

RISK *newsletter*

Published by the SOCIETY for RISK ANALYSIS

Volume 7, Number 1

March, 1987

Local Activities Expand SRA's Influence

The year 1987 promises to be the year that the Society for Risk Analysis experiences its greatest growth both in the number of U.S. chapters gained and in the types of chapter activities sponsored. The chairman of the Local Chapters Committee, Chris Whipple of the Electric Power Research Institute, reports that four new chapters are in various stages of formation and some have already initiated activities under the aegis of SRA. The five chapters already approved are also at work, the busiest probably being the Lone Star Chapter as it prepares to host the society's annual meeting in November.

Annual Meeting Committee Calls for Papers

A call for 250-word abstracts to be submitted to the program committee of the 1987 SRA annual meeting by May 15 has been issued by the program chairman, J. J. Bonin of the Shell Oil Company. The call for papers is printed in this issue of the newsletter and includes the list of session topics to be covered. As noted in the December issue of *Risk newsletter*, the 1987 program will include poster sessions as well as platform sessions.

The 1987 meeting, to be held at the Wyndham Hotel in Houston, Texas, will use the theme "Risk Assessment in Setting National Priorities." In addition to the platform and poster sessions, the meeting will include tutorial sessions and software demonstrations.

Special sessions on Sunday afternoon, November 1, will provide overviews of some current important subjects. These may have limited attendance and require separate registration.

The software demonstrations will present software relevant to risk analysis, including modelling, data bases and knowledge systems.

see *Annual Meeting*, page 8

European Section Under Way

In Europe, the newly approved SRA section, identified as SRA-Europe, held its first advisory committee meeting in Paris on February 24, and an active international group appears assured (see story in this newsletter). It is not yet clear how SRA-Europe and the recently launched European Safety and Reliability Association (ESRA) will interact, but both organizations recognize that they have some common goals for which overlapping programs will be desirable.

Who Will Be Number Six?

In the U.S., the foremost question in the Local Chapters Committee is "Who will be the sixth

see *SRA Expanding*, page 3

ANNOUNCEMENT

The SRA Secretariat has a new address!
The Secretariat has moved from the address shown in the masthead of this newsletter to **8000 Westpark Drive, Suite 400, McLean, VA 22102**. Please use this new address for all future correspondence.

PRESIDENT'S COLUMN

The SRA: On the Fringes or at the Center?

Recently in the course of a conversation regarding the Society for Risk Analysis, someone said "But don't forget, for some the SRA is not their primary society." How many or how few "some" might be I did not know then and I do not know now.

The conversation at the time had to do with the fact that it is not always easy to convince SRA members to give their time or resources to help the society—even when only a small portion is needed—and the comment was offered to explain why that is so. Of course, some members clearly regard the society as having high priority and give truly large fractions of their time and resources to keep it going and growing. Indeed, without their "sweat equity," SRA would not exist, for our budget is not nearly large enough to buy the full services that even a small society needs to keep running.

Reflecting on the comment, I found nothing unnatural or surprising about it. After all, we are all extremely busy, and we do have to place the many things we must do, are asked to do, and wish to do in order of priority so as to get anything done at all. Moreover, by the very nature of the society's primary area of interest, the membership is multidisciplinary. I myself claim chemical engineering as my original discipline, and I am a long-time member of the American Institute of Chemical Engineers. Similarly, many other members of the society associate themselves with the fields of their original disciplines. Of course, some of our members are engaged primarily in risk analysis and/or risk management in their daily work, but even they probably have strong interests in other specific disciplines.

Thus while the comment in no way surprised me, it did lead me to think more about the SRA's true role among our membership. All of us have joined the society because we have interests that have caused us to do so, whether they be primary or secondary interests. What is the SRA to us and what might it be? If it is not primary to some of us, must it lie on the fringes of our priorities? I think not, and I hope that if it does so lie today, it will soon move toward the center—not to displace original or primary disciplines, but to complement and expand them so that their techniques and understandings fall within the sphere of risk analysis.

Just looking through the back issues of the society's journal and the programs of past annual meetings reveals that a rich field of knowledge is growing, a field of many facets, increasing in coherence as well as in diversity as it gains sophistication and utility. It would seem, therefore, that the question "On the fringes or at the center?" poses a false dilemma to those members who do not consider the SRA their primary society. Wouldn't it be more correct for them to think of their participation in the SRA as enhancing their own fields? To think of their risk analysis and/or management activities as being an integral part of their primary disciplines? Then for them the society would not lie on the fringes of their priorities, but rather would share the center with their primary societies.

