



RISK *newsletter*

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1998 Society for Risk Analysis Officers Announced

Gail Charnley, President-Elect

“It’s an exciting time to be involved in risk analysis and one of the SRA’s unique gifts is our ability to bring to bear our breadth and diversity of expertise to address risk issues,” said Dr. Gail Charnley, Society for Risk Analysis (SRA) President-elect. “As president of the SRA, I will do my best to increase our involvement as an educational resource at the public policy level, to improve risk communication among stakeholders, to work towards the establishment of academic curricula and education in risk analysis, to promote applied research and data collection, and to increase the number and breadth of our membership.”



Charnley was recently named Practice Director for Risk Management, U.S., of the Worldwide Environmental, Health, and Safety Group at The Weinberg Group Inc., a leading international scientific consulting firm in Washington, D.C.

As executive director of the Commission on Risk Assessment and Risk Management from 1994-1997, Charnley developed the basis for a risk-management decision-making framework that has been recommended as the first systematic, comprehensive strategy for addressing the nation’s environmental health risks. She has provided testimony on behalf of the Commission to Congress on the environmental statutes under debate, making recommendations that were incorporated into regulatory reform legislation, the Safe Drinking Water Act, the proposed amendments to the Comprehensive Environmental Response, Compensation, and Liability Act (Superfund), and the new Food Quality Protection Act. She was acting director of the Toxicology and Risk Assessment Program at the National Academy of Sciences and has over 20 years of experience in environmental toxicology, health risk assessment, risk management, and public policy. She earned a Ph.D. in toxicology from the Massachusetts Institute of Technology (MIT) and an A.B. in biochemistry from Wellesley College.

Charnley has served as project director of several National Academy of Sciences committees. She has chaired several U.S. Army Science Board committees and was responsible for managing the conduct of critical evaluations of the Army’s environmental and toxicological practices.

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1997 SRA Award Winners

The following SRA members received awards at the 9 December Plenary Session at the 1997 Annual Meeting of the Society for Risk Analysis, held in Washington, D.C.:

Arthur C. Upton

**Distinguished
Achievement Award**

Elizabeth Anderson

Outstanding Service Award

Dennis J. Paustenbach

**Outstanding Risk
Practitioner Award**

Ann Bostrom

Chauncey Starr Award

Steve Brown

Presidential Recognition Award

Richard Wilson

Fellow of the SRA

Lauren Zeise

Fellow of the SRA

Rae Zimmerman

Fellow of the SRA

The next issue of RISK newsletter will include photos and profiles of these award winners.

President's Message

With the cooperation and hard work of the SRA membership, Council, and Advisory Board, I would like to pursue six primary goals during my tenure as president of SRA. A few of these themes were highlighted in the latest SRA Advisory Board report.

The first goal is to merge the cultures within the SRA family and within the risk profession. The founders of SRA stated this goal in the bylaws as follows: "to foster and promote integration and interaction of the various disciplines involved in risk analysis." I will work hard at ensuring that the SRA Council endorses and implements all appropriate actions recommended by the Advisory Board. In particular, I would like to bring more engineers into the Society.

The second objective is to engage SRA in major emerging risk-based issues that are high on the national agenda. Ensuring a sustainable operation of our threatened critical infrastructures is one such emerging national and indeed international complex problem. Natural as well as man-made disasters threaten the well-being of physical infrastructures worldwide. A disabled water supply system, hydropower generation plant, electric power system, or information and communications system, to cite a few, is likely to have major public-health, socioeconomic, and political ramifications. This risk is becoming more significant as our quality of life increasingly depends on the services delivered by these physical infrastructures. Consequently, the United States government has made their protection and survivability a national priority. The President's Commission on Critical Infrastructure Protection (PCCIP), which was formed on 15 July 1996 under Executive Order 13010 by President Clinton, was charged, among other missions, to "recommend a comprehensive national policy and implementation strategy for protecting critical infrastructures from physical and cyber threats and assuring their continued operation."

My third goal is to make SRA the principal and primary professional society for more of our members and less a secondary or tertiary society as is often the case today. Achieving this objective entails changing the way SRA is perceived by the membership as well as reorienting our own activities in the organization.

The fourth objective is to ensure that *Risk Analysis: An International Journal*—our flagship journal—will continue to maintain the highest scholarly quality and be a force for integrating the cultures within the risk profession, with the editorial staff working harmoniously toward the realization of this goal.

My fifth goal is to continue my active involvement in the financial management of SRA. My aspirations are to ensure a prudent policy in our spending, to position our finances on strong ground, and to build sufficient reserve funds to reach an equivalent reserve of a one-year SRA budget.

My sixth and last goal is to strengthen risk education. Understanding the process of risk assessment, management, and communication is critical to good decision making at all levels. SRA can and should take the lead in fostering a better understanding and dissemination of the art and science of risk analysis. We can do so through our journal, newsletter, conferences, workshops, and myriad other forums. I call on the entire membership to help me pursue the above goals, especially the first and the sixth—to merge the cultures and to promote risk education.



Yacov Y. Haimes

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Her international activities include assessing risks to human health from environmental and occupational exposures to hazardous substances in Romania, evaluating Romania's institutional and regulatory issues related to characterizing and remediating hazardous exposures and developing a national environmental health strategy, and introducing Moldova to health risk assessment and modern epidemiology, serving as the impetus for the risk-based environmental health management programs now underway there.

Joining SRA in 1991, Charnley was elected councilor in 1994 and served as chair of both the Public Policy Committee and the Gifts and Grants Committee before becoming president-elect. She has also been actively involved in planning the Society's annual meetings.

Charnley has many goals as president of SRA and ideas about the role of SRA. "Our elected representatives at all levels of government are concerning themselves with how risk analyses are conducted, how the results of risk analyses are characterized and communicated, and how those results are used in decision making," she said. "Their understanding and beliefs about risk analysis have important impacts on decisions affecting our health, safety, lifestyles, cultural practices, and pocketbooks. The quality of those decisions depends in large part on how information about risks and risk analysis is communicated to and understood by our policymakers. It is critical that the SRA play a leading role in this arena."

Communities and "non-experts" also recognize the importance that risk analysis plays in decisions about health and safety, according to Charnley. "As the roles of risk analysis expand it is essential that the SRA continues to increase its visibility in order to promote useful communication of risk information to those who make decisions about risks, whether at personal or at society levels," she commented.

"It is also essential that we continue to improve the scientific basis of the information on which those decisions are based. All the best theories in the world about risks are of limited utility if their information base is sparse. We have few data at all to characterize the toxicologic properties and the exposure characteristics of most of the chemicals now in commerce. We are learning more and better ways to characterize the uncertainty associated with conclusions about risks, but we argue about what those uncertainties mean in the context of decision making. We evaluate risks singly and in isolation from one another, yet we are exposed to multiple risks of all types at all times. We talk about the need to 'educate the public' about risks, yet we are just starting to be aware of what we can learn from the public."

"The SRA and its membership must continue to play critical roles in addressing those problems," Charnley stressed. "I look forward to your support and to your involvement in accomplishing the Society's mission."

Timothy L. McDaniels, Secretary

Timothy McDaniels is Director of the Eco-Risk Research Unit at the University of British Columbia, where he is an associate professor in the Institute of Resources and Environment and the School of Planning. Trained in decision sciences, McDaniels' professional activities focus on decision making for risk management questions, in prescriptive and descriptive terms. His recent work emphasizes judgmental aspects of ecological risk management questions, as well as technical and value modeling for



complex facilities and new methods of value elicitation and public involvement. He is a member of the Institute for Risk Research at the University of Waterloo and an adjunct professor in the Heinz School at Carnegie Mellon University, where he is a coinvestigator in the Center for Integrated Study of the Human Dimensions of Global Change.

His involvement in SRA started in 1986; he has been active in presenting papers at the North American and European conferences and participating in the risk communication special interest group.

Alison C. Cullen, Councilor

Alison Cullen holds an undergraduate degree in civil/environmental engineering from MIT and a master's and a doctoral degree in environmental health science from Harvard School of Public Health (HSPH). Between her undergraduate and graduate training she was an environmental engineer in the Region I offices of the Environmental Protection Agency (EPA) in the Water Management Division, and then served as a research associate at Gradient Corporation.



