RSIC Newsletter

No. 227   October 1983

The art of being wise is the art of knowing what to overlook... William
James

ROUSSIN LEADS RSIC

Robert W. Roussin, who has been serving as acting director of RSIC for some time, has been named director as of October 1, 1983. He will continue to report to **Betty F. Maskewitz**, Director of the Engineering Physics Information Centers (EPIC), the umbrella organization under which RSIC functions. Maskewitz has been gradually withdrawing from RSIC daily management to concentrate on other ORNL developing information science activities, including the newly established DOE Carbon Dioxide Information Center (CDIC) and the NRC Technical Data Management Center (TDMC). She will continue to exercise oversight and will work on specific RSIC projects as needed.

Roussin joined RSIC in 1968. His academic background includes a BS in Mechanical Engineering from the University of Missouri-Rolla and an MS and PhD in Nuclear Engineering from the University of Illinois. His thesis advisor and long-time RSIC participant, *Art Chilton*, is on record as stating he "specifically trained Roussin for RSIC." He is currently enrolled in the graduate program in management at the University of Tennessee School of Business Administration.

Roussin has coordinated the Center's data activities over the past 15 years and is largely responsible for the Data Library Collection (DLC). He was a leader in the development of the Defense Nuclear Agency (DNA) Working Cross Section Library and in fusion cross section data activities within which he coordinated the development of VITAMIN-C. He has served on the Cross Section Evaluation Working Group (CSEWG) since 1970; he was Chairman of the Shielding Subcommittee and of the reorganized Shielding Data Testing and Applications Subcommittee from 1975 to the present.

He is a member of the American Nuclear Society (ANS); active in the Radiation Protection and Shielding Division; served on national committees for membership and publications; and actively participates in ANS-6 standards activities, particularly those concerned with shielding benchmarks and cross sections.

Roussin assumes responsibility for RSIC in it's 21st year. In the first 20 years (FY 1963-1983), the center was headed in succession by its founding members: **S. K. Penny** (1963-1966), **D. K. Trubey** (1967-1970), and **Maskewitz** (1970-1983). Trubey, who took leave in 1970 to participate in other ORNL information activities in the ORNL/NSF Environmental Program which later led to the establishment of the ORNL Information Center Complex, returned to RSIC to lead in technical shielding activities and to develop a systems approach to all EPIC information science activites.

A change in management personnel does not change RSIC's mission within the international shielding community. We continue to work with the community to advance the state of the art and to seek to ensure competence and quality in radiation protection and shielding throughout the nuclear industry.

RSIC FY 1983 REPORT TO SPONSORS/CONTRIBUTORS/USERS

Following is a report of EPIC contributor/user statistics for the past fiscal year as computed via the Automatic Data Entry System (ADES) for use on the RSIC Data General ECLIPSE computer.

FY 1983 USER STATISTICS

Information dissemination activities for the fiscal year 1983 were as follows:

A total of 3213 separate letters/telephone calls (about 12.9 each working day) requesting a variety of products and services (9857 total) were processed during FY 1983.

On the average the following dissemination activities took place each working day.

ACTIVITIES/WORKING DAY

4.2 Code/data packages were shipped to requesters.

0.6 Shielding documents (RSIC reports, handbooks, code and data documentation in addition to those included in above packages) were mailed.

34.4 responses to inquiries for information; citing possible solutions to problems; recommendations of calculational methods, computer codes, nuclear data sets, or literature specimens for study; troubleshooting problems when requester had difficulties using RSIC materials; and miscellaneous consultation and advising services.

0.2 Special retrospective bibliographic searches.

39.4 Total separate activities required daily to satisfy the 3213 letters of request.

The following table shows a comparison of 1983 to 1981 and 1982 requests and services.

Demand for Services by the User Community

	FY 81	FY 82	FY 83
Total requests received	3044	3264	3213
Average/working day	12.1	13.1	12.9
Activities performed to satisfy requests	8818	8427	9857
Average activities/working day	35.1	33.7	39.4
Increase/decrease over prior year	-6.0%	04.4%	17.0%

In addition to the above activities, the following special products or services were given.