I hope that all members will see the society as filling such an integrative, complementary role and that they will seize every opportunity to increase and promote that role. Opportunities lie all around us. We can help enrich the field by participating in the upcoming 1987 annual meeting. We can help explain the society to possible new members so that they will see the value of joining it. We can join or help form a local chapter, contribute papers to the journal, and attend or help put on local symposia or workshops. In other words, we can give the Society for Risk Analysis

a reasonable place on our priority lists. Wherever the society appears to lie today within the spectra of interests of its individual members, building its role to make it more useful and more closely allied to the center of the membership's interests is something only the members themselves can do. My own role can be no more than to urge the participation of everyone in this worthwhile effort and to watch hopefully for the results to manifest themselves. I am always the optimist!

Paul F. Deisler, Jr.
March, 1987

President's Address: 11215 Wilding Lane, Houston, TX, 77024, Phone 713-467-3080.

SRA Expanding

(cont. from page 1)

chapter to receive approval from the SRA Executive Committee?" Currently, four groups are vying for that honor. One in Southern California seems to be well on its way, but strong challenges are surfacing in Pennsylvania, New York, and North Carolina. Some activity has been reported in other states, but as yet no emerging chapter structures are apparent. Still the year is young, and the title of "No. 6" could go to an as yet unheard of group.

Southern California Has First Meeting

The Southern California group, which successfully hosted a seminar on the risks of large engineered systems last December, is holding its first meeting as a potential SRA chapter on April 27. By then chapter officers will have been elected and will be installed at the meeting. Chapter bylaws will also be adopted.

The speaker for the April 27 meeting, which will be a 6 PM dinner meeting at the Irvine Hilton Hotel, will be H. A. Slack, past senior vice president of science and technology for the Atlantic Richfield Company and now executive director of the Hazardous Substances Control Research Center at the University of California, Los Angeles. His topic will be "The Hazardous Substances Problem in California."

In addition to local SRA members, invitations to the meeting are being issued to local members of the American Institute of Chemical Engineers and the American Nuclear Society. Persons wanting further information on the meeting, or on the chapter itself, should contact Brian Fagan at

Pickard, Lowe and Garrick, Inc., 2260 University Drive, Newport Beach, CA 92660 (Phone 714-650-8000).

Metropolitan Chapter Has Bylaws

A group identifying itself as the Metropolitan Chapter has formed a steering committee which has already put together a set of bylaws. Individuals serving on the steering committee are Rae Zimmerman of New York University, Peter Hoefler of Pace University (Long Island), Vinh Cam of the Environmental Protection Agency (Region 2), and Elmer Offenbacher of New York City. Additional information on the group may be obtained from Zimmerman (Phone 212-598-3725).

Philadelphia Chapter Organizing

A potential chapter in Philadelphia, Pennsylvania, held an inaugural meeting on February 23, at which Betty Anderson of ICF-Clement spoke. Persons active in organizing the chapter are Bruce Molholt of the Environmental Protection Agency (Phone 215-597-6682) and Howard Kunreuther of Wharton School (Phone 215-898-4589).

Research Triangle Chapter Forming

Research Triangle Park in North Carolina is the location of another SRA chapter currently being formed. Randy Crawford of Durham (3086-E Colony Rd, 27705; Phone 919-489-3857) is the acting secretary of the steering committee. Other members of the committee are Harvey Richmond, Environmental Protection Agency (919-541-5655); Ila Cote, Environmental Protection Agency (919-541-5645); Kenneth Brown, Research Triangle Institute (919-541-5923); Thomas Starr, Chemical
see SRA Expanding, page 4

On Initiating an SRA Chapter

- 1. Form an ad hoc steering committee of 6 to 10 persons.***
- 2. Send a petition with at least 20 signatures to the Secretariat.***
- 3. Prepare a constitution and bylaws; mail draft to Secretariat for submission to SRA Council.***
- 4. In the meantime, prepare a slate of candidates for local officers and run your election.***

You are on your way!

SRA Expanding

(cont. from page 3)

Industry Institute (919-541-2070); and Michael Berry, Environmental Protection Agency.

Local Chapter Assistance

Guidance in forming an SRA chapter may be obtained by contacting the SRA Secretariat or the chairman of the Local Chapters Committee. As is the custom of societies, membership in SRA is required for officers and voting members of local chapters, but the chapters may admit nonvoting associate members. Bylaws must be approved by the SRA Council, which also must approve the use of the society's name for publications, meetings, etc.

The requirements to obtain tax-exempt status will vary with each state, as will the procedures (but not the costs) for postal permits. For further information on chapter formation, contact: Chris Whipple, Chairman, Local Chapters Committee, Electric Power Research Institute, 3412 Hillview Avenue, Palo Alto, California 94303 (Phone 415-855-2443).

