

RSIC Newsletter



Oak Ridge National Laboratory

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No. 356

July 1994

Acquire new knowledge whilst thinking of the old, and you may become a teacher of others.—Confucius

CHANGES TO THE COMPUTER CODE COLLECTION

Six changes were made to the computer code collection during the month. Three new code systems were packaged and added to the collection, two existing code packages were replaced with newly frozen versions, and one code package was extended with an additional hardware version.

CCC-254/ANISN-ORNL

OP SYS: DOS, VMS,
AIX

Language: Fortran

Computers: IBM, Cray,
VAX, PC, IBM
RISC

Format: DOS

Oak Ridge National Laboratory contributed a new hardware version of ANISN-ORNL for IBM RISC 6000 computers, and Battelle in Columbus, Ohio, contributed a newly frozen version for personal computers. This discrete ordinates transport code system with anisotropic scattering solves the one-dimensional Boltzmann transport equation for neutrons or gamma rays in slab, sphere, or cylindrical geometry. The source may be fixed, fission, or a subcritical combination of the two. A criticality search may be performed on any one of several parameters. Cross sections may be weighted using the space and energy dependent flux generated in solving the transport equation.

The IBM RISC 6000 version was tested under AIX 3.2.5 using the XLF 2.3 compiler. The Lahey Fortran F77L-EM/32 version 5.1 compiler was used with the virtual memory linker under DOS 6.2 to create the executables in the PC package, which includes the source and executables for ANISN, BCBN, and DSNQUAD. The programs run under DOS 3.3 or higher. The PC version runs on 386 or 486 personal computers and requires at least 4 megabytes of memory, a 20 megabyte hard disk, and a math co-processor, though a faster run time is achieved with six or more MB of memory. ANISN-ORNL is also operable on the IBM 3033, CRAY XMP-2, or VAX/VMS family of computers. Each version is available on one DS/HD 5.25-inch (1.2 MB) diskette in self-extracting compressed DOS files. References: Informal Notes (1994), K-1693 (March 1967), ORNL/TM-3049 (May 1969), NAA-SR-10951 (March 1966), *Transactions of ANS*, Volume II, No. 1 (June 1968). Fortran; IBM 3033

(C00254/I3033/00), Cray (C00254/CY0MP/00), VAX (C00254/D0VAX/00), PC 386 (C00254/PC386/01), and IBM RISC 6000 (C00254/IRISC/00).

CCC-508/RADTRAN4

OP SYS: VMS

Language: Fortran 77

Computers: VAX

Format: DOS

Sandia National Laboratories, Albuquerque, New Mexico, contributed a newly frozen version of RADTRAN, designated Version 4. It combines user-defined meteorological, demographic, transportation, packaging, and material factors with health physics data to calculate the expected radiological consequences and risks resulting from the shipment of radioactive material. All modes of commercial transport (i.e., air, truck, rail, and water) are examined. Radiological consequences of incident-free transportation, as well as the radiological risks from vehicular accidents occurring during transportation, can be evaluated. RADTRAN4 contains advances in the handling of route-related data and in the treatment of multiple-isotope materials.

The source is written in Fortran 77; but only executable files are distributed for RADTRAN4, which runs on DEC VAX computers under VMS. The package is distributed on one DS/HD 3.5-in. (1.44 MB) diskette in DOS format. References: SAND89-2370 (Jan. 1992). Fortran 77; VAX (C00508/D0VAX/00).

CCC-552/RESRAD 5.05

OP SYS: DOS

Language: Fortran 77

Computers: PC

Format: DOS

Argonne National Laboratory contributed a newly frozen version of this code system to calculate site-specific residual radioactive material guidelines and radiation dose and excess cancer risk to an on-site resident. Version 5 incorporates a number of new features including the addition of graphical output to display computational results and any sensitivity analyses requested. The user interface has been enhanced by the introduction of a menu system. Two of the nine exposure pathways are new: radon inhalation and soil ingestion. Further improvements include the ability to run sensitivity analyses on most RESRAD parameters, optional input of groundwater radionuclide concentrations, optional user-specified dose factors and transfer factors, an improved groundwater transport model, optional input of a solubility constant, special models for tritium and carbon-14, calculation of cancer incidence risks, and context-specific help files. The calculational phase also reflects many improvements.

