RSIC Newsletter

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He who learns and does not review his studies is like one who sows and does not reap.—Rabbi Nachman of Bratzlav

REGISTER NOW FOR SCALE WORKSHOP

A detailed orientation to the use of SCALE, the modular code system for performing standardized computer analyses for licensing evaluation, will be given in a workshop at Oak Ridge, Tennessee, April 15-18, 1986. The new Garden Plaza Hotel, near the downtown campus of the Oak Ridge Associated Universities (ORAU), has been selected for the technical sessions and for lodging ($50 single/$57 double). Full details were mailed to those persons who indicated an interest in attending the workshop.

The SCALE code system, for which RSIC has served as a clearinghouse for dissemination and interaction with developers and users, is the development of the Nuclear Engineering Applications Department (NEAD) of the Computing and Telecommunications Division of Martin Marietta Energy Systems, Inc. under the sponsorship of the U.S. Nuclear Regulatory Commission. Several NEAD staff members will participate in the workshop.

The SCALE Workshop will be repeated in Europe under the sponsorship of the OECD Nuclear Energy Agency (NEA) Data Bank on June 24-27, 1986. Those interested in the European workshop should contact Luis Garcia de Viedma at NEA Data Bank, 91191 Gif-sur-Yvette, France [phone (6) 908-49-12 or (6) 941-39-65].

Early registration for the RSIC/Oak Ridge workshop is encouraged. A form for this purpose is appended to this issue of the newsletter. The deadline for preregistration is **March 31, 1986.** The registration fee, if mailed by the deadline, is $125; $150 afterwards.

The workshop will provide an overview of the system and functional modules and the control modules for heat transfer, criticality, and shielding. However, the tentative format calls for some "breakout" sessions for those having specific applications and more detailed questions about a given subject. These sessions are identified as the "(b)" part of the parallel sessions 10, 11, 12, and 13. If there is sufficient demand, those participants with special interests may by-pass the major topic being discussed in the "(a)" part of the parallel sessions to attend a "breakout" session.

A preliminary agenda for the workshop follows.

Tuesday, April 15

1. History and Overview of SCALE—C. V. Parks
2. Functional Modules for Preparation of Cross Sections: NITAWL, XSDRNPM, BONAMI, ICE—R. M. Westfall
3. Criticality Functional Modules: XSDRNPM, KENO-IV, KENO-V.a—L. M. Petrie and N. F. Landers
4. Shielding Functional Modules: MORSE-SGC/MARS, PICTURE, JUNEBUG, XSDRNPM, XSDOSE—J. S. Tang, M. B. Emmett, and J. A. Bucholz
5. Heat Transfer Functional Modules: HEATING 6, HEATPLOT, REGPLOT—G. E. Giles
6. Depletion/Decay Functional Modules: ORIGEN-S, PLORIGEN, and COUPLE—O. W. Hermann

Wednesday, April 16

7. Data Libraries: Cross Sections, Standard Compositions, Experimental Descriptions (CESAR), and Isotope Generation and Depletion Data—R. M. Westfall and J. C. Ryman
8. Miscellaneous: System Driver, Subroutine Library, Reading Routines, Standard Composition Data Generator (COMPOZ), and System Portability—L. M. Petrie
9. Heat Transfer Control Module: HTAS1—C. V. Parks
10. Parallel Sessions
    (a) Criticality Control Modules: Part I—L. M. Petrie and N. F. Landers
    (b) Heat Transfer Breakout Session—G. E. Giles and K. Childs

Thursday, April 17

11. Parallel Sessions
    (a) Criticality Control Modules: Part II—L. M. Petrie and N. F. Landers
    (b) Shielding Breakout Session—O. W. Hermann, J. S. Tang, and M. B. Emmett
12. Parallel Sessions
    (a) Shielding Control Modules: Part I—C. V. Parks and O. W. Hermann
    (b) Criticality Breakout Session—L. M. Petrie

Friday, April 18

13. Parallel Sessions
    (a) Shielding Control Modules; Part II—C. V. Parks, O. W. Hermann, L. M. Petrie, and J. S. Tang
    (b) Criticality Breakout Session—N. F. Landers
14. Closing Plenary: Attendee Questions and Feedback—C. V. Parks and R. W. Roussin (RSIC)

JAERI Code Center Under New Leadership

Takashi Hirakawa, general manager of the Computing Center of the Japan Atomic Energy Research Institute (JAERI) at the Tokai Research Establishment, has notified RSIC that he is to retire from JAERI in a few months. Hirakawa also headed the Code Exchange Center (1975–1986) established by JAERI as the focal point for exchange of computing technology with similar USA and European centers in the early 1970s. He followed *Makoto Akanuma*, who left the center for another professional assignment in mid 1975. **Kiyoshi Asai**, former deputy to Hirakawa, has taken over his responsibilities in information interchange and code distribution in nuclear fields.