East Tennessee Chapter Announces Officers

William H. Rhyne of H&R Technical Associates in Oak Ridge, Tennessee, is the current president of the SRA's East Tennessee Chapter. Other officers are Curtis C. Travis, Oak Ridge National Laboratory, vice-president; Deborah Flanagan, ORNL, secretary; and Donald E. Dunning, Maxima Corporation, Oak Ridge, treasurer.

Council members of the chapter are Steve Kaye, ORNL (1987); David Campbell, JBF Associates, Knoxville, TN (1988); and Roger J. Cloutier, Oak Ridge Associated Universities (1989). P. Groer, ORAU, is the immediate past president. The Program Committee is chaired by Travis, and the Membership Committee is chaired by W. Colglazier, University of Tennessee.

Annual Methods Day Scheduled

The East Tennessee Chapter will hold its fourth annual "Risk Analysis Methods Day" on the afternoon of April 30 at Oak Ridge Associated Universities. The program includes seven speakers covering the following topics:

- "Review of NASA's Risk Management," Robert E. Uhrig, University of Tennessee and Oak Ridge National Laboratory Distinguished Scientist.
- "Uses of PRA at TVA," Mark Linn, Tennessee Valley Authority.
- "Development of a PRA Model Using Smart Systems," Richard Summitt, IT Corporation, Oak Ridge.
- "Biological Markers of Environmental Contaminants," Lee Shugart, ORNL.
- "Interspecies Scaling for Cancer Risk Assessment," Robin Killman, ORNL.
- "Psychological Aspects of Medical Decision Making," Cheryl Travis, University of Tennessee.
- "Estimating Atmospheric Risk from Remedial Waste Activities," Greg Holten, JBF Associates, Knoxville.

The Methods Day is cosponsored by the Office of Risk Analysis at ORNL, Science Applications International, and Oak Ridge Associated Universities. The program coordinator is Travis, other members of the committee being V. R. R. Uppuluri, ORNL; E. L. Etnier, ORNL; Campbell; and S. Richter Pack, ORNL.

100 Attend Air Toxics Standards Symposium

Over 100 persons attended the Lone Star Chapter's symposium on "Setting Air Toxics Standards" at the Hobby Airport Hilton in Houston, Texas on January 22. The attendees included representatives from industry; federal, state, and local governments; public interest groups; and academia.

The symposium, which was cosponsored by the Gulf Coast chapters of the American Industrial Hygiene Association, Air Pollution Control Association, and Society of Toxicology, began with speakers addressing the current air toxics problem and the procedures used by the Texas Air Control Board for assessing air toxics. Information on other state programs was also presented, as well as a review of the basis for establishing TLVs (Threshold Limit Values) and applicable legal issues.

Later topics covered the scientific basis of risk assessment, including risk extrapolation

methodologies, plus an overview of the air toxics problem from the industrial perspective and risk characterization in the area of air toxics.

Speakers from Various Disciplines

Francis W. Weir, president of the Lone Star Chapter, presented the opening remarks and introduced the speakers, who represented several disciplines. Those making presentations were Ila Cote, EPA Air Quality Planning and Standards; James Price, Texas Air Control Board; Gary Hunt, ERT; Sanford E. Gaines, a lawyer from the University of Houston Law Center; Ernest Mastromatteo, a medical doctor from the University of Toronto; Robert A. Neal, Chemical Industry Institute of Toxicology; Robert L. Sielken, Sielken, Inc.; David Richardson, representing the American Industrial Health Council; and Paul Deisler, a chemical engineer who is currently serving as SRA's president.

Russell Leaves EPA for Tennessee Appointments

Milton Russell, assistant administrator of the U.S. Environmental Protection Agency's Office of Policy, Planning and Evaluation and the speaker at the plenary session of the SRA 1986 annual meeting, has accepted dual appointments at the University of Tennessee and Oak Ridge National Laboratory in Knoxville and Oak Ridge, Tennessee. Beginning in the spring, he will be a professor of economics and a senior fellow in the Energy, Environment and Resources Center at UT and a collaborating scientist at ORNL.

The *Knoxville News-Sentinel* reports that Russell expects to continue dealing with environmental risk assessment, management and communication in his new positions. He feels that the public's attention must be shifted from emissions to risk assessment and management and from concentration on relatively small risks to concerns about major risks. He also anticipates that some environmental policies will shift from the federal level to the local level, citing wetlands managements as an issue that can best be dealt with locally.

New England Chapter Meeting Monthly

The New England Chapter of SRA is holding monthly dinner meetings with scheduled speakers except during the months of July and August. On April 23 the group will meet at Massachusetts Institute of Technology to hear Paul Anderson, Department of Environmental Quality Engineering of the Commonwealth of Massachusetts, speak on "Origins of Incompatibility Among Potency Estimates for Carcinogens." Tentative plans are to have a talk on groundwater pollution at the May meeting and to conduct a one-day symposium in the early fall.