Cullen's research focus is environmental decision making under uncertainty, particularly in the area of fate, transport, and exposure modeling. She is currently an assistant professor at the University of Washington's Graduate School of Public Affairs, where she teaches environmental policy, risk analysis, and statistics and received the school-wide teaching award for 1996-1997. She has enjoyed working on a varied set of research projects in recent years, both at the HSPH Center for Risk Analysis and Department of Environmental Health, where she was an assistant professor, and the University of Washington. With colleagues at HSPH she is exploring human exposure to PCBs emanating from marine sediments into air, soil/dust, and local produce in the vicinity of New Bedford Harbor. In the Slovak Republic, she joins colleagues at EPA and the University of British Columbia in studying exposure to particulate matter in industrial settings, with a particular emphasis on children. These projects involve the development of probabilistic representations of variability and uncertainty in exposure, a continuing interest shared by many at SRA. Sev-

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eral years ago Cullen, together with Dr. Chris Frey, was commissioned by SRA to develop a handbook for exposure assessors pursuing probabilistic approaches. A final draft has been reviewed and is currently under consideration by publishers.

Cullen has been a member of SRA since 1989 and has served on the Nominations Committee and the Annual Meeting Committee. She currently chairs SRA's Exposure Assessment Specialty Group.

Dale B. Hattis, Councilor

Since receiving his Ph.D. from Stanford in genetics, Dale Hattis has been active in the development of methodology for assessing the health and other effects of alternative regulatory actions for over 22 years. He has specialized in clarifying the variability and uncertainty of parameters related to health risks from chemical and physical hazards. Currently, his principal research is directed toward quantifying human interindividual variability in susceptibility for a wide variety of non-cancer effects. He has served on two NAS-NRC committees (Seafood Safety and Neurotoxicity).



In the 1980s Hattis was a co-founder and convener for many years of the Boston Risk Assessment Group seminar series and was responsible for merging that organization with the New England Chapter of the SRA. Recently (1996-1997) he has served another term as President of the New England Chapter, organizing a monthly meeting of two seminar presentations per session for the academic year. He has been a member of the national SRA since 1983 and is a frequent contributor to the journal, *Risk Analysis*.

Dennis J. Paustenbach, Councilor

Dennis Paustenbach is a charter member of the Society for Risk Analysis (SRA). He has been a Councilor for the Northern California SRA (1996) and was the SRA Liaison to the American Industrial Hygiene Association.

For the past 11 years, Dr. Paustenbach was a consultant within

McLaren/Hart, Inc. His last position within McLaren/Hart was President and Chief Executive Officer. Currently, he is a Senior Consultant to the firm, is an Adjunct Professor/Lecturer at three universities, and is writing a new text on risk assessment.

In 1986, Paustenbach founded and directed ChemRisk®, a consulting group dedicated to using risk assessment methodologies to understand human and ecological hazards posed by chemicals in the environment.

Prior to joining McLaren/Hart, Paustenbach was the Manager of Industrial Toxicology and Risk Assessment at the Syntex Corporation (1984-1987). From 1982-1984, he was at Stauffer Chemical, where he was the group leader of one of the first risk assessment groups within a Fortune 100 firm.

From 1974-1980, he was involved in the field of occupational health, during which time he established the corporate-wide industrial hygiene program for Eli Lilly & Company. In the late 1970s, Paustenbach established and directed the academic program for industrial hygiene at Purdue University.

Paustenbach earned a Ph.D. in environmental toxicology from Purdue University, an M.S. in industrial hygiene from the University of Michigan, an M.S. in counseling psychology from Indiana State University, and a B.S. in chemical engineering from the Rose-Hulman Institute of Technology.

Paustenbach has served on Science Advisory Boards (SAB) for the State of California Department of Health Services, EPA (SAB consulting member), Chemical Industry Institute of Toxicology, National Nutrition Foundation, Industrial Health Foundation, California EPA, National Academy of Science, Congress' Office of Technology Assessment, American Industrial



Health Council, National Council on Radiation Protection, and the International Council for Radiological Hazards (a United Nations Committee). He serves as an ad hoc member of the EPA Board of Scientific Councilors and has reviewed two of the Office of Research and Development research centers. He won the 1992 Kusnetz Award for outstanding contributions to the field of industrial hygiene for a person under 40. He is a Diplomate of the American Board of Toxicology, Fellow of the Academy of Toxicological Sciences, Certified Safety Professional, and Certified Industrial Hygienist. ◇◇

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Advisory Board

The Advisory Board of the SRA met by telephone conference on 6 November and again during the 1997 Annual Meeting on 9 December to identify and discuss new initiatives to be considered by the Board. At the November meeting, the new initiatives discussed included (1) a more effective process for surveying the membership on issues identified by the Board, such as the SRA taking positions on legislation relating to risk, and (2) an international initiative on the development of risk analysis standards. With respect to the latter, the SRA has been approached by European scientists to be a sponsor, in fact the primary sponsor, for such an effort. The Board was in unanimous agreement that this is the type of activity the SRA should be engaged in and agreed to develop the initiative further for presentation to the Council and the Executive Committee of

SRA. The action on (1) above is to explore with experienced SRA members effective methods for conducting such surveys. The survey work performed by Paul Slovic was cited as a possible source of guidance.

The Advisory Board members were joined at the December meeting by SRA President Yacov Haimes, Past President Rae Zimmerman, and President-elect Gail Charnley, as well as Executive Secretary Dick Burk. The Third Interim Report was reviewed and Zimmerman reported on the response of the Council and the Executive Committee to the initiatives identified in that report. Zimmerman indicated that the Council was in support of taking action to initiate some parts of the Board's report on three important issues: Meeting of the Cultures, Natural Hazards, and Risk Education. ◇◇

Past President's Message

The Year's Activities, 1997

In the past year, the Society has moved forward in expanding its reach within the risk community. It has accomplished this in a number of different ways:

- Membership in the Society and annual meeting attendance continue to grow.
- The annual meetings continue to be actively used as forums for current public debates and advances in the area of risk analysis and for education.
- The number of training and educational events held during the year has been expanded through the Workshops and Forums Committee and Congressional educational sessions offered through the Public Policy Committee.
- The SRA has increased communication among the members and others through the new Web site, which now has well over 10,000 hits and was a major vehicle for the submission of abstracts for the annual meeting this year.
- The Publications Committee has arranged for publisher discounts for SRA members for about a half dozen journals.
- The RISK newsletter, under the new editorship, is doing extremely well. In the coming year, it is expected that a lead story on a risk analysis subject will be included at the beginning of each newsletter.
- Organizationally, the geographic reach is being extended to more areas through a growing number of chapters, and the disciplines being drawn in are increasing through a greater number of specialty groups. The challenge now is to foster communication, and exchange among these specialties, which will be developed in the coming year.
- Other disciplines are being drawn to the Society through affiliations with professional societies, such as the American Association for the Advancement of Science (AAAS).
- SRA's Advisory Board has now completed its Third Report, which, along with the previous two reports, responds to a number of Society concerns. The Council has been discussing the Advisory Board's recommendations and is expediting implementation during the coming year.
- A first SRA World Congress, to be held in London in the Year 2000, is in the planning stages with the purpose of bringing together professionals in many different countries to explore risk-related themes.

Some Thoughts for the Future

The Society for Risk Analysis is in a unique position to address many of the prominent issues facing our society today, since it draws from so many disciplines and has as its mission the science, management, and communication of risk issues.

For example, we continue to see recurrent and familiar impasses in providing services to the public: the siting of facilities is delayed and even halted, newly constructed facilities are blocked from being put into operation, and existing facilities have been closed down. This often occurs because social, health, and environmental impacts have not been fully integrated into the system for planning and designing these services in the first place. The concept of risk is implicit in many of these decisions. The Society is in a unique position to play an important role in integrating risk considerations systematically into decisions such as these:

- In order to be a major player in this arena, the Society should promote an interdisciplinary, integrated perspective, at the same time preserving specialized expertise, but broadening the context in which it occurs. One of our guest speakers at the 1997 SRA Annual Meeting, Dr. William Wulf, President of the National Academy of Engineering, underscored the fact that the greater complexity of engineering is leading to an emphasis upon synthesis skills.
- The Society can and should promote forums and processes for debates about, and the development of, new metrics.
- There is a continuing need to personalize these issues in order to gain accountability. In order to achieve this, the issue of declining trust has to be addressed. Promises are not always kept. Trust must be built back into society and its institutions. This is perhaps the greatest challenge for the Society, since it involves institutional design.