The Lahey F77L/EM32 and Microsoft Quick BASIC Version 7.1 software packages were used to create the executable included in the package. Note that the source files are not included in the package, which is distributed on one DS/HD 5.25-in. (1.2 MB) diskette in self-extracting compressed DOS files. Reference: ANL/EAD/LD-2 (Sept. 1993) and ANL/EAIS-8 (April 1993). Fortran 77; IBM PC (C00552/IBMPC/01).

CCC-623/RISKIND

OP SYS: DOS

Language: Fortran 77,
BASIC

Computers: PC

Argonne National Laboratory through the Energy Science and Technology Software Center (ESTSC), Oak Ridge, Tenn., contributed this code system for calculating radiological consequences and health risks from the transportation of spent nuclear fuel by truck or rail. Several models tailored to calculate the exposure to individuals under various incident-free and accident conditions are included in RISKIND. The incident-free models assess exposures from both gamma-ray and neutron radiation and can account for different cask designs. The accident models include accidental release, atmospheric transport, and

Format: DOS	<p>the environmental pathways of radionuclides from spent fuels; these models also assess health risks to individuals and the collective population.</p> <p>RISKIND runs on IBM PC or equivalent personal computers. The executables included in the package were created with the Lahey Fortran and Microsoft BASIC compilers. Source files are not distributed with the package, which is transmitted on one DS/HD 5.25-in. (1.2 MB) diskette in self-extracting compressed DOS files. References: ANL/EAIS-6, Rev. 0 (March 1993). Fortran 77 and BASIC; IBM PC (C00623/IBMPC/00).</p>
PSR-343/COMIDA	<p>Idaho National Engineering Laboratory, EG&G Idaho Inc., Idaho Falls, Idaho, contributed the COMIDA code system for estimating radionuclide concentrations in agricultural food products following an acute fallout event. COMIDA estimates yearly harvest concentrations for five human crop types (Bq kg⁻¹ crop per Bq m² deposited) and integrated concentrations for four animal products (Bq d kg⁻¹ animal product per Bq m²) for a unit deposition that occurs on any user-specified day of the year. COMIDA is structurally very similar to the PATHWAY model (Whicker and Kirchner 1987) and includes the same seasonal transport processes and discrete events for soil and vegetation compartments. Animal product assimilation is modeled using simpler equilibrium models. Differential transport and ingrowth of up to three radioactive progeny (the sample input problems include progeny for ⁹³Mo and ⁹³Nb) are also evaluated.</p> <p>The system runs on IBMPC and compatibles with implementation possible on DEC VAX, IBM RISC, and CRAY. The Lahey F77L3/EM32 compiler was used to create the executable file included in the package, which is transmitted on one DS/HD 5.25-in. (1.2 MB) diskette in DOS format. Reference: EGG-GEO-10367, ITER/US/93/TE/SA-Z (November 1993). Fortran 77; IBM PC (P00343/MNYCP/00).</p>
OP SYS: DOS	
Language: Fortran 77	
Computers: MANY	
Format: DOS	
PSR-345/SNL-SAND-II	<p>Sandia National Laboratories, Albuquerque, New Mexico, contributed this code system for neutron flux spectra determination by multiple foil activation using the iterative method. SNL-SAND-II is an enhanced version of W. McElroy's original CCC-112/SAND-II code. The enhanced input, output, and plotting interfaces make this code much easier to use, although the basic physics and operation of the code remain unchanged. Important code enhancements include interfaces to the latest ENDF/B-VI and IRDF-90 dosimetry-quality cross sections with DLC-178/SNLRML and the ability to use silicon displacement-sensitive devices as dosimetry sensors.</p> <p>SNL-SAND-II was tested at RSIC on both a Sun Sparcstation SLC running SUN OS 4.1.1, Open Windows 2, using SUN FORTRAN 1.4 and on a SUN Sparcstation 2 running Solaris 2.3 using SUN FORTRAN 2.0. ACE/gr V2.09 (P. J. Turner, Oregon Graduate Institute of Science and Technology) is included as an aid in data visualization. The package is transmitted on either DC 6150 (150 MB), 4-mm DAT (2.3 or 8 GB), or 8-mm (2.3 GB) cartridge tapes in tar format. References: SAND93-3957 (April 1994), AFWL-TR-67-41, Vol. 1 (July 1967). Fortran 77; Sun (P00345/SUN05/00).</p>
OP SYS: SUN	
Language: Fortran 77	
Computers: SUN	
Format: tar	

CHANGE TO THE DATA LIBRARY COLLECTION

One new data library was packaged and added to the data library collection during the month.