Officers Named

Gregory Baecher of MIT is currently president of the New England Chapter. The secretary-treasurer is Yee Cho, SEA Consultants, Cambridge; and the immediate past president is John Bailar, Harvard School of Public Health. Councilors are Roger Kasperson, Clark University; Michael Baram, Bracken and Baram Law Firm; and Richard Wilson, Harvard University.

Journal Contents (Cont.)

The table of contents of Vol. 7, No. 2 of the SRA journal *Risk Analysis* is reprinted below. Manuscripts of articles for the journal should be submitted to: Curtis Travis, Editor, *Risk Analysis*, Bldg. 4500S, S204, Oak Ridge National Laboratory, PO Box X, Oak Ridge, TN, 37831.

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Author(s)	Title
ANNUAL MEETING LECTURE	
Harry Otway	Experts, Risk Communication and Democracy
DECISION ANALYSIS ARTICLES	
Vincent Covello	Decision Analysis: An Introduction
Ward Edwards	Public Values in Risk Debates
Detlof von Winterfeldt	
Thomas L. Saaty	Risk: Its Priority and Probability —The Analytic Hierarchy Process
Miley W. Merkhofer Ralph L. Keeney	A Multiattribute Utility Analysis of Alternative Sites for the Disposal of Nuclear Waste
Ralph L. Keeney	An Analysis of the Portfolio of Sites to Characterize for Selecting a Nuclear Repository
Robin Gregory Sarah Lichtenstein	A Review of the High-Level Nuclear Waste Repository Siting Analysis
Thomas Cotton Miley W. Merkhofer David L. Pentz	Is There a "Best" Repository Site?
Mark R. Leach Yacov Y. Haimes	Multiobjective Risk-Impact Analysis Method
OTHER ARTICLES	
Christoph Hohenemser	Public Distrust and Hazard Management Success at the Rocky Flats Nuclear Weapons Plant
Stuart G. Reid	Frequency-Cost Curves and Derivative Risk Profiles
Julius Goodman	A Comment on the Maximum Entropy Principle
SOFTWARE REVIEW	
D. Chowdhury	Whazan
W. Barton	Prism
BOOK REVIEWS	
Robin Killman	

WANTED: Software and Software Reviews

Developers of risk analysis software are encouraged to submit their products for review in the society's journal. Also, SRA members who have examined such products are requested to submit their reviews for publication. The software and reviews should be mailed to:

Paul D. Moskowitz
Biomedical and Environmental
Assessment Division
Brookhaven National Laboratory
Upton, NY, 11973

Awards & Appointments

Paul F. Deisler, Jr., who in 1986 retired from Shell Oil Company as vice president for Health, Safety and Environment and is currently serving as SRA's president, has been appointed to a two-year term on the Executive Committee of the Science Advisory Board of the U. S. Environmental Protection Agency in Washington, D.C.

Curtis C. Travis, editor of *Risk Analysis* and coordinator of the Office of Risk Analysis in the Health and Safety Division of Oak Ridge National Laboratory, Oak Ridge, Tennessee, has been appointed to a three-year term on the Food and Drug Administration's Science and Advisory Board. As board member, he will review research programs at the Administration's National Center for Toxicological Research.

Risk Analysis, the society's journal, received a third-place award in the category of Whole Periodicals in the 1987 Technical Publications Competition sponsored by the East Tennessee Chapter of the Society for Technical Communication.

EUROPEAN NEWS

SRA-Europe's Advisory Committee Meets

The advisory committee of SRA-Europe, which was approved as a section of the Society for Risk Analysis last November, held its first meeting in Paris on February 24. The advisory committee consists of 20 members representing industry, governmental agencies, and academia in 12 European countries.

The meeting was chaired by F. Evers, Ministry of Housing, Physical Planning and the Environment, The Netherlands. In an opening address, Orio Giarini, Secretary General of the Geneva Association, Switzerland, talked about various aspects of risk analysis faced by insurance companies. He pointed out that in earlier days insurance companies dealt only with the so-called "commercial" risks, but now they must investigate the vulnerability of systems and engage in risk management strategies.

Biannual Meetings Planned

The chairman of SRA-Europe's executive committee, P. J. Stallen of the Centre for Technology and Policy Studies, The Netherlands, reported to the advisory committee that SRA currently has about 100 European members. A major goal of the organization during the next two years will be to increase its membership and to acquire a number of institutional members. Other plans include organizing biannual meetings, the first to take place in the spring of 1989. In addition, workshops and seminars will be held to provide opportunities for communication among members.