In sum, the SRA is interdisciplinary and multidisciplinary and its broad reach can naturally act as a forum to address future issues facing society.

I have very much enjoyed your support this year as president, and look forward to continuing my work with the Society.

Rae Zimmerman

Financial Report for 1997

Paul S. Price, SRA Treasurer

Once every year the SRA Financial and Executive committees present an annual report on the Society's financial condition. This report provides an update of the Society's financial condition and a brief summary of the financial implications of the events that have occurred during the previous calendar year and during the first nine months of the current year.

Last year we had the difficult responsibility of reporting that the Society had lost ground in 1995 and that a notable financial loss had occurred due to higher-than-anticipated costs and lower revenues. This year's financial report is much more favorable. Specifically, the Society aggressively established a budget for 1996 that would result in the largest net income of the Society's history, \$43,900. Based on the final audit of the 1996 budget, it now appears that the net income of the Society has exceeded expectations and approximately \$46,648 was added to the Society's reserves.

To help explain the reasons for this turnaround and other trends in SRA's financial status, audited data from fiscal years 1994-1996 were graphed along with budgetary estimates for the fiscal year, which ended 31 December 1997. The graphs present information on the major elements that make up our gross revenues and expenses, which, when combined, produce our net revenues. This information has been compiled from the treasurer's reports for these years.

Three graphs are provided: one for revenues, another for expenses, and a third for net revenues. To simplify the graphical presentation, several revenue items were combined from the detailed budget categories tracked in the SRA accounting system: e.g., dues from individual members (including subscription revenues) and sustaining sponsors were combined, and "miscellaneous" herein includes all other revenue sources not specifically identified. Similarly, expense categories were also combined: e.g., officers, councilors, and support were grouped under "Council," and "miscellaneous" includes all other expenses not specifically identified.

As background, each year several weeks before the Society's annual meeting, the Society's treasurer and executive secretary develop a proposed budget. This budget is based on established financial commitments, historical experience, and budget requests from various sources (e.g., officers and committee chairs). The proposed budget (including expected net receipts from the annual meeting of the specified fiscal year) is then reviewed, modified when needed, and formally approved by the SRA Council at a meeting that occurs during the annual meeting. Implementation of the approved budget is accomplished by the executive secretary with close oversight from the Society's treasurer and president.

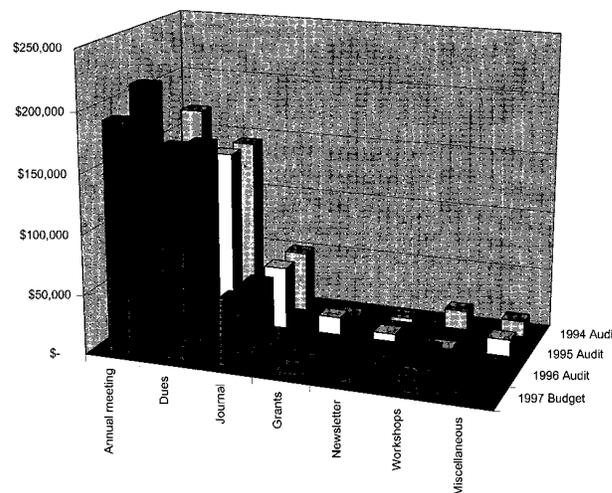
Gross Revenues

The gross revenues of the Society were \$399,188 in 1994, decreased to \$346,199 in 1995, increased to \$460,628 in 1996, and are budgeted to increase to \$472,150 in 1997. The increases in the Society's revenues have largely been due to the increases in the size of the Society and increases in the dues and annual meeting fees. Besides these revenues, the Society received \$154,932 in 1994, \$94,514 in 1995, and \$83,077 in 1996 to fund two projects, one on residential exposure assessment and the second for guidance on Monte Carlo modeling of exposure.

These funds are restricted for use on these projects and have not been included in the calculation of the Society's gross revenues, expenses, or net revenues.

The Society's gross revenues are derived principally from the dues of individual members and sustaining sponsors, journal subscriptions, and the annual meeting/workshops. The revenues for the years 1994, 1995, and 1996, and the estimated revenues for 1997, are 36%, 42%, 36%, and 37% (est.) for dues; 13%, 15%, 12%, and 12% (est.) for journal subscriptions; and 47%, 32%, 49%, and 45% (est.) for the annual meeting and workshops (both in conjunction with the annual meeting and at other times during the year). In 1996 and 1997 we entered into the first two phases of a three-year increase in dues that raised dues from \$85 to \$95 and from \$95 to \$105. This increase in dues resulted in approximately \$18,000 of additional income in 1996 and is expected to produce approximately \$32,000 in 1997. The revenues from the annual meeting and workshops decreased in 1995 due to a drop in attendance at the annual meeting and the absence of a midyear workshop. The attendance for the 1996 Annual Meeting exceeded expectations and a very successful midyear workshop was held. In 1997, the Society scheduled a series of workshops at various times during the year; the revenues from these workshops are included in the estimates of 1997 revenues. Revenues from journal subscriptions have increased over this period due to the increase in membership.

Revenues for the Last Four Years by Source



Expenses

The expenses of the Society were \$362,679 in 1994, increased slightly to \$382,102 in 1995, increased further to \$413,981 in 1996, and are estimated to increase to \$422,300 in 1997. This trend in increasing expenses is being driven by the increased expenses in annual meeting and workshop costs. With the exception of the 1995 Annual Meeting, these costs have been driven in turn by the increasing attendance for the meetings. Other expenses that reflect the increase in membership include the journal, postage, mailing, and membership directories.

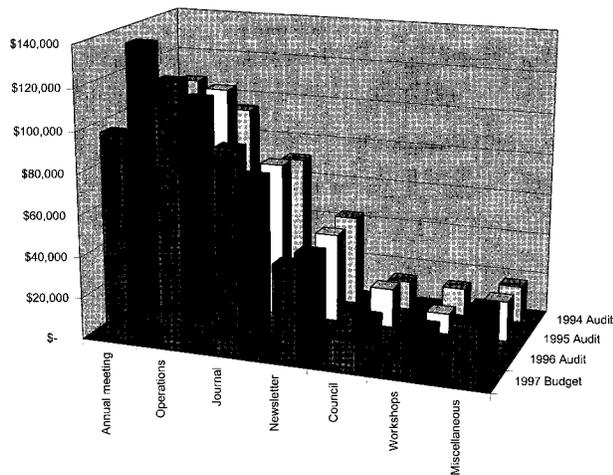
The primary sources of the Society's yearly expenses consist of three parts:

- Management & Operations provided by the Secretariat (i.e., Burk & Associates Inc.), which includes salaries, salary-based

charges, rent, equipment, insurance, bonds, taxes, and other direct costs (e.g., committee operations, organizational support, and Society direct costs such as postage, mailing, printing, audit and legal, telephone, and duplication), representing for the subject years 35%, 38%, 36%, and 39% (est.), respectively, of the Society's total expenses. The Secretariat's management fee accounts for less than two-thirds of the management and operations costs.

- Publication costs for the journal were 20%, 20%, 18%, and 23% (est.), respectively, of the total expenditures; the newsletter accounts for 12%, 11%, 10%, and 11% (est.), respectively.
- Annual meeting and workshop expenses for the subject years were 30%, 28%, 33%, and 23% (est.), respectively, of the total expenditures.

Expenses for the Last Four Years



Net Revenues

The net revenues of the Society have been positive for three of the last four years. The net revenues (losses) of the Society were \$36,510 for 1994, (\$35,903) for 1995, and \$<6,648 for 1996. The income for 1997 is estimated to be \$49,850. The net revenues for 1996 are \$46,648, a figure that is slightly above the estimates in the 1996 budget. The variation in the net revenues of the Society is largely due to changes in the net revenues for the annual meeting and the increase in dues.

While the last four annual meetings have had a net revenue, the size of that revenue has varied with the attendance of the meeting. The net revenues were \$62,375 in 1994, \$5,857 in 1995, and \$75,939 in 1996. In both 1994 and 1996 registrations were much larger than anticipated. The net revenues for the 1997 Annual Meeting are estimated to be \$93,000. This estimate was based in part on the expectation that the Washington, D.C., meeting location would result in an increase in attendance. Early information on the number of abstracts received supports this expectation.