D00178/SNLRML	Sandia National Laboratories, Albuquerque, New Mexico, contributed this recommended dosimetry cross section compendium, designated SNLRML, which was prepared by taking the latest and most consistent dosimetry-oriented cross sections from all available evaluations. Many of the components come from ENDF/B-VI and IRDF-90 (DLC-161) libraries. The contents of the library include all dosimetry sensors (activation reactions, threshold reactions, fission reactions, and special damage sensors) that are in general use by the dosimetry community for the characterization of fission neutron spectra. SNLRML contains 69 dosimetry cross sections and associated covariance matrices in the SAND-II 640-group energy structure. The SNLRML library has been interfaced with spectrum determination codes and found to produce consistent spectrum "unfolds" with more sensors than were possible with previous libraries. It is recommended for use with the PSR-345/SNL-SAND-II package and is transmitted on one DS/HD 5.25-in. (1.2 MB) diskette in DOS format. Reference: SAND92-0094 (Nov. 1993). All Computers (D00178/ALLCP/00).
OP SYS: DOS	
Language:	
Computers: ALL	
Format: DOS	



Visitors to RSIC

During the month the following persons came for an orientation visit and/or to use RSIC facilities: *Manuel Recio, Jose M. Conde Lopez, and Marcos Nieto*, Consejo Seguridad Nuclear, Madrid, Spain; *Dong Jin Lee*, KAERI, Taejon, Korea; and *Randy Keene and Bernard Gilligan*, Newport News Shipbuilding, Virginia.

CONFERENCES, COURSES, SYMPOSIA

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

Workshop on the Safety of Soviet-Design Nuclear Power Plants

This workshop will be held in conjunction with the American Nuclear Society Winter Meeting, November 11–13, 1994, in Washington. The American Nuclear Society Nuclear Reactor Safety Division is the sponsoring organization with support from the U. S. Department of Energy and cooperation from

the U.S. Department of State, the U.S. Nuclear Regulatory Commission, and the International Atomic Energy Agency. The workshop will explore progress in enhancing the safety of VVER and RBMK reactors and identify important challenges to further safety improvement. Operators, designers, regulators, and other safety experts in countries with VVER and RBMK reactors are invited to participate. Detailed information and registration materials may be obtained from Dr. Robert Bari, Workshop Organizer, Brookhaven National Laboratory, P.O. Box 500, Upton, NY 11973-5000 (phone 516-282-2629; fax 516-282-5266).

5th Topical Meeting on Emergency Preparedness and Response

The *5th Topical Meeting on Emergency Preparedness and Response* will be held April 18–21, 1995, in Savannah, Georgia. The meeting provides a forum for discussion of recent advances in the capabilities for responding to and mitigating the consequences of nuclear, non-nuclear, and natural emergencies. Papers on the following topics are requested

- Emergency preparedness programs in the private and public sector
- Roles of state and local governments
- Meteorological and hydrological aspects of emergency preparedness
- Nuclear industry implementation of EPA-400
- The role of the medical community
- Public affairs and the media
- Experiences and lessons learned from recent emergencies and field exercises
- Performance-based training programs
- Emerging technology for assessing emergency consequences
- Technology supporting the emergency responder

A title and an extended abstract of 800–1500 words should be submitted to Charles H. Hunter, Jr., Technical Program Chairman, Westinghouse Savannah River Co., Bldg. 773-A, Aiken, SC 29808 by **August 15, 1994**.

ANS Austria Local Section Sponsors Safety Culture in Nuclear Installations

The Austria Local Section of the American Nuclear Society has issued a call for papers for the topical meeting, *Safety Culture in Nuclear Installations*, to be held April 24–28, 1995, in Vienna. Papers are solicited in the following areas:

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| • Safety Culture and Regulators | • Safety Culture Audits |
| • Safety Culture and Operators | • Safety Culture Indicators |
| • Safety Culture and Designers | • Safety Culture and Human Behavior |
| • Safety Culture and Manufacturers | • Safety Culture and Quality Assurance |
| • Safety Culture Management | • Safety Culture Problem Identification |
| • Safety Culture Implementation and Assessment | • Safety Culture Problem Solution Finding |
| | • Safety Culture Enhancement Success Stories |