Potential Activities Discussed

In a discussion of the potential activities in which the society should become engaged, the advisory committee named three initial activities:

- Improving the communication of risk information to the public and to the decision maker.
- Analyzing human error and its importance in the design, startup and shutdown of systems, as well as in normal operation and during associated processes.
- Developing and evaluating the extension of quantitative risk analysis techniques to the areas of health and environmental hazards.

It was recognized that these items can be no more than starting points, and it was stressed that the society should strive to promote more systematic and analytical tools to facilitate better decisions about safety. Also, SRA-Europe should try to make the public, as well as decision makers, realize that they live in a world of uncertainty, a fact which cannot be changed by doing risk analysis.

Advisory Committee Members

Current members of the advisory committee of SRA-Europe are the following:

- Austria:** T. Munn, International Institute for Applied System Analysis.
- Belgium:** L. Jourdan, Conseil Européen des Fédérations de l'Industrie Chimique; B. Vinck, DGXII, Directorate D.
- Finland:** S. Hernberg, Institute for Occupational Health.
- France:** D. Bergez, Elf Aquitaine; U. Pinon; Mr. Vesseron, C.E.A.; H. Smets, Environment Directorate, OECD.
- Germany:** L. Gündling, Max Planck Institute; V. Pilz, Bayer AG; Mrs. B. Weber, European Parliament.
- Italy:** G. Grandori, Politecnico di Milano; H. Otway, Joint Research Centre for European Communities; Mr. Pinchera, E.N.E.A.
- Norway:** E. N. Bjordal, Norsk Hydro a.s.; J. Døderlein, Royal Norwegian Council for Scientific and Industrial Research.
- Portugal:** F. J. T. Viegas, Escola Superior de Medicina.
- Sweden:** E. Arrhenius, University of Stockholm; B. Holmberg, Dept. of Occupational Safety and Health.
- Switzerland:** M. O. Giarini, Association pour l'Etude de l'Economie de l'Assurance.

see SRA-Europe Meets, page 8

CALL FOR PAPERS

1987 ANNUAL MEETING OF THE SOCIETY FOR RISK ANALYSIS
Wyndham Hotel, Houston, Texas
November 1-4, 1987

Theme: Risk Assessment in Setting National Priorities

Topics:

Use of Risk Assessment in Determining Remedial Priorities and Relative Levels of Investment
 Establishing Priorities Between Competing Risks for Determining the Maximum Public Benefit
 Role of Government and Other Institutions in Risk Assessment
 Risk Communication and Its Influence on Setting National Priorities
 Risk Analysis in Health and Environmental Protection
 Natural Disasters
 Implications for Major National Programs
 International Aspects of Risk Analysis
 Risk Perception and Communications
 Statistical and Physiological-Pharmacokinetic Modeling
 Philosophical Aspects
 Insurance

Please submit a 250-word abstract by May 15 to the program chairman: J. J. Bonin, Shell Oil Co., PO Box 4320, Houston, Texas, 77210 (Phone 713-241-1490).

Note: Both platform and poster sessions will be held; specify whether your submission is for platform or poster presentation.

Annual Meeting

(cont. from page 1)

A complimentary mixer is scheduled for Sunday evening, and a formal reception and banquet are planned for Tuesday evening.

The 1987 meeting will be hosted by the Lone Star Chapter, with Don Stevenson of the Shell Oil Company serving as the general chairman. For additional information, call Stevenson at 713-241-0032.

SRA-Europe Meets

(cont. from page 7)

—**The Netherlands:** W. J. Beek, Unilever Research Laboratory; F. Evers, Minister of Housing, Physical Planning and the Environment; and W. F. Tordoir, Shell Internationale Petroleum.

—**United Kingdom:** A. V. Cohen, Health and Safety Executive; E. E. Pochin, National Radiation Protection Board; F. Warner, Cremer & Warner Consultancy.

—Based on report from Hans Bohnenblust, Ernst Basler & Partners, 8702 Zollikon, Zurich, Switzerland (Phone 01-3951111).

Comings & Goings

Susan L. Santos has been named manager of the Risk and Environmental Assessment Group at the Southern New England office of E. C. Jordan Company in Wakefield, Massachusetts. She has previously worked on toxic and hazardous waste management studies for EPA Superfund and RCRA sites involving PCBs, dioxin, volatile organic compounds, and mercury contamination.

Joseph D. Benigni has joined the staff of the environmental consulting firm of Yates & Auberle, Ltd. in Oak Brook, Illinois. He has a broad technical background in environmental control and regulatory issues, covering, air, water, hazardous and nonhazardous waste, site assessments, and underground tanks.