Since 1993, the journal expenses have increased as membership has increased. The cost for operating the editorship has also increased, leading to net operating (losses) of (\$20,123) in 1994, (\$36,412) in 1995, and (\$35,790) in 1996. As discussed below, the office expenses for the journal are expected to increase by approximately \$20,000 in 1997. This increase is due to the establishment of three area editors for the journal. This jump in journal expenses was one of the driving forces for the decision to

increase dues.

The newsletter expenses continue to be offset by advertisement revenue to a modest degree. For the subject years, the advertising revenues have averaged approximately \$4,000 yearly, leading to net operating (losses) of (\$40,100), (\$36,412), and (\$35,790), respectively. In 1997, the Society changed editors of the newsletter. This change in editors is expected to have a net cost savings to the Society.

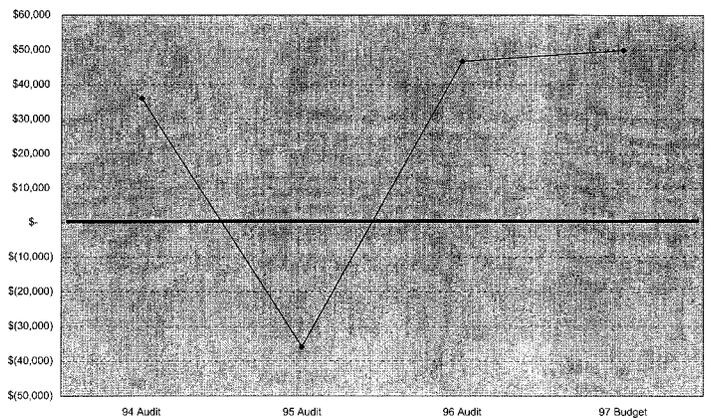
Reserves

Cash reserves are those funds (in savings and investments) that remain at the end of the fiscal year after all revenues have been obtained and all bills paid. These funds are important not only to avoid difficulties with cash flow, but also to provide insurance against unforeseen reversals in the financial projections of subsequent years. The financial events of 1995 are an example of such reversals. Most societies of our size and maturity are recommended to have cash reserves equivalent to one year's operating budget. If SRA were to meet this criterion, it should have had \$372,450 at the end of 1996 (the 1997 budget of \$422,300 minus the hoped-for contribution to cash reserves of \$49,850). As of the close of 1996, the Society's cash reserves were approximately \$136,000, or less than one-half of this goal. This is an improvement over prior years but is still considerably less than what is needed to responsibly manage the Society's finances. Based on the budget for fiscal year 1997, we hope to add an additional \$49,850 to that sum. With a successful annual meeting in Washington, D.C., we will meet our objective. However, that still leaves an uncomfortable distance from our general target of \$372,450 for cash reserves.

For fiscal year 1998, the Society plans to raise net revenues in several ways. First SRA will raise the annual dues to \$105 (the last of the three-year incremental increases). This will result in an increase of approximately \$18,000 in additional income. Second, we will continue the successful series of workshops that were held during 1997 (an activity that is also consistent with the Society's educational mission). Third, the Society is seeking to actively control its expenses. The officers took steps to assure that workshops at the 1997 Annual Meeting were on a sound financial basis. The Secretariat has also continued to control postage, printing, and other direct costs.

With these objectives in mind, the 1996 budget was prepared for review, revisions, and approval at the annual meeting in December.

Net Revenues



1998 SRA Officers and Councilors

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Councilor, 1998: **Annie M. Jarabek**, National Center for Environmental Assessment (MD-52), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711, phone: 919-541-4847, fax: 919-541-1818, e-mail: jarabek.annie@epamail.epa.gov

Councilor, 1998: **Charles A. Menzie**, Menzie-Cura & Assoc. Inc., 1 Courthouse Lane, Suite 2, Chemsford, MA 01824, phone: 508-453-4300, fax: 508-453-7260, charliemen@aol.com

Councilor, 1998: **Robert J. Mulvihill**, Risk Management & Analysis, Inc., 4425 San Joaquin Street, Oceanside, CA 92057-6020, phone: 760-721-2540, fax: 760-439-8320, e-mail: mulvihill@aol.com

Councilor, 2000: **Dennis J. Paustenbach**, McLaren/Hart Environmental Engineering, ChemRisk Division, 1135 Atlantic Avenue, Alameda, CA 94501, phone: 510-521-5200, fax: 510-521-8425, e-mail: dennis_paustenbach@mclaren-hart.com

Executive Secretary: **Richard J. Burk Jr.**, 1313 Dolley Madison Blvd., Suite 402, McLean, VA 22101, phone: 703-790-1745, fax: 703-790-2672, e-mail: SRA@BurkInc.com

1998 Committee Chairs

Standing Committees

Annual Meeting: **Gail Charnley***

Awards: **Elisabeth Paté-Cornell**, Department of Industrial Eng, Stanford Univ, Stanford, CA 94305, phone: 415-723-3823, fax: 415-725-8799, e-mail: ng.mep@forsythe.stanford.edu

Conferences and Workshops: **Elizabeth L. Anderson**, 1615 Sherwood Hall Lane, Alexandria, VA 22306, phone: 703-684-0123, fax: 703-684-2223, e-mail: elanderson@sciences.com

Executive: **Yacov Y. Haimes***

Finance: **Paul S. Price***

Gifts and Grants: **Dennis J. Paustenbach***

Membership: **Annie M. Jarabek***

Nominations: **John Graham**, Harvard Schl of Pub Hlth, Center for Risk Analysis, 718 Huntington Avenue, Boston, MA 02115, phone: 617-432-4497, fax: 617-432-2492, e-mail: jgraham@hsph.harvard.edu

Publications: **Rae Zimmerman***

Sections and Chapters: **Charles A. Menzie***

Specialty Groups: **Robert J. Mulvihill***

SRA Historian: **Robert B. Cumming**, Oak Ridge, TN, phone: 423-483-0837, e-mail: rbcumming@aol.com

Ad Hoc Committees

Advisory Board: **John Garrick**, PLG Inc., 4590 MacArthur Blvd., Suite 400, Newport Beach, CA 92660-2027, phone: 714-833-2020, fax: 714-833-2085

Grants Management: **Robin Cantor***

Electronic Media: **Steve Brown**, 4700 Grass Valley Road, Oakland, CA 94605-5622, phone: 510-430-8118, fax: 510-430-8063, e-mail: slbrown@idiom.com

Public Policy: **John "Jack" R. Fowle III**, U.S. Environmental Protection Agency (1400), 401 M St. SW, Washington, DC 20460, phone: 202-260-8325, fax: 202-260-7118, e-mail: fowle.jack@epamail.epa.gov

Improve Risk Assessment Practice:

Annie M. Jarabek*

SRA 2000 World Congress: **Rae Zimmerman***

*Contact numbers are provided in the list at left.



News and Announcements

Journal Editor Positions Open

The Publications Committee of the Society for Risk Analysis announces the following three openings for its journal, *Risk Analysis: An International Journal*:

1. Editor (five-year term, effective January 1999)
2. Area Editor for human health (effective no later than January 1999)
3. Area Editor for ecology (new position, effective as soon as possible)

Procedures for making applications for these positions and detailed descriptions of each of the positions will be available on the SRA Web Site (www.sra.org). The journal now has four area editors (human health, ecology, engineering, and social science and decision making). Area editors are responsible for obtaining reviews for and making decisions about the publication of manuscripts in their areas submitted to the journal and soliciting manuscripts in those areas. Area editor terms are typically for three years.

ISRA-Russia

The Interregional Society Risk Analysis (ISRA-Russia) was established in Russia in May 1997 by SRA members Vitaly A. Eremenko and Andrew S. Yedigarov. For more information, contact Eremenko or Yedigarov at 105058, Okruzhnoy proezd 18, PNIIS, Moscow, Russian Federation; e-mail: <eremenko@quest.net.kiae.su>, or <andrew@yedigarov.msk.ru>; phone: 7-095-137-37-33, 7-095-275-34-89, fax: 7-095-292-65-11, Box 301.