The *RSIC Newsletter* was mailed each month to a peak of 1664 people. Maintenance of the RSIC directory resulted in 3813 changes during the year.

A total of 63 people (26 foreign, 37 domestic) came for an orientation visit and/or to use the Center's facilities during the year.

FY 1983 INFORMATION INFLOW

Information collection, analysis and processing activities continued routinely. Staff members reviewed 921 reports and other documents, bringing the shielding data base to 12,824 bibliographic citations with abstracts and more than 5900 computer code descriptions. The RSIC data bases on the DOE/RECON system were subsequently updated. New books of special interest were reviewed and added to the reference library.

TECHNOLOGY CONTRIBUTED

RSIC participants contributed their publications and 172 separate transmissions of technology during the twelve months as follows:

89 New computer programs and data libraries – 49 from USA participants and 40 foreign (20 from France; 7 from Japan; 5 from Germany; 2 each from England and Finland; 1 each from Austria, Brazil, Taiwan, and Bulgaria).

18 New hardware versions to extend existing code or data packages – 14 domestic and 4 foreign (3 from France; 1 from South Africa).

22 Updates for error corrections discovered in using existing code/data packages – 17 domestic and 5 foreign (2 from Germany; 1 each from Finland, France, and Hungary).

43 Updates to existing code/data packages (to replace older routines or modules with improved versions or complete newly frozen versions and/or to extend capabilities with additional programming) – 40 domestic and 3 foreign (2 from France; 1 from Switzerland).

TECHNOLOGY PROCESSED

Working steadily to evaluate and process the technology, our efforts resulted in the announcement of availability of 71 transportable, tested

packages of computer programs and data libraries. Included is some technology contributed in the prior fiscal year. The details are as follows:

26 New code packages – 17 domestic and 9 foreign (3 from Japan; 2 from East Germany; and 1 each from England, West Germany, Yugoslavia, and Italy).

5 New data packages – 4 domestic and 1 foreign (Switzerland).

7 Updates to include conversions of RSIC code packages to run on other hardware – 4 domestic and 3 foreign (1 each from Switzerland, Finland, and England).

9 Newly frozen computer program versions including improvements made over that originally packaged – 7 domestic and 2 foreign (1 each from France and Germany).

5 Updates to data packages (1 to correct errors, 4 to add data) – 4 domestic and 1 foreign (The Netherlands).

19 Updates to code packages (7 to correct errors, 12 to add new extensions or replace older routines) – 16 domestic and 3 foreign (1 each from Germany, Israel, and Japan).

It should be noted that the same evaluation, computer-testing, and packaging must be followed for updates to existing code packages as for new technology.

We continue to give first priority to responding to user requests and will process new information into transportable, tested packages as feasible. We appreciate the continuing cooperation and collaboration of our contributors/users in seeking to keep pace with advances in the state of the art and with the international shielding community's efforts to ensure "competence" in shielding design and radiation protection for all.

CHANGES TO RSIC COMPUTER CODES COLLECTION

During the month, two existing code packages were updated to correct an error and to make new data available.

CCC-200/MCNP

This general purpose, continuous-energy, generalized geometry, time-dependent, coupled neutron-photon Monte Carlo transport code package was updated to make changes in files 5, 6, 7, and 8 of the package. These changes reflect new data which became available for general distribution. The addendum portion of the documentation was also changed. FORTRAN IV; CDC 7600; CRAY 1; IBM 3033; and VAX 11.

CCC-276/DOT 3.5, CCC-320/DOT 4.2, & CCC-429/DOT 4.3

All versions of this two-dimensional discrete ordinates transport code system have been updated to correct a bug in Subroutine PCON. The problem, not thought to be serious for most practical uses, will cause erroneous results for most backward-directed angular fluxes computed in runs using R-Θ geometry. The coding change is minor and details will be provided by RSIC upon request.