Discussions of establishing mechanisms for direct exchange of shielding information and computing technology between RSIC and Japanese scientists and engineers followed an initial meeting in 1969 between Betty F. Maskewitz and Dr. S. Katsuragi and Makoto Akanuma of JAERI. Shun-ichi Miyasaka, early RSIC liaison with JAERI Shielding Laboratory and members of the JAERI Nuclear Codes Committee were helpful in the planning stage and the exchange procedures were in place by 1973, with Akanuma as head.

The decade of cooperation and collaboration between RSIC and the JAERI Code Center was pleasant and mutually beneficial under Hirakawa's leadership. The exchange served, we feel, to advance the state of the art of shielding methodology at a faster rate than might have otherwise been possible. We are grateful to Takashi Hirakawa and wish him well in retirement. We welcome Kiyoshi Asai as a long-term RSIC friend and participant and offer our fullest cooperation in interactions with the Japanese radiation protection, transport, and shielding community.

ANS RP&S Division '86 Slate of Officers

The Radiation Protection and Shielding Division of the ANS has selected the following nominees for the 1986 election: Chair, **Robert W. Roussin** (ORNL); vice chair/chair-elect, **William C. Hopkins** (Bechtel Corp.) and **Nick Tsoulfanidis** (Univ. of Missouri); secretary, **Daniel T. Ingersoll** (ORNL) and **Jacob Celnik** (Stone and Webster); treasurer, **William J. Johnson** (Sargent and Lundy); executive committee, **Arnold H. Fero** (Westinghouse), **Margaret Emmett** (ORNL), **J. Kenneth Shultis** (Kansas State Univ.), **Donald A. Nitti** (B&W), **William T. Urban** (Univ. of California), and **Mark L. Williams** (Louisiana State Univ.).

CHANGES TO COMPUTER CODE COLLECTION

During the month eight changes were made to the computer codes collection. Four new code systems were packaged, an existing code package was extended with an additional hardware version, and three code packages were updated to reflect corrections or enhancements to the existing code packages.

CCC-371/ORIGEN2

The Prime version of this isotope generation and depletion code system was updated to correct the actinide decay library. The fraction of alpha decay for ^{241}Pu was changed from the incorrect value 2.45 E-07 to the correct value 2.45 E-05, and the Q value ^{242}Cm was changed from 0.1960 to 6.216 MeV/dis. The need for these corrections was reported to RSIC by Technischer Überwachungs-Verein (TÜV), Hannover, Fed. Rep. of Germany, and Electrowatt Engineering Services, West Sussex, United Kingdom. The errors existed only in the Prime version. FORTRAN IV; IBM 3033, CDC and VAX (A) and Prime (C).

CCC-428/ONEDANT

This one-dimensional, multigroup, diffusion-accelerated, neutral-particle transport code package was extended to include a CRAY version (COS Operating System) contributed by Los Alamos National Laboratory, Los Alamos, New Mexico. The CRAY version is written in FORTRAN 77 language and was designated (D) version. Reference: LA-6941-MS. FORTRAN IV; CDC 7600 (A), IBM 370/195 (B). FORTRAN 77; VAX (C) AND CRAY (D).

CCC-459/BOLD-VENTURE

The documentation for this reactor analysis code system was updated to add Appendixes B and C of ORNL-5711 which describe interface file specifications. The ORNL contributors of the code system suggested their inclusion. FORTRAN IV; IBM 360/370.

CCC-480/THT

This new three-group diffusion theory method for light water reactors using a large grid was contributed by AgipNucleare, Milano, Italy, through the Organization for Economic Development, (OECD) Nuclear Energy Agency (NEA) Data Bank, Gif-sur-Yvette, France. The method employed in THT is aimed at being more precise than current industrial design methods without being slow. The THT theory includes a new spectral model to evaluate the thermal and epithermal fluxes inside assemblies and discontinuity factors to connect fast epithermal and thermal fluxes across nodes. Reference: Informal notes. FORTRAN IV; IBM 360/370.