RASS VII to be Held in August 1998 in Sweden

The Seventh Risk Assessment Summer School (RASS VII) will be held 22-30 August 1998 at Toftagården, Gotland, Sweden, sponsored by the International Union of Toxicology. For more information contact: RASS Secretariat, c/o Malmfors Consulting AB, Västmannagatan 48, S-113 25 Stockholm, Sweden, phone: +46 8 31 19 90; fax +46 8 30 11 33.

SRA Year 2000 World Congress

The planning committee for the SRA Year 2000 World Congress is working with the European and Japanese Sections for this international meeting. The national SRA will also hold its usual Annual Meeting at a United States location that year.

SRA Announces 1998 Forum and Symposium Series

“Congress Passes the Safe Drinking Water Act and the Food Quality Protection Act: Can Science Meet the Challenge?”
March 1998, chaired by Dr. Jack Fowle

“Communicating Scientific Information to Judges and Juries: Why Experts May Disagree with the Verdict”
June 1998, chaired by Dr. Virginia Sublet

“Risk of Rare and Extreme Events”
Spring 1998, chaired by Dr. Yacov Y. Haimes

“11th Annual Symposium on Health and Environmental Risk Assessment”
October 1998, chaired by Dr. Elizabeth Anderson



SRA-Europe

UK Chapter Holds Second Meeting

On 14 October 1997 the United Kingdom Chapter of the Society for Risk Analysis-Europe (UK SRA-E) held its second meeting, titled “Decommissioning Offshore Structures.” The event, a joint meeting between the London branch of the Safety Reliability Society and UK SRA-E, was organized by Mike Barrett and Ragnar Löfstedt and attracted approximately 20 individuals from both societies. Two presentations were held at this meeting, one by Professor Ray Kemp of Dames and Moore/University of Surrey on risk communication and Brent Spar, and the other by Gerry Brennan of Lloyds Register of Shipping on the technical problems associated with decommissioning offshore structures. The two presentations were followed by an hour-long enthusiastic discussion and, based on the success of this evening, we have decided to hold further joint meetings; one will be organized for late spring/early summer 1998.

The next meeting of the UK Chapter, titled “Risk Issues in the UK—Science, Policy, and Public Attitudes,” will be organized by Professor Joyce Tait and will be held at the University of Edinburgh next April. For information regarding this meeting please contact Joyce Tait at <E.J.Tait@open.ac.uk> or Ragnar Löfstedt at <R.Lofstedt@surrey.ac.uk>.

SRA-E Meeting in Paris 11-14 October 1998 “Risk Analysis: Opening the Process”

A rational approach to risk analysis has been developed in the last three decades. Techniques for risk assessment have been thoroughly enhanced, decision-making processes have been clarified, and the social dimensions of risk perception and management have been investigated. Nevertheless this construction is being challenged by recent events which reveal how a deficit in stakeholder involvement, transparency, and democratic procedures can undermine risk management actions. The process of risk analysis itself may be radically called into question. Institutional changes are underway in many European countries. The creation of new institutional structures to address newly defined risk sources and issues is important, but equally important is envisioning an evolution of all the components of risk analysis such that stakeholders may develop better insight into the process.

For more information on the SRA-E 1998 Annual Conference, organized by Institut de Protection et de Sûreté Nucléaire, contact Conference Director Philippe Hubert, IPSN DPHD SEGR “SRA Paris Conference,” BP 6 92265 Fontenay aux Roses Cedex-France, phone: +33 (0)1 46 54 79 11, fax: +33 (0)1 46 54 88 29. ◇◇◇



SRA-Japan

“FIRST CIRCULAR : CALL FOR PAPERS” - CJCRAM’98 -

First China-Japan Conference on Risk Assessment and Management

Time: 23-26 November 1998

Location: Beijing, China

Organizers:

Beijing Normal University (BNU)

Society of Risk Analysis-Japan Section (SRA-JAPAN)

Department of Earth Sciences, National Natural Science,
China (DES-NNSFC)

Conference Language: English

Abstract submission deadline: 30 April 1998

Notification of acceptance: 31 May 1998

Final manuscript deadline: 31 August 1998

Purpose

The China-Japan Conference on Risk Assessment and Management (CJCRAM), is a recently established bilateral research forum aiming to bring together Chinese and Japanese risk researchers and managers, from universities, research institutions, enterprises, and public and governmental agencies, to discuss and review basic ideas, methodologies, case studies, and new advances in the field of risk research and risk management. Senior researchers and managers interested in this topic all over the world are also welcome to the conference.

CJCRAM’98, the first conference on this topic, offers a unique bilateral forum to present and discuss theories, techniques, and experiences which are new and useful for risk assessment and management.

Call for Papers

Contributions describing original work, research projects, and state-of-the-art reviews are solicited on the following (non-restrictive) list of topics to be covered:

1. Risk Theory and Uncertainty Modeling
2. Risk Analysis of Natural and Environmental Disaster
3. Health and Ecological Risk Assessment
4. Risk Assessment Approaches and Methodologies
5. Safety and Accident Management in Industrial Production
6. Financial Risk and Insurance Problems
7. Resources Development and Investment Risk
8. Global and Regional Environmental Risks

Organizing Committee

Chairpersons:

Yang Zhanru (Beijing Normal University, China)

Tomitaro Sueishi (Shiga Prefectural University, Japan)

Lin Hai (National Natural Science Foundation of China)

Hirota Hirose (Tokyo Christian University, Japan)

Vice-chairpersons:

Shi Peijun (Beijing Normal University, China)

Saburo Ikeda (University of Tsukuba, Japan)

Huang Chongfu (Beijing Normal University, China)

Tohru Morioka (Osaka University, Japan)

Members:

Yang Mingchuan (Beijing Normal University, China)

Yasuhiro Sakai (University of Tsukuba, Japan)

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Jun Sekizawa (National Institute of Health Sciences, Japan)

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Iwao Uchiyama (National Institute of Public Health, Japan)

Liu Baoyuan (Beijing Normal University, China)

Norio Okada (Disaster Prevention Research Institute, Kyoto
University, Japan)

Secretary-general:

Huang Chongfu (Beijing Normal University, China)

Secretary of Japan Section:

Saburo Ikeda (University of Tsukuba, Japan)

Submission

Authors are invited to submit a one-page abstract containing the paper title, preferred presentation (oral/poster), author’s name and affiliations, complete address (including e-mail, fax, and phone) of the corresponding author(s), five keywords, and abstract (200-250 words) before 30 April 1998 by mail, fax, or e-mail to the CJCRAM’98 secretary of China section (see below) for Chinese authors in both English and Chinese or secretary of Japan Section (see below) for Japanese authors in both English and Japanese.

The senior experts committees will select the papers based on the submitted abstracts for presentation at the conference.

Notification of acceptance of the papers will be sent to the authors by 31 May 1998. Authors of accepted contributions will then be invited to prepare final versions of their papers in English, no more than eight pages long, and preferably in LaTeX or AmSTeX. These final versions should be sent to the CJCRAM’98 Secretary-General (see below) before 31 August 1998. All accepted papers, together with the invited papers, will be included in the conference proceedings titled “Risk Research and Risk Management in China and Japan,” and will be published by an influential publishing house.

Conference Fee

Early registration (31 August 1998): 300 US\$

(900 RMB per Chinese representative)

Late registration (after 31 August 1998): 350 US\$

(1200 RMB per Chinese representative)

Correspondence and further information

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Committees

Electronic Media Committee

Steve Brown, SRA Webmaster

The SRA Web Site is still attracting a regular visitorship and has passed the 10,000-hit milestone. We have a survey up to try to find out what people like and don't like about the site and what they want added. The results will be in the next issue of the RISK newsletter.

Conferences and Workshops Committee

Tenth Annual Symposium on Health Risk Assessment: Current Issues

Elizabeth L. Anderson, Chair

The SRA hosted a highly successful Tenth Annual Symposium, "Health Risk Assessment: Current Issues," in Monterey, California, on 6-8 October 1997. The symposium was organized by Drs. Elizabeth L. Anderson, Willard R. Chappell, Richard A. Becker, Lawrence B. Gratt, and Virginia Sublet and Ms. Patricia M. Bittner. The symposium was held on the West Coast for the first time, and it also featured an unprecedented third day focusing on two case studies—risk assessment issues associated with exposure to diesel exhaust and environmental tobacco smoke (ETS). While these two timely issues are of international importance, they are of particular importance to the State of California. Diesel exhaust and ETS risk assessments are currently being reviewed in order to complete the final risk assessments which will be used as a basis for further risk management decisions by state officials.

