive Contamination in Man, November 19–23, 1984, Paris, spon-

sored by the International Atomic Energy Agency. Contact: Conf. Svc. Sect., IAEA, P.O. Box 100, A-1400 Vienna, Austria.

Conference on Radioactive Waste Management, November 27-29, 1984, London, sponsored by the British Nuclear Energy Society. Contact: The Secretariat, British Nuclear Energy Society, at the Institution of Civil Engineers, 1-7 Great George St., London SW1P 3AA, UK.

December 1984

1st International Conference on Fusion Reactor Materials (ICFRM-1), December 3-6, 1984, Tokyo, sponsored by Atomic Energy Society of Japan, Iron and Steel Institute of Japan, Japan Institute of Metals, Japan Society of Applied Physics, the American Nuclear Society, and others. Contact: R. R. Hasiguti, The Science University of Tokyo, Faculty of Engineering, Kagurasaka, Shinjuku-ku, Tokyo 162, Japan.

Executive Conference: There Are Dollars and Sense in Good Radiation Protection Management, December 9-12, 1984, San Diego, California, sponsored by the American Nuclear Society. Contact: Carl Giesler, General Chairman, Wisconsin Public Service Co., 700 N. Adams, Box 1200, Green Bay, WI 54305 (phone 414-433-1306) or W. C. Hopkins, Technical Program Chairman, Bechtel Power, 15740 Shady Grove Rd., Gaithersburg, MD 20760 (phone 301-258-3000).

January 1985

Environmental Radiation, (18th Mid-Year Topical Meeting of the Health Physics Society), January 7-10, 1985, Colorado Springs, Colorado. Contact: R. J. Burk, Jr., Health Physics Society, 4720 Montgomery Lane, Suite 506, Bethesda, MD 20014.

International Symposium on Radioactivity, January 8-12, 1985, Pune, India, to commemorate the 50th anniversary of the discovery of artificial radioactivity. Contact: H. J. Arnikar, Convenor, ISR, Chemistry Dept., Univ. of Poona, Pune 411 007, India.

2nd Symposium on Space Nuclear Power Systems, January 14-16, 1985, Albuquerque, New Mexico. Contact: Mohamed S. El-Genk, 2nd Symp. Space Nuclear Power Systems, Chem/Nucl. Engr. Dept., FEC 239, Univ. of New Mexico Campus, Albuquerque, NM 87131.

Radiological Protection Measurements and Their Traceability, meeting and exhibition, January 22, 1985, London, sponsored by the Society for Radiological Protection. Contact: J. H. Martin, Dept. of Medical Biophysics, Blackness Lab., Univ. of Dundee, Dundee DD1 4HN, Scotland, UK.

February 1985

International ANS/ENS Topical on Probabilistic Safety Methods and Applications, February 24-28, 1985, San Francisco. Contact: Chauncey Starr, EPRI, 3412 Hillview Ave., Palo Alto, CA 94303 (phone 415-855-2121).

March 1985

Symposium on Radioactive Waste Management '85, March 24-28, 1985, Tucson, Arizona, sponsored by Univ. of Arizona, U.S.-DOE, ANS, Electric Power Research Institute, American

Society of Mechanical Engineers. Abstract deadline is September 20, 1984. Contact: Roy G. Post, General Chairman, Waste Management 85, College of Engineering, Univ. of Arizona, Tucson, AZ 85721.

Annual Meeting of the Atomic Energy Society of Japan, March 28-30, 1985, Tokyo. Contact: Minoru Masamoto, Secretary General, Atomic Energy Society of Japan, No. 1-1-13 Shimbashi, Minato-ku, Tokyo 105 Japan.

April 1985

International Meeting on Advances in Nuclear Engineering and Computational Methods, April 9-11, 1985, Knoxville, Tennessee, sponsored by ANS, European Nuclear Society (ENS), Atomic Energy Society of Japan. Contact: H. L. Dodds, c/o Univ. of Tennessee, Nuclear Engr. Dept., Knoxville, TN 37996 or R. M. Westfall, ORNL, P.O. Box X, Oak Ridge, TN 37831 (phone 615-574-5267).

Fast Reactor Safety, April 21-24, 1985, Knoxville, Tennessee, sponsored by the ANS, ENS. Contact: George Flanagan, Oak Ridge National Laboratory, P.O. Box X, Bldg. 6025, Oak Ridge, TN 37831 (phone 615-574-6155).

General Meeting of the American Physical Society, April 25-27, 1985, Washington. Contact: The American Physical Society, 335 East 45th St., New York, NY 10017.

Tritium Technology in Fission, Fusion and Isotopic Applications, April 30-May 2, 1985, Dayton, Ohio, sponsored by the ANS and the Canadian Nuclear Society. Contact: H. F. Anderson, Process Engr. Eval. & Control, Monsanto Mound Facility, P.O. Box 32, Miamisburg, OH 45342 (phone 513-865-4020).

May 1985

International Conference on Nuclear Data for Basic and Applied Science, May 13-17, 1985, Santa Fe, New Mexico. Contact: Phillip G. Young, Mail Stop B243, Los Alamos National Laboratory, Los Alamos, NM 87545 USA (phone 505-667-7670).

Telecommunications & Networking...Supplying the missing link, May 19-22, 1985, Fort Lauderdale, Florida, sponsored by the American Society for Information Science. Contact: Lawrence A. Woods, Technical Program Committee Chairman, 221 Memorial Library, Univ. of Notre Dame, Notre Dame, IN 46556.

June 1985

25th Annual International Conf. of the Canadian Nuclear Association and 6th Annual Conf. of the Canadian Nuclear Society, June 2-5, 1985, Ottawa, Ontario, Canada. Contact: J. A. Weller, General Manager, Canadian Nuclear Association, 111 Elizabeth St., 11th Floor, Toronto, Ontario, Canada M5G 1P7.

Annual Meeting of the American Nuclear Society, June 9-14, 1985, Boston, Massachusetts. Contact: David G. Pettenigill, ANS Meeting Manager, American Nuclear Society, 555 North Kensington Ave., La Grange Park, IL 60535.

August 1985

SMIRT-8, August 19-23, 1985, Brussels, Belgium. Contact: Sergio Finzi, CEC - Directorate Gen., X11-JRC, Brussels, Belgium.

SEPTEMBER ACCESSION OF LITERATURE

The following literature cited has been ordered for review, and that selected as suitable will be placed in the RSIC Information Storage and Retrieval Information System (SARIS). This early announcement is made as a service to the shielding community. Copies of the literature are not distributed by RSIC. They may generally be obtained from the author or from a documentation center such as the National Technical Information Service (NTIS), Department of Commerce, Springfield, Virginia 22161.

RSIC maintains a microfiche file of the literature entered into SARIS, and duplicate copies of out-of-print reports may be available on request. Naturally, we cannot fill requests for literature which is copyrighted (such as books or journal articles) or whose distribution is restricted.

This Literature is on order. It is not in our system. Please order from NTIS or other available source as indicated.

COMPUTER CODES LITERATURE

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