CCC-481/VPI-NECM

This nuclear engineering computer system of modules for in-core fuel management analysis was contributed by Virginia Polytechnic Institute and State University, Blacksburg, Virginia, and the Institute of Atomic Energy, Swierk, Poland, through the OECD, NEA Data Bank, Gif-sur-Evette, France. The code system has been included in the Coordinated Research Programme (CRP) on "Codes Adaptable to Small and Medium-Size Computers Available in Developing Countries for In-Core Fuel Management" of the International Atomic Energy Agency (IAEA). It consists of six independent programs designed to calculate: (1) FARCON — neutron slowing down and epithermal group constants; (2) SLOCON — thermal neutron spectrum and group constants; (3) DISFAC — slow neutron disadvantage factors; (4) ODOG — solution of a one-group neutron diffusion equation; (5) ODMUG — three-group criticality problem; (6) FUELBURN — fuel burnup in slow neutron fission reactors. Reference: VPI Reports and informal notes. FORTRAN IV; CDC CYBER 740 (A) and VAX 11 (B).

PSR-137/MARLOWE

A list of minor corrections and updated coding is available from RSIC for this code package of computer simulation of atomic-displacement cascades in solids in the binary collision approximation. The list, a MARLOWE Update Bulletin from the code author, may be requested from RSIC. The corrections were supplied by the Oak Ridge National Laboratory (ORNL), contributors of the code system. FORTRAN IV; IBM 3033, CRAY, CDC, UNIVAC, and TI (A).

PSR-215/RESENDD

This computer code system to calculate resonance cross sections from evaluated resonance parameters in the ENDF/B format was contributed by the Japan Atomic Energy Research Institute (JAERI), Tokyo, Japan through the OECD, NEA Data Bank, Gif-sur-Yvette, France. Based on the RESEND code developed at the National Nuclear Data Center, Brookhaven National Laboratory, Upton, New York, RESENDD reconstructs resonance cross sections from an evaluated data file in the ENDF/B format. If needed, Doppler-broadened cross sections are also calculated. Both ENDF/B-IV and ENDF/B-V format are available for input and output files. Except for the multilevel Breit-Wigner model, the formulas used in RESENDD for reconstruction of resonance cross sections are given in BNL-NCS-50496 (ENDF 102) *Data Formats and Procedures for the Evaluated Nuclear Data file ENDF.*

The calculation method for Doppler effect is the same as that of SIGMA 1 (PSR-159/RENDER). Reference: JAERI-M 84-192. FORTRAN IV; CDC CYBER 740 (A), VAX-11/780 (B).

PSR-226/PRECO-D2

This code system for calculating preequilibrium and direct reaction double differential cross sections was contributed by Los Alamos National Laboratory, Los Alamos, New Mexico. The system uses the exciton model for preequilibrium nuclear reactions to describe the emission of particles with mass numbers of 1 to 4 from an equilibrating composite nucleus. A distinction is made between open and closed configurations in this system and between the multi-step direct (MSD) and multi-step compound (MSC) components of the preequilibrium cross sections. Additional MSD components are calculated semi-empirically to account for direct nucleon transfer reactions and direct knockout processes involving cluster degrees of freedom. Evaporation from the equilibrated composite nucleus is included in the full MSC cross section. Output of energy differential and double differential cross sections is provided for the first particle emitted. Reference: LA-10248-MS. FORTRAN 77; CRAY.

CHANGES TO THE DATA LIBRARY COLLECTION

During the month an existing data library was updated.

DLC-60/MACKLIB IV-82

This data library package of 171-neutron, 36-gamma-ray multigroup kerma factors and reaction cross sections for 49 materials was updated to add the output from running a RIPOF sample problem. RIPOF is a general retrieval program which, among other tasks, converts data between binary and card image and does energy collapse. It is an ORNL contribution. FORTRAN IV; IBM 360/370 and CDC.

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.

Jacek Jedruch has assumed new duties in the Nuclear Engineering Department of EBASCO Services, Inc., Two World Trade Center in New York, following the publication of his book, *Nuclear Engineering Data Bases, Standards, and Numerical Analysis*, by Van Nostrand Reinhold Co. He had served for over 20 years at Westinghouse in Pittsburgh, Pennsylvania, in advanced reactor development.