This is the principal annual symposium which updates participants on broad, interdisciplinary issues including risk assessment guidance, current issues to improve modeling, exposure assessment, uncertainty analysis, risk management developments, and risk communication. This year's symposium included the additional topic of ecological risk assessment.

The symposium opened with an overview of health risk assessment by Anderson. The historical perspective focused on critical developments in health risk assessment that enhance the scientific validity and usefulness of risk assessment for management decisions. Becker, Director of Environmental Health Hazard Assessment for the State of California, followed with an overview on new guidance in risk assessment that implements the recommendations of the Risk Assessment Advisory Commission in California. Dr. David Burmaster described variability and uncertainty in risk assessment. Dr. Suresh Moolgavkar focused on the most recent developments in biologically based modeling. He described how the model simplifies large and complex biological problems in carcinogenesis by breaking them into smaller, testable hypotheses. Dr. Tom McKone closed the symposium's first day by emphasizing recent developments and applications in exposure assessment.

The second day of the symposium was opened by Dr. Mildred Christian who highlighted the latest work and guidance on the evaluation of reproductive risk. Dr. Robert Huggett, recent Assistant Administrator for Research and Development of the Environmental Protection Agency (EPA), next spoke about ecological risk assessment challenges. He provided an overview of EPA's latest guidance on risk assessment, and he used case studies from his own research to illustrate the application

of ecological risk assessment guidelines by the end of 1997. He explained that the document will create the framework within which one will conduct ecological risk assessments. This approach involves initially defining the problem, then characterizing the exposure and the ecological effects, and finally establishing the overall risk characterization. Dr. Warner North followed with this year's risk management lecture. North's presentation included information from recent National Academy of Sciences committees and the President's Commission on Risk Assessment. Dr. Rae Zimmerman, 1997 president of SRA, closed the second day of the symposium by making a presentation on the social foundations of risk communication. Zimmerman used her own research to describe, for example, differences in perceptions among women and minorities. She also presented examples of the media as "the messenger."

The third and final day of the symposium centered on two case studies: diesel exhaust and ETS risk assessments. Becker opened with an introduction to California's risk assessment on both diesel exhaust and ETS. Dr. George Alexeeff, Chief, Air Toxicology and Epidemiology of the California EPA, next summarized the California diesel risk assessment study. Dr. Eric Garshick, author of the railroad workers study on diesel-exposed individuals, presented a lecture on his studies and identified the critical data gaps that he feels must be filled for risk assessment purposes. Dr. Kenny Crump described the dose-response work he has performed on Garshick's studies and explained the negative dose-response curve he found. Dr. Stan Dawson, Chief, Biological Effects and Air Standards for California EPA, offered an opposing point of view. Dr. Joe Mauderly, a principal investigator of studies using rodents exposed to diesel exhaust, presented his overview of the diesel animal studies and their implications for risk assessment. Mauderly concluded that the animal studies were inappropriate for risk assessment purposes. Moolgavkar closed the session with peer commentary and recommendations for future work in risk assessment that will improve our understanding of diesel risk. A lively panel discussion followed this session.

The afternoon session of the third day was dedicated primarily to a case study of ETS. In an adjacent room, there was a concurrent study on appropriate methods to determine safe levels of exposure for agents that are considered essential in the diet. Dr. Lauren Zeise, Chief of Reproductive and Cancer Hazard Assessment Section, California EPA, opened the ETS session by summarizing the California ETS risk assessment report. Dr. Roger Jenkins and Dr. Robert Tardiff presented new information from a recent ETS exposure monitoring study and the analysis of these monitoring data. Dr. Michael Thun, American Cancer Society, presented his views of the epidemiology of ETS, emphasizing his conclusions that the risk assessment derived from these studies clearly implicates ETS in disease causation. Dr. William Butler next presented an overview of the shortcomings of several studies that have been thought to link ETS to, in particular, cancer endpoints. Dr. Steven Bayard of the EPA and the Occupational Safety and Health Administration provided an overview of the ETS risk assessment that was performed for these two agencies. Dr. Maurice LeVois followed Bayard with an overview of his risk assessment work involving ETS. Dr. David Hoel, Professor and Chairman of the Department of Biometry and Epidemiology at the Medical

University of South Carolina, provided peer commentary on issues surrounding the risk assessment of ETS. He noted the uncertainties in some of the epidemiology studies, and he gave an overview of others' criticisms of the utility of these studies for risk assessment purposes. Peer commentary was also provided by Dr. Gary Friedman, a member of the California Air Resources Board, who used the opportunity to ask questions of the key presenters in the case-study symposium. His ques-

tions were designed to resolve some of the apparent differences in views expressed during the session. A spirited panel discussion followed the overall case study.

Many of the symposium participants remarked that this is the only symposium where one can discuss interdisciplinary topics that span the entire fields of health risk assessment and risk management. Plans are underway for next year's Eleventh Annual Health Risk Assessment Symposium. ◇◇



U.S. Chapter News

Chicago Regional Chapter

On 23 October Dr. Elsie Millano, ERM-North Central, Inc., Vernon Hills, Illinois, presented five case studies on the application of the Illinois Tiered Approach to Corrective Action Objectives (TACO). The cases included a simple soil ingestion Tier 1 exceedance solved with a limited-extent cover under RCRA; a soil inhalation Tier 1 exceedance using the maximum detected concentration which was solved by using average concentrations; ground water volatile organic compounds Tier 1 exceedances in discontinuous, perched ground water where a range of hydraulic conductivities was used to calculate the ground water concentrations at the property boundary; soil metal concentrations above the migration to ground water pathway that were solved by defining individual sources of each metal (sustained by the site data), restricting on-site ground water usage, and applying the transport in ground water equation to the property boundary; and soil concentrations above the ingestion pathway Tier 1 values where a risk assessment using grouping of noncarcinogens and carcinogens by effect or affected target organ was used.

Millano's presentation was well attended and the Chapter welcomed a few new members from the insurance industry. The next scheduled Chapter meeting is 13 January, with Alan Hoskin of the National Safety Council discussing the occupational injury and fatality risks at hazardous waste cleanup sites.

The Chicago Regional Chapter of the SRA and the Midwest Chapter of SETAC are soliciting platform and poster papers for presentation at the 6th Annual Meeting on 1-3 April 1998 at Argonne National Laboratory, Argonne, Illinois. The meeting theme this year is "Environmental Risk Assessment" (ERA). Papers on all aspects of ERA, environmental toxicology, environmental chemistry, human health risk assessment, and hazard assessment are invited. Papers need not be new and may be from previous national or regional conferences that many of our participants were unable to attend. A competition for the best student paper platform and poster presentation will take place, and the awards will be presented at the meeting.

In addition to platform and poster sessions, proposed workshops include terrestrial benchmarks, natural resource damage assessment, and probabilistic risk assessment. Proposed session topics are terrestrial and aquatic toxicology, environmental chemistry, environmental fate and transport, endocrine disruptors, ERA, exposure modeling, bio-accumulation, probabilistic risk assessment, risk communication, trends in ERA regulations, and other topics as appropriate.

Platform presentations will be 20 minutes in duration, including 5 minutes for questions and discussion. Only 35-mm (2" x 2") slides will be acceptable for platform presentations. Posters should be no larger than 6.5 x 5 feet (landscape for-

mat). The text and tables should be readable from a distance of 4 feet. Attach posters to the backing with Velcro adhesive strips.

Submit all abstracts (due by 9 January 1998) and program inquiries to Brenda R. Jones, U.S. Environmental Protection Agency, 77 West Jackson Blvd., Chicago, IL 60604, phone: 312-886-7188, e-mail: <Jones.Brenda@epamail.epa.gov>.

A preliminary program, registration materials, information on hotel accommodations, and directions to the conference site will be mailed to all Chapter members by 6 February 1998.

New England Chapter

The New England Chapter enjoyed a large turnout for the 8 October session held at the Harvard School of Public Health, Boston, Massachusetts, "Communicating Risk to Judges and Juries." A special thank you to our participants: David Governo, Eileen Kavanagh, Peter Valberg, Janet Keating, Chuck Caldart, and Nick Ashford. Listed below is practical advice offered by the panelists. A videotape of the event can be borrowed, for viewing only, by contacting Janet Keating at 617-234-2366.