- Safety Culture Training
- Operating Experience and Safety Culture
- Safety Culture Learning Models
- Safety Culture Behavior Dissemination
- Safety Culture Experience
- Radiation Protection Safety Culture
- Safety Culture in Maintenance

Abstracts of 600–1000 words should be submitted in five copies by **September 15, 1994**. Further information may be obtained from Ms. Annick Carnino, j IAEA-NENS A-2763, A-1400 Vienna, Austria (phone 43-1-2360-2520, fax 43-1-234564) or Mr. Geert H. Weimann, j Öfz-Seibersdorf, A-2444 Seibersdorf, Austria (phone 43-2254-780-2710; fax 43-2254-74060).

1995 M&C Call for Papers

The *1995 International Conference on Mathematics and Computations, Reactor Physics, and Environmental Analyses* will be held April 30–May 4, 1995, in Portland, Oregon. Papers are requested in the areas of both computational methods development and innovative applications of existing methods. Poster session papers are also being requested in three areas: computer codes, benchmark problems, and standards. A complete list of topics is available from the Technical Program Chair, Dr. Laural L. Briggs, Bldg. 208G, Argonne National Laboratory, Argonne, IL 60439 USA. The deadline for submission of full papers and computer program abstracts in **September 15, 1994**.

1995 International High-Level Radioactive Waste Management Conference: “Progress Toward Understanding”

The American Nuclear Society and the American Society of Civil Engineers are the sponsors of the *1995 International High-Level Radioactive Waste Management Conference: Progress Toward Understanding*, which will be held May 1–5, 1995, in Las Vegas, Nevada. The conference will be an international forum for presentation and discussion of scientific and technical information related to progress in understanding the characteristics of systems that will receive, transport, store, and dispose of wastes within the purview of the Office of Civilian Radioactive Waste Management and similar organizations in other nations. The program will include technical sessions and substantive plenary sessions that discuss technical issues and applications of professional disciplines in natural, engineering, institutional and integrated systems. Summaries will be presented in both oral and poster sessions. The original and four copies should be submitted by **November 11, 1994**, to Allen G. Croff, American Nuclear Society, 555 N. Kensington Ave., La Grange Park, IL 60525.

Calendar

Your attention is directed to the following events of interest.

August 1994

Criticality Calculations with MCNP, Aug. 9–12, 1994, Los Alamos, New Mexico, a short course sponsored by Los Alamos National Laboratory. Contact: Judith Briesmeister, Group X-6, MS B226, Los Alamos National Laboratory, Los Alamos, NM 87545 (email jfb@lanl.gov).

Technology Transfer, What? Why? How?, Aug. 10–11, 1994, Richland, Washington, sponsored by WM Symposia and held in conjunction with the TriCiPE II environmental trade show. Contact: WM Symposia (phone 602-624-8573).

SPECTRUM '94, Aug. 14–18, 1994, Atlanta, Georgia, jointly sponsored by the ANS, the Canadian Nuclear Society, the Atomic Energy Society of Japan, IAEA, the European Nuclear Society, and the U. S. Department of Energy. Contact: Laura Jordan, SPECTRUM '94, Bldg. 773-41A,

Westinghouse Savannah River Co., Aiken, SC
29808 USA (phone 803-725-3426; fax 803-725-2978).

Occupational & Environmental Radiation Protection, Aug. 15–19, 1994, a course offered by the Harvard School of Public Health. Contact: Harvard School of Public Health, Office of Continuing Education, 677 Huntington Ave., Boston, MA 02115-0023 (phone 617-432-1171, fax 617-432-1969).

Computational Methods in Reactor Analysis, Aug. 15–19, 1994, Knoxville, Tennessee, a short-course sponsored by the University of Tennessee during Tennessee Industries Week, TIW-29. Contact: T. W. Kerlin, Head of the Dept. of Nuclear Engineering, 315 Pasqua Engineering Bldg., University of Tennessee, Knoxville, TN 37996-2300 (phone 615-974-2525; fax 615-974-0668; email salmon@utkvx.utk.edu).

Monte Carlo Analysis, Aug. 15–19, 1994, Knoxville, Tennessee, a short-course sponsored by the University of Tennessee during Tennessee Industries Week, TIW-29. Contact: T. W. Kerlin, Head of the Dept. of Nuclear Engineering, 315 Pasqua Engineering Bldg., University of Tennessee, Knoxville, TN 37996-2300 (phone 615-974-2525; fax 615-974-0668; email salmon@utkvx.utk.edu).