Kenny Crump, founder and president of K. S. Crump Associates of Ruston, Louisiana, is now director of the K. S. Crump Division of ICF-Clement, which acquired K. S. Crump Associates in October 1986. The division will continue as a consulting firm specializing in quantitative risk assessment.

Garrick Risk Fellowship Established at MIT

The Massachusetts Institute of Technology and Pickard, Lowe, and Garrick, Inc. have established a B. John Garrick Fellowship in Nuclear Engineering to support graduate students doing research in probabilistic risk and reliability analysis.

Garrick, for whom the fellowship is named, is the president of Pickard, Lowe, and Garrick, Inc., in Newport Beach California. He is a widely recognized expert in the area of nuclear power plant risk assessment and management and has been a driving force in the adoption of risk-based methods by the industry.

The first recipient of the fellowship is Kenneth R. Doremus, a first-year student at MIT who is investigating the use of expert systems technology in risk assessment.

SECOND CALL FOR NOMINATIONS OF SRA OFFICERS

The SRA Committee on Nominations solicits suggestions for nominees for the following positions in the society's 1987 elections:

President-Elect
Secretary (two-year term)
Treasurer (two-year term)
Three Councilors (three-year terms)

Please send the names of your suggested candidates and a brief paragraph supporting each *by April 20* to:

Elizabeth Anderson
ICF/Clement
1850 K Street NW, Suite 450
Washington, DC 20006

SRA Notes

As of February 28, 1987, the membership of SRA included 1,635 persons, of which 144 are foreign members.

Unfortunately, 1987 membership dues have not been received from all members. Have you forgotten to send yours in? Delay no more. Send them to the new address of the SRA Secretariat as announced in this newsletter.

If you have overlooked your notice, the amount to send is \$50 for regular members, \$25 for retirees, \$30 for students (with the journal), and \$10 for students (without the journal).

Calendar of Events

—April 6-8. SECOND ANNUAL SRA COURSE ON CARCINOGEN RISK ASSESSMENT, Washington, DC. (See December 1986 newsletter.)

—May 11-15. 16th ANNUAL SHORT COURSE ON HIERARCHICAL-MULTIOBJECTIVE APPROACH IN WATER RESOURCES PLANNING AND MANAGEMENT (1987 THEME: METHODOLOGIES IN RISK ASSESSMENT/MANAGEMENT AND THEIR INCORPORATION IN DECISION SUPPORT SYSTEMS), Case Institute of Technology, Case Western Reserve University, Cleveland, Ohio. Cosponsored by SRA and others. Will cover numerous risk assessment/management methodologies, their applications to water resource systems, and their incorporation in decision support systems. Director: Y. Y. Haines. Course fee: \$600 (\$300 for students). Contact: M. Ward, Room 612C, Crawford Bldg., Case Western Reserve University, Cleveland, OH 44106 (Phone 216-368-4493).

—May 28-29. CONFERENCE ON NEW TECHNOLOGIES: RESPONDING TO FUTURE RISKS, Worcester Polytechnic Institute, Worcester, Massachusetts. Sponsored by the New Technologies Safety and Health Institute, Worcester. To focus on identification, assessment, management and prevention of hazards associated with new technologies. Contact: Barbara Guthrie, 37 Fruit St., Worcester, MA 01609 (Phone 617-754-6829).

—June 16-19. FIFTH ANNUAL SUMMER INSTITUTE IN RISK MANAGEMENT IN ENVIRONMENTAL HEALTH AND PROTECTION, New York University. Legal, administrative, financial, liability and insurance issues, risk perception, risk communication and decision-making, and risk assessment procedures applied to toxic and hazardous substances. Graduate level course offered for credit or noncredit. Contacts: C. Nicolson (Phone 212-598-3133) or Rae Zimmerman (Phone 212-598-3725, -6, -7). Or write: Summer Institute, Graduate School of Public Administration, New York University, 4 Washington Square North, New York, NY 10003.

—June 15-19. COURSE ON FUNDAMENTALS OF DECISION ANALYSIS, Massachusetts Institute of Technology. Self-contained, interactive introduction to the concepts and practical application of decision analysis, including an introduction to the multiattribute case. Emphasis on interpretation and implementation. Professors: A. W. Drake (MIT) and R. L. Keeney (USC). Fee: \$1200 (\$1950 if 2-week course is taken; see next entry). Contact: Director of Summer Session, Room E19-356, MIT, Cambridge, MA 02139 (Phone 617-253-2101).

—June 22-26. COURSE ON ADVANCED DECISION ANALYSIS AND APPLICATIONS, Massachusetts Institute of Technology. Extends decision analysis to problems with multiple, conflicting objectives, hard-to-quantify intangible concerns, multiple decision makers, risks to life and limb, and significant unresolvable uncertainties. Presentations based primarily on applications from business and government. Professors and arrangements same as in previous item.