How To Be A Good Expert Witness

by Janet Keating, Gradient Corporation

1. Never overestimate the technical or scientific background of the jury. You will have to provide some basic education for your message to be received in the way you intended.
2. Offer expert testimony only in those areas in which you are prepared to undergo extensive examination.
3. Be fully prepared—you will not be able to fake anything. Your attorneys should prepare you thoroughly for cross-examination.
4. Be aware of the legal context into which your testimony is expected to fit. What you presume to be a given scientific fact may be rejected by the court.
5. Inform the attorneys for whom you are working about any political or social biases that may influence your testimony or perceptions about your testimony.
6. Don't back down under cross-examination. Know the strengths and weaknesses of your testimony and be the first to acknowledge them. Think through the issues completely and consider the alternative conclusions that can be drawn from your analysis.
7. Don't look like you're being paid to testify. Good experts are human, friendly, and accessible.
8. Be an effective presenter. Do not use jargon or acronyms. Do not use scientific terminology when you can use a layperson's term, but be careful not to talk down to the jury. It is important that the jury like you.
9. Keep the interest of the jury by using visuals, exhibits, and color in an engaging way. You need to keep the jury fo-

cused on what you are saying.

The 12 November 1997 Seminar, held at the Harvard School of Public Health, featured presentations by B. Rey de Castro ("Quantifying Xenoestrogenic Potency: Cell Culture Methods") and Ruthann Rudel ("Exploring Septic Systems as Potential Sources of Endocrine Disruptors in Shallow Drinking Water Wells on Cape Cod").

For general information about the New England Chapter, contact President Lorenz Rhomberg, Harvard Center for Risk Analysis, Harvard School of Public Health, 718 Huntington Avenue, Boston, MA 02115; phone: 617-432-0095; fax: 617-432-0190; e-mail: <rhomborg@hsph.harvard.edu>.

Northern California Chapter

The 1997 Fall Dinner Meeting of the Northern California Chapter of the Society for Risk Analysis (NCCSRA) was held



Rae Zimmerman (right) with NCCSRA Past President Warner North and his wife, Cherie

at the Four Points Hotel in Sunnyvale on 8 October. The featured speaker was Dr. Rae Zimmerman, 1997 President of the national Society for Risk Analysis and a professor at New York University. Zimmerman spoke on "Risks in the 21st Century," illustrating her points with a case study of community conflicts stimulated by the

sand-blasting of lead-based paint from a bridge between Manhattan and Brooklyn. Her talk was followed by a rousing discussion.

About 15 people attended the meeting, which featured a Mexican Buffet. Several of the guests who had not previously been members of NCCSRA joined at the meeting. A short business meeting was held between dinner and Zimmerman's presentation, during which NCCSRA President Steve Brown discussed the results of the recent member survey. The next Chapter meeting is being planned for mid to late January. The NCCSRA has a new Web Site (www.sra.org/ncc).

Ohio Chapter

The Ohio Chapter held a Monte Carlo Simulation Seminar and Workshop on 10 November at Ohio EPA (OEPA) Headquarters Offices in Columbus. This event provided a comprehensive overview of the Monte Carlo simulation methodology and its theoretical and practical applications, and was co-sponsored by the EPA, National Center for Environmental Assessment (NCEA) in Cincinnati, OEPA's Voluntary Action Program (VAP), and Decisioneering, Inc. (developer/distributor of Crystal Ball). EPA's NCEA co-sponsored the event as a pilot project to assess the workshop as a vehicle for regional or national training on Monte Carlo techniques. The Chapter hopes to hold similar Monte Carlo seminar/workshop simulations in the future based on the pilot program.

The morning seminar included a technical overview of the principles and concepts central to Monte Carlo simulation in the context of environmental risk assessment, presented by Dr. Paul Price of ChemRisk, a Division of McLaren/Hart. A num-

ber of guidelines and policies that have been recently published or are currently under development relative to the use of Monte Carlo simulation (by such groups as the EPA Headquarters and Region V and the American Society for Testing and Materials [ASTM]) were presented and discussed in a roundtable forum. Dr. Lee Hofmann, EPA, Office of Emergency and Remedial Response, and Dr. Michael Kangas, representing ASTM's Subcommittee E47.13, provided EPA and ASTM perspectives, respectively. In addition, Dr. Ed Pfau of the OEPA's Division of Emergency and Remedial Response (DERR) described the use of Monte Carlo simulation in the recent development of the generic risk-based standards in the new OEPA Voluntary Action Program (VAP) for contaminated site assessment and clean-up. The use of Monte Carlo simulation in the VAP represents the most extensive application of this tool in regional rulemaking to date.

An afternoon hands-on workshop provided an opportunity for participants to design and implement Monte Carlo simulations using the Crystal Ball© software package. Dr. Larry Sirinek, a key risk assessor and exposure modeler for OEPA's DERR, developed and led the workshop. Coaching assistance was also provided by Ronald Versteeg, Procter and Gamble Company; Mr. Jeff Swartout, EPA; and Kangas. Participants worked directly with the software and illustrative models and datasets adapted from those used in the development of the standards for the Ohio VAP. Sirinek also built upon the workshop content to provide subsequent internal training to OEPA personnel on the probabilistic techniques utilized in the VAP generic standards development.

The Chapter recently closed its solicitation for nominations for the Chapter President-elect, Treasurer, and two Councilor positions. The Chapter regrettably must bid current President Ron Marnicio, Foster Wheeler Environmental Corporation, farewell and wish him success in his relocation to Boston. He has been an integral part of the Chapter's functioning over the years. The Chapter plans to host an event in the first quarter of 1998 on the topic of children's health. For questions about the Chapter and its events, please contact the current President-elect, Cathy Pickrel, Ashland Chemical Company, EH&S/DA-4, 5200 Blazer Parkway, Dublin, OH 43017; phone: 614-790-4555; e-mail: <cpickrel@ashland.com>.

Lone Star Chapter

The Lone Star Chapter held its First Annual State Conference on Saturday, 15 November, at the Camberley Gunter Hotel in San Antonio, Texas. Almost 50 people attended the Conference in response to the outstanding group of speakers presenting at the technical program. The Lone Star Chapter would like to recognize the contributions of Dr. Dennis Paustenbach (McLaren/Hart, Inc., Alameda, California), Dr. Robert Sielken (Sielken, Inc.—



Left to right: Dr. Martin L. Meltz, Dr. Thomas Mustadydek, and Dr. Dennis Paustenbach

member of Jellinek, Schwartz & Connolly, Inc., Bryan, Texas), and Mr. Andrew Rak (Air Force Center for Environmental Excellence, Brooks Air Force Base, San Antonio).

Paustenbach's keynote address provided an excellent overview of the history of risk assessment and how it will likely evolve. Conference attendees, from those just beginning to study risk assessment to 20-year veteran risk assessors, found the talk extremely interesting. Sielken presented cutting-edge approaches to probabilistic aggregate exposure and risk assessment under the Food Quality Protection Act, and Rak spoke about data and research needs in ecological risk assessment.



Dr. Robert Sielken, Jr.

The technical program was followed by a social hour and banquet. The conference was a successful step in the Chapter's continuing goal of outreach to the entire state, with conference attendees coming from several different cities (primarily Houston, San Antonio, and Austin). In addition, the conference was an excellent first introduction to the Society for many who were not previously aware of SRA.



Dr. B.C. Robison

an excellent first introduction to the Society for many who were not previously aware of SRA.

Elections for the Chapter (Secretary, President-elect, and Councilor) will be held in early 1998. Individuals interested in serving or nominating someone should contact the current Lone Star Chapter president, Dr. B.C. Robison, at 281-579-8999.

Metro Chapter

The Metro Chapter is planning a series of informal monthly meetings to network and share ideas. The first of these meetings was held on 20 November (the third Thursday of the month) in midtown New York. There were three brief presentations on diverse topics: "Has Risk Assessment Become a Commodity?" (Rao Kolluru), "Microbial Risk Assessment—Waterborne Cryptosporidium" (Joseph Perz), and "EMF, RF—What's New?" (Linda Erdreich).