Health Physics for the Industrial Hygienist, August 15–19, 1994, in Oak Ridge, Tennessee, a short course sponsored by Oak Ridge Associated Universities. Contact: Registrar Professional Training Programs, Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge, TN 37831-0117 (phone 615-576-3576 or 615-241-4888; fax 615-576-9383).

Annual Conference of the European Association of Nuclear Medicine, Aug. 20–24, 1994, Düsseldorf, Germany. Contact: Die Kongress-Partner, Germany (phone 49-69-78-5050, fax 49-69-78-5049).

18th Symposium on Fusion Technology (18th SOFT), Aug. 22–26, 1994, Karlsruhe, Germany. Contact: SOFT Conference Secretariate, Germany (phone 7246-82-5461, fax 7247-82-5467).

Advanced Workshop on Occupational & Environmental Radiation Protection, Aug. 22–26, 1994, a course offered by the Harvard School of Public Health. Contact: Harvard School of Public

Health, Office of Continuing Education, 677 Huntington Ave., Boston, MA 02115-0023 (phone 617-432-1171, fax 617-432-1969).

Safe Use of Radionuclides, August 22–26, 1994, in Oak Ridge, Tennessee, a short course sponsored by Oak Ridge Associated Universities. Contact: Registrar Professional Training Programs, Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge, TN 37831-0117 (phone 615-576-3576 or 615-241-4888; fax 615-576-9383).

10th Annual Oak Ridge Model Conference on Waste Management and Environmental Restoration, Aug. 23–25, 1994, Oak Ridge, Tennessee, sponsored by the U. S. Department of Energy, Martin Marietta Energy Systems, Inc., and the Oak Ridge Waste Management Association. Contact: Kimberly Collins, Analysys Corp., 300 S. Tulane Ave., Oak Ridge, TN 37830 (phone 615-576-0650).

Interregional Seminar on Radiotherapy Dosimetry: Radiation Dose in Radiotherapy from Prescription to Delivery, Aug. 27–30, 1994, Rio de Janeiro, Brazil, sponsored by the International Atomic Energy Agency. Contact: IAEA Conference Service Section, P.O. Box 100, Wagramerstrasse 5, A-1400 Vienna, Austria.

International Workshop on Scientific Bases for Decision Making After a Radioactive Contamination of an Urban Environment, Aug 29–Sept. 2, 1994, Rio de Janeiro/Goiania, Brazil. Contact: E.C.S. Amaral, CNEN, Inst. of Radioprotection and Dosimetry, Av. Salvador Allende s/n, Recreio CEP 22780, P.O. Box 37750, Rio de Janeiro, Brazil (phone 55-21-348-5172, fax 55-21-442-1950).

September 1994

International Conference on the Nuclear Power Option, Sept. 5–8, 1994, Vienna, Austria, sponsored by the International Atomic Energy Agency. Contact: IAEA (phone 43-1-2360-1310; fax 43-1-234-564).

First International Workshop on Accelerator-Based Neutron Sources for Boron Neutron Capture Therapy, Sept. 11–14, 1994, Jackson, Wyoming, sponsored by the U.S. Department of Energy. Contact: D. W. Nigg, Idaho National Engineering Laboratory, P.O. Box 1625, Idaho Falls, ID 83415-3890 (fax 208-526-0528).

9th International Meeting on Radiation Processing, Sept. 11–16, 1994, Istanbul, Turkey. Contact: Prof. Dr. Olgun Guven, Chairman (IMRP-9), P.O. Box 177, Bahcelievler, Ankara, 06502 Turkey (phone 90-4-298-1894, fax 90-312-815-4307).

Environmental Monitoring, Sept. 12–16, 1994, in Oak Ridge, Tennessee, a short course sponsored by Oak Ridge Associated Universities. Contact: Registrar Professional Training Programs Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge, TN 37831-0117 (phone 615-576-3576 or 615-241-4888; fax 615-576-9383).