During the past month we have been informed of the following change of address: *Kenneth R. Koch*, from Purdue University, to Los Alamos National Laboratory, New Mexico.

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.

ICENES '86

The *4th International Conference on Emerging Nuclear Energy Systems* will be held June 30–July 4, 1986, in Madrid, Spain. The 4th ICENES is organized by the Department of Nuclear Energy of the Polytechnical University of Madrid with the cooperation of the Spanish Nuclear Society and the patronage of Centro de Investigación Energética Medioambiental y Tecnológica, Unidad Eléctrica, UNESA. Co-sponsors include the European Nuclear Society, ANS, Atomic Energy Society of Japan, USSR Academy of Sciences, Canadian Nuclear Society, and IAEA. The conference will be held at the Escuela Técnica Superior de Ingenieros Industriales, Paseo de la Castellana in Madrid.

The objective is to discuss the latest information on advanced nuclear energy systems. Topics to be covered include: Blanket, breeder and advanced reactor designs; Inertial confinement fusion; Novel fusion topics; New concepts in nuclear energy; and Economical and institutional subjects. Further information may be obtained

from Prof. G. Velarde, Dept. de Energía Nuclear, E.T.S. de Ingenieros Industriales, P.° Castellana, n.° 80, 28046 Madrid, Spain [phone: 91 411 41 48, Telex: 46854 (LCOEE)].

Call for Papers: Advances in Reactor Physics and Safety

Participants are invited to submit papers for the ANS Topical Meeting on *Advances in Reactor Physics and Safety* to be held September 17–19, 1986, at the Ramada Renaissance Hotel in Saratoga Springs, New York. The meeting is co-sponsored by the ANS, Canadian Nuclear Society, the Electric Power Research Institute, the Nuclear Regulatory Commission, and the Japanese Atomic Energy Society.

The scope of the meeting includes new developments in and validation of reactor physics and safety methods and data. There will be an invited session on Current Challenges in Reactor Physics and Safety, and a special session on the History of the Physics of Reactor Safety. Papers are solicited in the following areas: Pressure Vessel Embrittlement, Safety Limits and Core Instrumentation, Physics and Safety of Advanced Reactor Concepts, Point and Space Time Core Models for Transient Analysis, Improvement and Validation of Plant Simulation Codes, Nuclear Plant Analyzers, Modeling of Degraded Cores, Safety Aspects of Core Design, and Reactor Physics and Experimental Verification.

Summaries of up to 900 words should be submitted to the Technical Program Chairman, Dr. Donald R. Harris, Dept. of Nuclear Engineering, Rensselaer Polytechnic Institute, Troy, New York 12180-3590 (phone 518-270-6407). Full papers will be published in bound volumes to be distributed at the meeting.

Calendar

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

March 1986

Advances in Fuel Management, Mar. 2–5, 1986, Pinehurst, North Carolina, sponsored by the American Nuclear Society (ANS). Contact: Al Watson, Harris Nuclear Plant, P.O. Box 101, New Hill, NC 27562.

Waste Management '86, Mar. 2–6, 1986, Tucson, Arizona, sponsored by the Univ. of Arizona. Contact: Roy Post, Editor-NT, Univ. of Arizona, Nucl. Engr. Dept., Tucson, AZ 85721 (phone 602-621-6158).

International Symposium on the Optimization of Radiation Protection, Mar. 10–14, 1986, Vienna, Austria, sponsored by the International Atomic Energy Agency (IAEA). Contact: IAEA/NEA Internatl. Symp. Optimization of Radiation Protection, c/o IAEA-SM-285, Vienna International Centre, P.O. Box 100, A-1400 Vienna, Austria.

China Energy '86, Mar. 18–22, 1986, Tinajin, People's Republic of China. Contact: Aideen Barrett, Industrial & Trade Fairs International Ltd., Radcliffe House, Blenheim Court, Solihull, West Midlands B91, 2BG, England (phone 011-021-705-6707).

33rd International Electronics, Energy and Space Exposition, Mar. 18–23, 1986, Rome. Contact: RIENA Secretariat, via Crescenzio, 9-00193 Rome, Italy (phone 06-656.93.43).