—July 5-9. 32nd ANNUAL MEETING OF THE HEALTH PHYSICS SOCIETY, Salt Lake City, Utah. Contact: HPS, 8000 Westpark Drive, Suite 400, McLean, VA, 22102 (Phone 703-790-1745).

—July 7-10. WORLD CONFERENCE ON CHEMICAL ACCIDENTS, Rome, Italy. (See September newsletter.) Contact: Phone 031-557-2478, Edinburgh, United Kingdom.

—August 24-25. SEMINAR ON ACCIDENT SEQUENCE MODELING: HUMAN ACTIONS, SYSTEM RESPONSE, INTELLIGENT DECISION AIDS, Munich, F. R. Germany. Sponsored by Commission of the European Communities and the International Association for Structural Mechanics in Reactor Technology. To analyze the key elements of accident sequence modeling in probabilistic safety assessment. Fee: 500 Swiss Francs. Contacts: G. Apostolakis, 5532 Boelter Hall, UCLA, Los Angeles, CA 90024 (Phone 213-825-1300); P. Kafka, Gesellschaft fur Reaktorsicherheit (GRS) mbH, 8046 Garching, Germany (Phone 089-32004175); G. Mancini, Systems Engineering and Reliability Division, JRC Ispra, 21020 Ispra, Italy (Phone 332-789-714).

—August 30—September 4. INTERNATIONAL TOPICAL MEETING ON PROBABILISTIC SAFETY ASSESSMENT AND RISK MANAGEMENT, Swiss Federal Institute of Technology, Zurich Switzerland. (See June 1986 newsletter.) SRA contact: Chris Whipple (Phone 415-855-2443). European contact: PSA '87 Meeting Secretariat, ENS-Secretariat, Monbijoustrasse 5, PO Box 2613, CH-3001 Berne, Switzerland; Telephone (++4131)216111; Telex 912110 (atag ch); Telecopier (++4131)229203.

—August 31—September 4. INTERNATIONAL SYMPOSIUM ON DOSIMETRY IN RADIOTHERAPY, Vienna, Austria. Organized by International Atomic Energy Agency in cooperation with World Health Organization. Major topics will be brachytherapy, external therapy, and basic dosimetry. Participation must be through designation by the government of a member state of the IAEA or by an organization invited to participate. Contact: Secretariat IAEA-SM-298, International Atomic Energy Agency, PO Box 100, A-1400 Vienna, Austria (Telex 1-12645; cable address, INATOM VIENNA).

—October 26-30. SECOND U.S.-JAPAN WORKSHOP ON RISK ASSESSMENT/RISK MANAGEMENT, Osaka, Japan. (See September 1986 newsletter.) Contacts: Kazuhiko Kawamura, PO Box 6188, Station B, Vanderbilt University, Nashville, TN 37235 (Phone 615-322-2735); Paul Finger Lynes, Craig-Lynes Chemical Management (Phone 615-383-8490).

—October 14-16. 7th ANNUAL CONVENTION OF SOCIETY OF PIPING ENGINEERS AND DESIGNERS, Houston, Texas. To feature piping/plant design, piping industry, pipe fabrication, CAD, AI and related topics. 100-word abstracts due April 17. Submissions on computer applications and other automation technologies encouraged. Contact: N. S. Nandagopal, Suite N-723, One Main Street, Houston, TX 77002 (Phone 713-221-8090).

—October 20-23. 26th HANFORD LIFE SCIENCE SYMPOSIUM ON MODELING FOR SCALING TO MAN—BIOLOGY, DOSIMETRY, AND RESPONSE, Richland, Washington. To promote synthesis of anatomy, physiology, biochemistry, pharmacology, toxicology, and risk assessment for scaling of animal data to humans. 300-word abstracts due April 15. Symposium will include hands-on workshop/demonstration

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Committee Scheduling SRA Workshops

In addition to holding its Second Annual Course on Carcinogen Risk Assessment in Washington, D.C., April 6-8, the SRA Conferences and Workshops Committee is considering scheduling 1987 workshops on the west coast and in Houston and Detroit.

Betty Anderson, chairman of the committee, said the group is trying to schedule a workshop on "Risk Assessment as It Relates to Proposition 65" in California and to conduct several risk assessment workshops on practical topics in conjunction with the SRA annual meeting in Houston next November. In addition, a possible risk assessment conference in Detroit is being worked on in connection with organizing a new SRA chapter in that city.

Local Committees Needed

Anderson says the final scheduling of these workshops will depend on whether a committee of SRA members can be formed at each location to handle the many details. The Conferences and Workshops Committee is also interested in any suggestions the membership might have about holding conferences or workshops at other locations.