Utility-NRC Interface Workshop (Region I), Sept. 18–21, 1994, King of Prussia, Pennsylvania, sponsored by the American Nuclear Society. Contact: General Chairs William F. Kane, U. S. Nuclear Regulatory Commission, 475 Allendale Road, King of Prussia, PA 19406 (phone 215-337-5304; fax 215-337-5241) or Dickenson Smith, PECO Energy Co., 965 Chesterbrook Blvd, M/C 63C-3, Wayne, PA 19087-5681 (phone 215-640-6600; fax 215-640-6611).

Radiation Safety Officer—A Technical Short Course, Sept. 19–23, 1994, Las Vegas, Nevada, offered by Nevada Technical Associates, Inc. Contact: Nevada Technical Associates, Inc., P.O. Box 90748, Henderson, NV 89009 (phone or fax 702-564-2798).

Applied Health Physics, September 19–October 21, 1994, in Oak Ridge, Tennessee, a five-week course sponsored by Oak Ridge Associated Universities. Contact: Registrar Professional Training Programs, Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge TN 37831-0117 (phone 615-576-3576 or 615-241-4888; fax 615-576-9383).

6th Russian Scientific Conference on Radiation Shielding of Nuclear Installations, Sept. 20–23, 1994, Obninsk, Russia. Contact: A. P. Suvorov, Inst. of Physics and Power Engineering, 249020, Bondarenko Sq. 1, Obninsk, Kaluga Region, Russia (fax 095-230-2326, telex 911509 URAN SU).

Fundamentals of Radiation Protection, Sept. 26–30, 1994, Cambridge, Massachusetts, a short course offered by Arthur D. Little, Radiation Technology and Policy Unit, ATTN: David J. Allard, 20 Acorn Park, Rm. 321, Cambridge, MA 02140-2390 (phone 617-498-6101; fax 617-498-7161).

3rd International Conference on Decommissioning of Nuclear Facilities, Sept. 26–30, 1994, Luxembourg, sponsored by Commission of European Communities. Contact: FBCL Conference Services, Rue J. P. Brasseur 29, L-158 Luxembourg, Luxembourg (phone 352-455518; fax 352-455905).

October 1994

ENC-94—International Nuclear Congress and World Exhibition, Oct. 2–6, 1994, Lyon, France. Contact: P. Fuez, European Nuclear Society, P.O. Box 5032, Belpstrasse 23, CH-3007 Berne, Switzerland (phone 41-31-320-61-11; fax 41-31-244-66).

Meeting of the American Society for Therapeutic Radiology and Oncology, Oct. 3–7, 1994, Philadelphia, Pennsylvania. Contact: ASTRO, 1101 Market St., 14th Floor, Philadelphia, PA 19107-2990 (phone 215-574-3180).

Transportation and Packaging of Radioactive Materials, Oct. 3–7, 1994, Phoenix, Arizona, a technical short course offered by Technical Management Services, Inc., P.O. Box 226, New Hartford, CT 06057 (phone 203-738-2440; fax 203-738-9322).

Seminar on Radioactive Waste Management Practices and Issues in Developing Countries, Oct. 10–14, 1994, Beijing, China, sponsored by IAEA. Contact: IAEA, Conference Service Section, P.O. Box 100, A-1400 Vienna, Austria (phone 43-1-2360-1310; fax 43-1-234-564).

ANSWERS Shielding & Criticality Seminar, Oct. 11–14, 1994, a workshop presented by AEA Technology at Winfrith, U.K. Contact: Mrs. J. Wilkinson-James, AEA Technology, Winfrith, Dorchester, Dorset DT2 8DH, UK (phone 0305-202352; fax 0305-202746).

Decontamination/Decommissioning of DOE and NRC Regulated Facilities, Oct. 17–21, 1994, Knoxville, Tennessee, a technical short course offered by Technical Management Services, Inc., P.O. Box 226, New Hartford, CT 06057 (phone 203-738-2440; fax 203-738-9322).

3rd International Conference on Containment Design and Operation, Oct. 19–21, 1994, Toronto, Canada. Contact: CNS, 144 Front St. West, Suite 725, Toronto, Ont., Canada M5J 2L7 (phone 416-977-7620).

Fourth Conference on Radiation Protection and Dosimetry, Oct. 24–26, 1994, Orlando, Florida, sponsored by the Oak Ridge National Laboratory. Contact: J. S. Bogard, ORNL, P.O. Box 2008, Oak Ridge, TN 37831-6379 (phone 625-574-5851, fax 615-574-9174).