Occupational and Environmental Radiation Protection, Mar. 24–28, 1986, Boston, Massachusetts, a course sponsored by the Harvard School of Public Health. Contact: Office of Continuing Education, Harvard School of Public Health, 677 Huntington Ave., Boston, MA 02115.

Internal Dosimetry for Fixed Nuclear Facilities, Mar. 31–Apr. 4, 1986, a course sponsored by ORAU. Contact: Jo T. Tipton, Registrar, ORAU, P.O. Box 117, Oak Ridge, TN 37831-0117 (phone 615-576-3434).

General Meeting of the American Physical Society, Mar. 31–Apr. 4, 1986, Las Vegas, Nevada. Contact: APS, 335 E. 45th St., New York, NY 10017 (phone 212-682-7341).

April 1986

22nd Annual Meeting of the National Council on Radiation Protection and Measurements, Apr. 2–3, 1986, Washington, D.C. Contact: NCRPM, Suite 1016, 7910 Woodmont Ave., Bethesda, MD 20814.

Applied Health Physics, Apr. 7–May 9, 1986, a course sponsored by ORAU. Contact: Jo T. Tipton, Registrar, ORAU, P.O. Box 117, Oak Ridge, TN 37831-0117 (phone 615-576-3434).

Annual Meeting on Nuclear Technology, Apr. 8–10, 1986, Aachen, F. R. Germany, sponsored by the German Nuclear Society and the German Atomic Forum. Contact: Deutsches Atomforum e.V., Tagungsbuero, Heussallee 10, D-5300 Bonn 1, F. R. Germany (phone 0228-507223).

Fast Burst Reactor Workshop, Apr. 8–10, 1986, Albuquerque, New Mexico, sponsored by Sandia National Laboratories and ANS. Contact: T. F. Luera, SNL, Div. 4450A, P.O. Box 18063, Albuquerque, NM 87185 (phone 505-844-0049).

International Meeting on Further Improvement of LWR Technologies, Apr. 10–11, 1986, Tokyo, sponsored by the Japan Atomic Industrial Forum. Contact: Japan Atomic Industrial Forum, Inc., No. 1-13, 1-chome, Shimbashi, Minato-ku, Tokyo 105, Japan (phone 03-508-2411).

2nd International Conference on Fusion Reactor Materials, (ICFRM-2), Apr. 13–17, 1986, Chicago, Illinois, sponsored by the U.S. Dept. of Energy, ANS, Argonne National Laboratory, and Nuclear Metallurgy Committee of TMS/AIME and ASM. Contact: Dale Smith, Fusion Power Program, Argonne Natl. Lab., Bldg. 205, 9700 S. Cass Ave., Argonne, IL 60439, or A. Rowcliffe, ORNL, Metals and Ceramics Div., P.O. Box X, Oak Ridge, TN 37831 (phone 615-574-5057).

12th Personnel Dosimetry Intercomparison Study, Apr. 14–18, 1986, Oak Ridge, Tenn., sponsored by ORNL. Contact: C. S. Sims, ORNL, Bldg. 7710, P.O. Box X, Oak Ridge, TN 37831 (phone 615-574-5851).

Environmental Radiation Surveillance, Apr. 14–18, 1986, a course sponsored by the Harvard School of Public Health. Contact: Office of Continuing Education, Harvard School of Public Health, 677 Huntington Ave., Boston, MA 02115.

General Meeting of the American Physical Society, Apr. 28–May 1, 1986, Washington, D. C. Contact: APS, 335 E. 45th St., New York, NY 10017 (phone 212-682-7341).

May 1986

Seventh Annual Meeting of the Canadian Radiation Protection Association, May 5–7, 1986, Quebec City, Canada. Contact: Roch Desrochers, Comm. de la santé et de la sécurité du travail, 1199 rue De Bleury, 9e étage, Montreal, Que., Canada H3B 3J1.

Conference on the Science and Technology of Fast Reactor Safety, May 12–16, 1986, Channel Islands, U. K. Contact: Inst. of Civil Engineers, Conference Office, 1-7 Great George St., London SWIP 3AA.

Radiation Protection Instrumentation, May 12–16, 1986, a course sponsored by the Harvard School of Public Health. Contact: Office of Continuing Education, Harvard School of Public Health, 677 Huntington Ave., Boston, MA 02115.