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PERSONAL ITEMS

In serving a specialized area of scientific endeavor, it seems important that we note 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: *Raymond C. Barrall*, from King Faisal Specialist Hospital & Research Centre, Riyadh, Saudi Arabia, to Stanford, California; and *Sumer Sahin*, from the Institute de Genie Atomique, Lausanne, Switerland, to King Saud University, Riyadh, Saudi Arabia.

Visitors to RSIC

During the month of September the following 13 per-

sons came to visit/use RSIC facilities: *J. T. Yang,* Inst. of Nuclear Energy Research, Taiwan; *Hideo Narita* and *Taro Oka,* Century Research Center Corp., Japan; *Francis Atchison,* SIN, Switzerland; *F. Banai,* University of Liverpool, England; *Morris Osborne,* ORNL; *Carolyn Schrider,* Virginia State Health Dept., Richmond, Virginia; *Ruth Ann Manning* and *David Schabes,* Control Data Corp.; *Howell Caton,* Aberdeen Proving Ground, Maryland; *Bernard A. Engholm* and *E. T. Cheng,* GA Technologies, Inc., San Diego, California; and *Phil Rose,* Brookhaven National Laboratory, New York.

CALENDAR

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

October 1983

ANS Winter Meeting, October 30–Nov. 4, 1983, San Francisco, California. Contact: A. Philip Bray, Vice President, Nuclear Power Systems Div., General Electric Co., 175 Curtner Ave. - MC 802, San José, CA 95125 USA.

Atmospheric Radiation, October 31–November 3, 1983, Baltimore, Maryland, sponsored by the American Meteorological Society. Contact: American Meteorological Society, 45 Beacon Street, Boston, MA 02108, USA.

November 1983

Seminar on Effective Utilization and Management of Research Reactors, Kuala Lumpur, Malaysia, Nov. 7–11, 1983, sponsored by the International Atomic Energy Agency, Vienna, Austria, Contact: IAEA, PO Box 100, Vienna, International Centre, A-1400 Vienna, Austria.

Criticality Accident Dosimetry Training Course, November 14–18, 1983, Oak Ridge, Tennessee, sponsored by ORNL. Contact: C. S. Sims, Oak Ridge National Laboratory, Bldg. 7710, P.O. Box X, Oak Ridge, TN 37830 (phone 615-574-5851).

Radiation Protection in Exploration, Mining and Milling of Radioactive Ores for Developing Countries in Africa, a seminar, November 14–25, 1983, in Libreville, Gabon, sponsored by the International Atomic Energy Agency. Contact: Conference Service Section, IAEA, P.O. Box 100, A-1400 Vienna, Austria.

International School of Radiation Damage and Protection: Biological Effects and Dosimetry of Non-Ionizing Radiation, November 15–25, 1983, Erice, Italy, sponsored by the Italian Radiation Protection Association, Italian Ministry of Education, Italian Ministry of Scientific and Technological Research, and Istituto Superiore de Sanita. Contact: Sol M. Michaelson, Univ. of Rochester, Medical Centre, 601 Elmwood Ave., Rochester, NY 14642.

Technical Committee Meeting on Simulation of Neutron Damage to Fusion Reactor Materials, November 28–December 2, 1983, Vienna, Austria, sponsored by the International Atomic Energy Agency. Contact: J. Dee, Div. of Nuclear Power, IAEA, P.O. Box 100, A-1400 Vienna, Austria.

December 1983

Annual Meeting of the Sociedad Nuclear Espanola, December 5–7, 1983, Seville, Spain. Contact: Sociedad Nuclear Espanola, Estabanez Calderon, 7 - 9F, Madrid-20 (phone 279 75 00 Ext. 94).

10th Symposium on Fusion Engineering, December 5–9, 1983, Philadelphia, Pennsylvania, sponsored by the IEEE and Princeton Univ. Contact: Charles W. Bushnell, Princeton Plasma Physics Laboratory, P.O. Box 451, Princeton, NJ 08544 (phone 608-683-3051).