International Symposium on Global Environment and Nuclear Energy Systems, Oct. 24–27, 1994, Shizuoka, Japan. Contact: Akinao Shimizu or Hiroshi Tomiyasu, Research Laboratory for Nuclear Reactors, Tokyo Institute of Technology, O-okayama, Meguro-ku, Tokyo 152, Japan (phone 81-3-3734-3062; fax 81-3-5734-2925).

International Conference on Radiation and Society: Comprehending Radiation Risks, Oct. 24–28, 1994, Paris, sponsored by the IAEA. Contact: IAEA, IAEA-CN-54, P.O. Box 100, A-1400 Vienna, Austria (fax 43-1234564).

Fundamentals of Radiation Safety, Oct. 24–28, 1994, Toronto, Canada, a technical short course offered by Technical Management Services, Inc., P.O. Box 226, New Hartford, CT 06057 (phone 203-738-2440; fax 203-738-9322).

Nuclear Science Symposium: Medical Imaging Conference, Oct. 30–Nov. 5, 1994, Norfolk, Virginia, sponsored by the U.S. Department of Energy, the Institute of Electrical and Electronics Engineers, and the Stanford Linear Accelerator Center. Contact: L. A. Kleisner, SLAC, P.O. Box 4349, MS 12, Stanford, CA 94309.

November 1994

Symposium on Radioactive and Mixed Wastes—Risk as a Basis for Waste Classification, Nov. 9, 1994, Las Vegas, Nevada. Contact: National Council on Radiation Protection and Measurements, 7910 Woodmont Ave., Suite 800, Bethesda, MD 20814-3095 (phone 301-657-2652).

2nd ANS Workshop on the Safety of Soviet-Designed Nuclear Power Plants, Nov. 12–13, 1994, Washington, D.C., held in conjunction with the 1994 ANS Winter Meeting. Contact: Robert Bari, Brookhaven National Laboratory, Bldg. 197C, Upton, NY 11973 (phone 516-282-2629; fax 516-282-5266).

1994 ANS Winter Meeting: The State of the Industry, Nov. 13–17, 1994, Washington, D.C. Contact: ANS

Meetings Dept., 555 N. Kensington Ave., La Grange Park, IL 60525 (phone 708-579-8258).

ANS Meeting on Environmental Aspects of Decommissioning, Decontamination, and/or Environmental Restoration at Nuclear and Mixed Waste Facilities, Nov. 13–17, 1994, Washington. Contact: Argonne National Laboratory, OQA/EWM-201, Ms. M. G. White, 9700 S. Cass Ave., Argonne, IL 60439 (fax 708-252-5965).

40th Annual Conference on Bioassay, Analytical, and Environmental Radiochemistry, Nov. 14–18, 1994, Cincinnati, Ohio. Contact: Dr. Henry Spitz, 40th Bioassay Conference, P.O. Box 9346, Cincinnati, OH 45209 (phone 513-556-2003, Internet SEG3.NIOSHE2.EM.CDC.GOV), or Sam Glover (phone 513-841-4400, Internet SEG3.NIOSHE2.EM.CDC.GOV).

2nd Radiation Physics Conference, Nov. 20–24, 1994, Sadaat City, Egypt, sponsored by the Atomic Energy Authority, Menoufia University. Contact: Prof. M. A. Gomaa, Atomic Energy Authority, 101. Kasr El-Aini Street, Cairo, Egypt (phone 02-355-8269/8264, fax 02-354-0982).

Workshop on Various Reduction Schemes Developed at ENEA for Use With the MCNP Transport Code, Nov. 28–Dec. 1, 1994, Bologna, Italy. Contact: K. W. Burn (kwb@iboenea.bitnet, Internet kwb@iboenea.bitnet%icineca.cineca.it).

December 1994

Safe Use of Radionuclides, December 5–9, 1994, in Oak Ridge, Tennessee, a short course sponsored by Oak Ridge Associated Universities. Contact: Registrar Professional Training Programs, Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge, TN 37831-0117 (phone 615-576-3576 or 615-241-4888; fax 615-576-9383).

March 1995

1995 HEART Conference, Mar. 13–17, 1995, Sandia National Laboratories, Albuquerque, New Mexico. Contact: Delores Walters, JAYCOR, P.O. Box 85154, San Diego, CA 92138 (619-535-9763).