June 1986

4th European Nuclear Conference (ENC-86), June 1–6, 1986, sponsored by the European Nuclear Society. Contact: Dr. Peter Bucher, ENC-4 Conference Secretary, ENS, P.O. Box 2613, CH-3001 Berne, Switzerland.

26th Annual International Conference of the Canadian Nuclear Association and the 7th Annual Conference of the Canadian Nuclear Society, June 8–11, 1986. Contact: J. A. Weller, Canadian Nuclear Association, 111 Elizabeth St., Toronto, Ontario, Canada M5G 1P7.

Air Sampling, June 9–13, 1986, a course sponsored by ORAU. Contact: Jo T. Tipton, Registrar, ORAU, P.O. Box 117, Oak Ridge, TN 37831-0117 (phone 615-576-3434).

ANS Annual Meeting, June 15–20, 1986, Reno, Nevada. Contact: D. G. Pettengill, ANS, 555 N. Kensington Ave., La Grange Park, IL 60535 (phone 312-352-6611 ext. 257).

Safe Use of Radionuclides, June 16–20, 1986, a course sponsored by ORAU. Contact: Jo T. Tipton, Registrar, ORAU, P.O. Box 117, Oak Ridge, TN 37831-0117 (phone 615-576-3434).

13th International Symposium on the Effects of Radiation on Materials, June 23–25, 1986, Seattle, Washington, sponsored by ASTM Committee E-10 on Nuclear Technology and Applications. Contact: F. A. Garner, Westinghouse Hanford Co., P.O. Box 1970, W/A-58, Richland, WA 99352 (phone 509-376-4136).

July 1986

23rd International Conference on High-Energy Physics, July 16–23, 1986, Berkeley, California. Contact: S. C. Loken, 50-137 Lawrence Berkeley Lab., Univ. of California, Berkeley, CA 94720.

23rd Annual Conference on Nuclear and Space Radiation Effects, July 20–23, 1986, Providence, Rhode Island, sponsored by the Nuclear and Plasma Sciences Society and the Inst. of Electrical and Electronics Engineers. Contact: Sandra Grawet, Science Applications International Corp., 2615 Pacific Coast Highway, Hermosa Beach, CA 90254 (phone 213-318-2611).

August 1986

Criticality Accident Dosimetry Training Course, Aug. 11–15, 1986, Oak Ridge, Tenn., sponsored by ORNL. Contact: C. S. Sims, ORNL, Bldg. 7710, P.O. Box X, Oak Ridge, TN 37831 (phone 615-574-5851).

International Nuclear Physics Conference, Aug. 25–30, 1986, Harrogate, United Kingdom. Contact: Inst. of Physics, 47 Belgrave Square, London SWIX 8QX (phone 01-235-6111).

8th International Conference on Solid State Dosimetry Aug. 26–29, 1986, St. Catherine's College, Oxford, organized by the National Radiological Protection Board, U.K. Contact: Miss L. Ashby, National Radiological Protection Board, Chilton, Didcot, Oxfordshire, U.K.

September 1986

International Conference on Nuclear and Radiochemistry, Sept. 1–5, 1986, Beijing, sponsored by the Chinese Nuclear Society and Chinese Chemical Society. Contact: Prof. Liu Yuanfang, Dept. of Technical Physics, Beijing Univ., Beijing, People's Republic of China.

International Conference on Reliable Fuels for Liquid-Metal Reactors, Sept. 7–11, 1986, Tucson, Arizona, sponsored by ANS, AIME, and the U.S. Dept. of Energy. Contact: E. A. Aitken, Tech. Prog. Chairman, General Electric Co., Nuclear System Technology Div., 310 DeGuigne Dr., Sunnyvale, CA 94088 (phone 408-738-7237).

International Conference on Radioactive Waste Management, Sept. 7–12, 1986, Winnipeg, Manitoba, Canada, sponsored by the Canadian Nuclear Society and ANS. Contact: Dr. T. S. Drolet, CFFTP, 2700 Lakeshore Rd. West, Mississauga, Ontario, Canada L5J 1K3 (phone 416-823-6654).

Conference on the Treatment and Containment of Radioactive Wastes and Disposal in Arid Environments (Radwaste '86), Sept. 7–13, 1986, sponsored by Atomic Energy Corp. of South Africa, Electricity Supply Commission of South Africa, and Nuclear Development

Corp. of South Africa. Contact: Radwaste Conf. Secretariat, NUCOR, Private Bag X256, Pretoria 0001, South Africa (phone 27-12-21-3311 ext. 677).