The committee points out that such conferences and workshops not only are enormously useful and educational, but also generate additional funding for the society, which, in turn, can be used as seed money for additional conferences.

The Conferences and Workshops Committee urges SRA members who have ideas on what the committee should sponsor or who are willing to work with the committee in fielding some of these activities to write or call Betty Anderson at the following address: 1850 K Street, NW, Suite 450, Washington, D.C. 20006 (Phone 202-828-2500).

Calendar of Events

(cont. from page 10)

sessions for research and commercial biomedical software/hardware. Contact: J. A. Mahaffey, Battelle, Pacific Northwest Laboratories, PO Box 999, Richland, WA 99352 (Phone 509-376-4402).

—November 1-4. ANNUAL MEETING OF THE SOCIETY FOR RISK ANALYSIS, Wyndham Hotel, Houston, Texas. (See story in this newsletter.)

Liaison Committee Needs Society Reps

NOTE: It was announced in the last newsletter that Michael Baram was chairman of the Liaison Committee for the 1986-87 year. Since then Baram has asked to be relieved of that position and James D. Wilson of the Monsanto Company, St. Louis, Missouri, has agreed to accept it.

With its members coming from so many disciplines, the Society for Risk Analysis should have strong ties with many other professional societies. In previous years ties have been established with several societies, the most recent and probably the most successful being the coordinated activities of SRA and ACT (American College of Toxicology), largely through the efforts of Daniel M. Byrd III of the U.S. Environmental Protection Agency.

The goal of the 1986-87 SRA Liaison Committee is to initiate or renew communication and joint activities with societies representing all the disciplines in which the membership is active. Such activities will increase interest in SRA and, more importantly, will improve the state of the art of risk analysis through the interchange of relevant information and concepts.

The disciplines to be covered include the various branches of the biological and health sciences, the engineering and physical sciences, and the social sciences. Obviously, the SRA members who could effect the liaisons most successfully are those who are also members of the target societies, and the Liaison Committee is soliciting volunteers to carry this work out. If you feel that joint activities could profitably be carried out with a society to which you belong, please contact the chairman of the Liaison Committee at the following address: James D. Wilson, Monsanto Company, 800 N. Lindbergh Boulevard, St. Louis, Missouri, 63167 (Phone 314-694-1000).

—November 2-5. CONFERENCE ON RADIONUCLIDES IN THE FOOD CHAIN, Laxenburg Conference Center, Laxenburg, Austria. Sponsored by International Life Sciences Institute in association with International Institute for Applied Systems Analysis. Designed for international audience from all relevant disciplines. Contact in U.S.: L. Merritt, ILSI, 1126 Sixteenth St., N.W., Washington, DC 20036 (Phone 202-659-0074). Contact outside U.S.: Gerhard Kromer, IIASA, A-2361 Laxenburg, Austria (Phone 02236-71521).



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B. John Garrick, 1988
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R. Talbot Page, 1988
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Society Secretariat: Richard J. Burk, Jr., Executive Secretary, Society for Risk Analysis, 1340 Old Chain Bridge Road, Suite 300, McLean, VA, 22101 (Phone: 703-790-1745).

Note: Contributions to the newsletter should be mailed to one of the following addresses:

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GSIA, Carnegie-Mellon University
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(Phones: 615-482-4640; 615-689-5315 [Res.])

Position Sought

Risk Analyst Position. Former senior manager in national laboratory seeks position in risk analysis management and/or research. Has multidisciplinary background, ranging from physics and mechanical engineering to environmental studies and sociology of science. Nine years experience in risk analysis for both government and private firms, as well as consulting. Excellent communications skills: four single-authored books, hundreds of newspaper columns and articles, and about 110 refereed journal articles and monographs. Creative, versatile, a problem-solver with administrative experience. Can relocate. Suite 12431, 8905 Kingston Pike, Knoxville, TN, 37923.

Position Available

Faculty Position in Fire Protection Engineering. Worcester Polytechnic Institute invites applications for a tenure-track faculty position in its fire protection engineering program for the 1987-88 academic year. A joint appointment in mechanical engineering or another academic department is also possible, depending on the applicant's interests. Graduate level teaching and research capabilities in several areas of fire protection engineering are required. Areas of particular interest to WPI include industrial fire protection, computer modeling of fire, fire protection systems, fire dynamics, and hazard analysis. Outstanding candidates with interest in other areas will be considered. Submit complete resume along with a statement of teaching and research interest to David A. Lucht, Director, Center for Firesafety Studies, Worcester Polytechnic Institute, Worcester, MA 01609 (USA). (Note: WPI is an affirmative action/equal opportunity employer.)

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