Gamma Spectroscopy, March 20–24, 1995, in Oak Ridge, Tennessee, a short course sponsored by Oak Ridge Associated Universities. Contact: Registrar Professional Training Programs, Oak Ridge Associated Universities, P.O. Box 117, Oak

Ridge, TN 37831-0117 (phone 615-576-3576 or 615-241-4888; fax 615-576-9383).

5th Topical Meeting on Tritium Technology in Fission, Fusion, and Isotopic Applications, Mar. 26–31, 1995, Augusta, Georgia, sponsored by the ANS. Contact: C. E. Murphy, Westinghouse SRC, Savannah River Lab., Aiken, SC 29808.

Health Physics for the Industrial Hygienist, March 27–31, 1995 in Oak Ridge, Tennessee, a short course sponsored by Oak Ridge Associated Universities. Contact: Registrar Professional Training Programs, Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge, TN 37831-0117 (phone 615-576-3576 or 615-241-4888; fax 615-576-9383).

April 1995

Applied Health Physics, April 10–May 12, 1995, in Oak Ridge, Tennessee, a five-week course sponsored by Oak Ridge Associated Universities. Contact: Registrar Professional Training Programs, Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge, TN 37831-0117 (phone 615-576-3576 or 615-241-4888; fax 615-576-9383).

5th Topical Meeting on Emergency Preparedness and Response, Apr. 18–21, 1995, Savannah, Georgia, sponsored by the American Nuclear Society Savannah River Section. Contact: Charles H. Hunter, Jr., Technical Program Chairman, Westinghouse Savannah River Co., Bldg. 773-A, Aiken, SC 29808 (phone 803-725-2953; fax 803-725-4233).

ICONE-3, The Third International Conference on Nuclear Engineering—Nuclear Power and the Energy Future, Apr. 23–27, 1995, Kyoto, Japan. Contact: Mr. M. Takahashi, Japan Society of Mechanical Engineers, Shinjuku-Sanshin Bldg. 5F, 2-4-9 Yoyogi, Shibuya-ku, Tokyo 151 Japan (phone 81-3-3379-6781; fax 81-3-3379-0934).

May 1995

1995 International High-Level Radioactive Waste Management Conference, May 1–5, 1995, Las Vegas, Nevada. Contact: Allen G. Croff, American Nuclear Society, 555 N. Kensington Ave., La Grange Park, IL 60525.

June 1995

Air Sampling for Radioactive Materials, June 12–16, 1995, in Oak Ridge, Tennessee, a short course sponsored by Oak Ridge Associated Universities. Contact: Registrar Professional Training Programs, Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge, TN 37831-0117 (phone 615-576-3576 or 615-241-4888; fax 615-576-9383).

Environmental Monitoring, June 26–30, 1995 in Oak Ridge, Tennessee, a short course sponsored by Oak Ridge Associated Universities. Contact: Registrar Professional Training Programs Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge, TN 37831-0117 (phone 615-576-3576 or 615-241-4888; fax 615-576-9383).

August 1995

Safe Use of Radionuclides, August 21–25, 1995, in Oak Ridge, Tennessee, a short course sponsored by Oak Ridge Associated Universities. Contact: Registrar Professional Training Programs, Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge, TN 37831-0117 (phone 615-576-3576 or 615-241-4888; fax 615-576-9383).

September 1995

Environmental Monitoring, September 11–15, 1995, in Oak Ridge, Tennessee, a short course sponsored by Oak Ridge Associated Universities. Contact: Registrar Professional Training Programs Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge, TN 37831-0117 (phone 615-576-3576 or 615-241-4888; fax 615-576-9383).

Applied Health Physics, September 18–October 20, 1995, in Oak Ridge, Tennessee, a five-week course sponsored by Oak Ridge Associated Universities. Contact: Registrar Professional Training Programs, Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge TN 37831-0117 (phone 615-576-3576 or 615-241-4888; fax 615-576-9383).

16th Symposium on Fusion Engineering, Sept. 30–Oct. 4, 1995, Urbana, Illinois. Contact: Cella Elliott, Conference Secretary, Fusion Studies Lab., University of Illinois, Urbana, IL 61801 (phone 217-333-2772; fax 217-333-2906; email miley@uiucvmd.bitnet).

JUNE 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. For literature listed as available from INIS contact INIS Clearinghouse, International Atomic Energy Agency, P.O. Box 100, A-1400 Vienna.

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.

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