14th SOFT—Symposium on Fusion Technology, Sept. 8–12, 1986, Avignon, France. Contact: A. Torossian, Dept. de Recherches sur la Fusion Controlee, Centre d'Études Nucleaires de Cadarache, B.P. No. 1, F-13108 Ste-Paul-lez Durance, France.

Advances in Reactor Physics and Safety Meeting, Sept. 17–19, 1986, Saratoga Springs, N. Y., sponsored by ANS. Contact: Norman C. Francis, Knolls Atomic Power Lab., River Road, Schenectady, NY 12301, or Donald R. Harris, Rensselaer Polytechnic Inst., Troy, NY (phone 518-270-6407).

November 1986

International Symposium on Nuclear Material Safeguards, Nov. 10–14, 1986, sponsored by IAEA. Contact: IAEA, Conf. Service Section, P.O. Box 100, A-1400 Vienna, Austria.

United Nations Conference for the Promotion of International Co-operation in the Peaceful Uses of Nuclear Energy, Nov. 10–28, 1986. Contact: Executive Secretary, UN Conf. for the Promotion of Internatl. Cooperation in the Peaceful Uses of Nuclear Energy, Vienna International Centre, P.O. Box 500, A-1400 Vienna, Austria.

ANS and Atomic Industrial Forum Joint Meeting, Nov. 16–21, 1986, Washington, D. C. Contact: D. G. Pettengill, ANS, 555 N. Kensington Ave., La Grange Park, IL 60535 (phone 312-352-6611 ext. 257).

DECEMBER 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.

RADIATION SHIELDING LITERATURE

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CONF-850557-Summ., pp.781-784, . . *Hybrid Blanket Criticality Variation with Exposure to Fusion Neutrons.,* . . Schoepf, K.F., . . March 29, 1985, . . NTIS, PC A03/MF A01

ECN-162, . . *FURNACE: A Toroidal Geometry Neutronic Program System Method Description and User Manual.,* . . Verschuur, K.A., . . December 1984, . . NTIS (U.S. Sales Only), PC A05/MF A01

EGG-FT-5603, . . *Evaluation of Alternative Methods of Simulating Asymmetric Bulk Heating in Fusion Reactor Blanket/Shield Components.,* . . Deis, G.A.; Longhurst, G.R.; Miller, L.G.; Wadkins, R.P.; Wessol, D.E., . . October 1981, . . NTIS, PC A04/MF - MF available from INIS.

EPRI-NP-4072, . . *Control of Radiation-Field Buildup in BWRs.,* . . Marble, W.J., . . June 1985, . . Research Reports Center (RRC), Box 50490, Palo Alto, CA 94303

EPRI-NP-4096, . . *Surry Source Term and Consequence Analysis.,* . . Ritzman, R.L.; Mendoza, Z.T.; Hashemi, A., . . June 1985, . . Research Reports Center (RRC), Box 50490, Palo Alto, CA 94303

EPRI-NP-4172M, . . *Radiation Data for Design and Qualification of Nuclear Plant Equipment.,* . . Bouquet, F.; Winslow, J., . . August 1985, . . Research Reports Center (RRC), Box 50490, Palo Alto, CA 94303

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Registration fee defrays expenses for conducting the workshop and entitles the registrant to attend all conference functions, including the Tuesday luncheon and the Wednesday evening reception. All activities will be held at the Garden Plaza Hotel on Illinois Ave. in Oak Ridge. Please check below the mode of registration you desire.

____ (a) I enclose $125 for the advanced registration fee (in any negotiable form) payable to Engineering Physics Information Centers (EPIC). Mail directly to EPIC: Bldg. 6025, Room 15W, Oak Ridge National Laboratory, P.O. Box X, Oak Ridge, TN 37831.

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Maps of the area surrounding the Garden Plaza Hotel will be available at the registration desk. The maps will show several fast food and shopping places within walking distance of the workshop site. The American Museum of Science and Energy is also within walking distance of the site.

A group tour of Oak Ridge National Laboratory (ORNL) will be offered on Friday afternoon, April 18. I wish to participate in the tour.
yes ___ no ___