Control of Ionizing and Nonionizing Radiation Course, December 5–9, 1983, Albany, New York, sponsored by Applied Health Physics, Inc. Contact: Applied Health Physics, Inc., 2986 Industrial Blvd., Box 197, Bethel Park, PA 15102 (phone 412-563-2242).

January 1984

Workshop on Nuclear Model Computer Codes, January 16–February 3, 1984, Trieste, Italy, sponsored by IAEA. Contact: International Centre for Theoretical Physics, Workshop of Nuclear Model Computer Codes, P.O. Box 586, I-34100 Trieste, Italy (phone 224281-6).

February 1984

17th Midyear Topical Meeting of the Health Physics Society, February 5–9, 1984, Pasco, Washington. Contact: Edwin C. Watson, Columbia Chapter, Health Physics Society, P.O. Box 564, Richland, Washington 99352 (phone 509-375-6919).

April 1984

5th International Conference on Nuclear Methods in Environmental and Energy Research, April 2–6, 1984, Mayaguez, Puerto Rico, sponsored by the American Nuclear Society, American Chemical Society, U.S.-DOE, and the Univ. of Puerto Rico-Recinto. Contact: James R. Vogt, Univ. of Missouri, 214 Research Reactor, Columbia, Missouri 65211 (phone 314-882-4211).

May 1984

6th Congress of the International Radiation Protection Association, and *Exhibition,* May 7–12, 1984, Berlin, West Germany. Contact: R. Neider, Bundesanstalt für Materialprüfung (BAM), Unter den Eichen 87, D-1000 Berlin 45.

June 1984

24th Annual International Conference of the Canadian Nuclear Association, June 3–6, 1984, Saskatoon,

Saskatchewan, Canada. Contact: J. A. Weller, General Manger, Canadian Nuclear Association, 111 Elizabeth Street, 11th Floor, Toronto, Ontario, Canada M5G 1P7.

ANS Annual Meeting, June 3–8, 1984, New Orleans, Lousiana. Contact: Thomas H. Row, ORNL, P.O. Box X, Bldg. 4500 SN, MS-S-178, Oak Ridge, TN 37830 USA.

12th International Symposium on Effects of Radiation on Materials, June 28–20, 1984, Williamsburg, Virginia, sponsored by the American Society for Testing and Materials. Contact: James S. Perrin, Fracture Control Corporation, 340-G South Kellog Ave., Goleta, California 93117 (phone 805-964-8877) or John Koziol, Combustion Engineering, Inc., 1000 Prospect Hill Road, Windsor, Connecticut 06095 (phone 203-688-1911).

July 1984
Topical Meeting on Fission Product Behavior and Source Term Research, July 15–19, 1984, Snowbird, Utah, sponsored by ANS, Electric Power Research Institute, Canadian Nuclear Society, and Atomic Energy Society of Japan. Contact: William J. Quapp, EG & G Idaho, Inc., P.O. Box 1625, Idaho Falls, ID 83415 (phone 208-526-9606).

September 1984
5th ASTM-EURATOM Symposium on Reactor Dosimetry, September 24–28, 1984, Geesthacht, Fed. Rep. of Germany, sponsored by Commission of the European Communities, ASTM, U.S.-DOE, and U.S.-NRC. Contact: E. B. Norris, Southwest Research Institute, P.O. Drawer 28510, San Antonio, Texas 78284.

October 1984
Clinical Radiophysics, a symposium sponsored by the Clinical Radiophysics Section of the Society for Medical Radiology of the German Democratic Republic, October 28–November 1, 1984, Binz (island Rügen, German Democratic Republic). Contact: Dr. sc. techn. Manfred Tautz, 1115 Berlin-Buch, Wiltbergrstrasse 50, Städtisches Klinikum Buch, Spezialabteilung Strahlenphpysik, German Democratic Republic.

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.Sofiiski, Bulgaria.

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.

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AERE-R-10496 Selection of Low-Activity Elements for Inclusion in Structural Materials for Fusion Reactors., . . Jarvis, O.N., . . June 1982, . . H.M. Stationery Office, price Pound4.00

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