In addition, from time to time, we will conduct seminars such as the one in May on "New and Emerging Risk Issues" in cooperation with Columbia University. We invite suggestions from members and others on topics and venues for future meetings. Please call Rao Kolluru (201-316-9300) or Linda Erdreich (212-686-1754). ◇◇◇



Specialty Groups

Dose Response

Matthew S. Bogdanffy, Chair

The Dose Response Specialty Group (DRSG) sponsored 15 different sessions at the SRA '97 meeting. For a complete list of the sessions, and for more information on the DRSG, visit our Web site at <www.sra.org/drsghome.htm>. The DRSG Mixer, held on Tuesday, 9 December, featured presentations by Drs. Adam Finkel and Tom McKone. The Group is looking to expand its membership. All are welcome and information on how to join the group can be found at the Web site.

Risk Science & Law

Wayne Roth-Nelson, Interim Chair

First Ongoing RSLSG Project

Founders of the Risk Science & Law Specialty Group (RSLSG) believe that opportunities for leadership among our members should not be limited to organizing and contributing to an annual program. One or more ongoing projects could engage the energy and ideas of our members apart from presenting papers or posters or joining a panel discussion at a national meeting. Probably the first such project with strong ongoing potential is the development of a Legal Casebook of Risk-Based Judicial Decisions. Judicial approaches to risk assessment are most clearly reflected in the case law from reports of specific cases. The immediate goal is to collect and synopsise key cases that involved risk analysis and organize them in ways to make them more accessible to legal and scientific risk practitioners. The cases are generally divided into two main categories: regulatory cases and personal injury cases. Many opportunities will arise for the expansion and refinement of the Casebook Project.

This project was launched at our 1997 Annual Meeting with a Poster Platform Session organized by our founding members

John Applegate (e-mail: john.applegate@law.uc.edu) and Wendy Wagner (e-mail: wew@po.cwru.edu).

Potential Second Ongoing RSLSG Project

Among other potential ongoing projects there could be a survey and synthesis of legislative, regulatory, and policy initiatives that specifically target the protection of children from toxic exposures to contaminants in environmental media, food and drugs, and other consumer products. Also, analyses of cases of judicial review that specifically affect the levels of protection of children could be compiled. One direction such a project could take is to make it international in scope by engaging the cooperation of the European and Japanese Sections of the Society. The RSLSG welcomes the ideas and comments of all Society members concerning this or any other potential project.

Chemistry and the Law Symposium

The Division of Chemistry and the Law of the American Chemical Society (ACS) is a kind of umbrella organization for lawyers and scientists where legal and scientific issues intersect concerning chemicals in our society. It was in this perspective that our Specialty Group was contacted by ACS organizers and asked to participate in a Symposium on Explaining Science to Judges and Juries at the Stardust Hotel in Las Vegas (9-11 September 1997). Five of our members were presenters: epidemiologist Linda Erdreich, a new scientist member of our Group from Bailey Research Associates; Katy Kunzer, assistant general counsel at the Chemical Manufacturers Association and a founding member of our Group; Susan Poulter, law professor at the University of Utah and another founding member; Wayne Roth-Nelson, Specialty Group founder and principal of Roth-Nelson Risk Science; and Kathey Verdeal, another new scientist member and principal of Toxicology Consultants, Inc. Our Specialty Group should have a clear interest in building bridges with the ACS Division of Chemistry and the Law. ◇◇◇



Advertisements

Chemical Risk Management Course

Risk Assessment Corporation will sponsor a five-day course titled "Chemical Risk Management—A Practical Approach for Implementing Risk-Based Decisions for Corrective Action" 27 April-1 May 1998 at the La Fonda Hotel in Santa Fe, New Mexico. This course will offer a review of state-of-the-art methodologies for estimating risk from chemicals in the environment; hands-on training in risk estimation software; an opportunity to learn how risk estimates are calculated and interpreted at a variety of other sites; insight into risk assessment and public policy in the future; and a case-study demonstration of a practical approach to corrective action. This course will provide an overview of chemical risk assessment for individuals who are learning risk estimation methods, managers who are responsible for corrective action and risk management, those who want to expand their professional knowledge about chemical risk assessment, and individuals who are responsible for conveying risk information to the public. The faculty includes leaders in the fields of environmental transport of chemical(s) of concern, exposure assessment, risk analysis, risk communication, and media relations. The cost is \$1,495.00. For more information, call 312-988-7667 or fax 312-649-9383 or visit our course Web Page at <<http://www.racteam.com>>.

Available Position Announcement

Description: Senior Risk Assessment Expert. The Harry Reid Center for Environmental Studies at the University of Nevada, Las Vegas, is seeking a senior scientist to coordinate radiological risk assessment analyses for the Nevada Risk Assessment/Management Program (NRAMP). The applicant must have a highly developed proficiency (Ph.D. or equivalent, preferred) in at least one area of radiological risk assessment, preferably groundwater science or surface soil contaminant transport. The Harry Reid Center administers the NRAMP and conducts research in hazard potential from existing contaminated areas and, in particular, the Nevada Test Site. Preference will be given to applicants with EPA or DOE program experience. Competitive salary will be based on qualifications and experience. Please submit a current résumé, a cover letter, and the names of three references to Don Baepler, Ph.D., Chair, Search Committee (Senior Risk Assessment Expert), Harry Reid Center for Environmental Studies, University of Nevada, Las Vegas, Box 454009, Las Vegas, NV 89154-4009. Position is available 10 October 1997. Application review begins immediately and will continue until the position is filled. UNLV is an Affirmative Action/Equal Opportunity Employer. Minorities, women, veterans, and the disabled are encouraged to apply.

Program Manager, Dietary and Exposure Assessment

American Cyanamid, a subsidiary of Fortune 100 American Home Products Corporation, is seeking an individual to join a new group at its Agricultural Products Research Division in Princeton, New Jersey, to perform dietary and exposure risk assessments.

The individual should have an advanced degree in chemistry, toxicology, or a related scientific field with experience in performing risk assessments for agricultural chemicals for either dietary or operator exposure. The successful candidate should be familiar with either conducting DRES evaluations and/or using PHEAD and POEM databases/models for performing risk assessments. Responsibilities include responding to questions raised by regulatory agencies (both EPA and International) concerning exposure and risk assessment, writing assessments for use in regulatory submissions and defense, and planning and executing studies needed to develop agricultural products. This covers issues related to dietary risk assessment, non-dietary risk assessment, as well as occupational and reentry exposure assessments, and includes working as a team member with appropriate Development and Regulatory managers to develop appropriate responses, strategies, and/or study protocols.

We offer a competitive salary and excellent benefits, including a 401(k) savings plan, and a convenient location between Philadelphia and New Jersey. For prompt consideration, forward your résumé and salary requirements to: Employment Office, American Cyanamid Company, Department JJK/JD, P.O. Box 400, Princeton, NJ 08543-0400. An equal opportunity employer m/f/d/v.

Two Postdoctoral Fellowships in Risk Assessment and Environmental Health Policy

Postdoctoral Fellowship positions available at Rutgers University-Piscataway Campus, for those interested in risk assessment and environmental health policy. Must have excellent written and oral communication skills and possess a Ph.D. in toxicology, environmental health, or a related discipline from an accredited university. Will work with the Director of the Environmental and Occupational Health Sciences Institute (EOHSI), Bernard D. Goldstein, M.D., and other members of the faculty on projects related to risk assessment and environmental policy. Will be expected to do original research, make presentations, write papers, and be involved in the development of national and local scientific meetings related to the area of research. Salary \$25,000/year. Applicants should send current résumé, most recent transcript, and three letters of reference to Dr. Mark G. Robson, Executive Director, EOHSI, 170 Frelinghuysen Road, Piscataway, NJ 08854.

RISK newsletter advertising policy

Employment Advertisements: Organizations may purchase space for advertisements of employee openings at a cost of \$250 for a 3.25-inch-wide by 3-inch-high column in 10 point Times type with 11 point leading. The column length of an ad may be increased beyond 3 inches at a cost of \$100 per inch. Camera-ready ads are accepted. Individual members of SRA may place in the RISK newsletter, at no charge, an advertisement seeking employment for themselves as a benefit of SRA membership. The advertisement must fit within a 3-inch-high column.

Books, Software, Courses, and Events: Advertisements for books, software, courses, and events will be accepted at a cost of \$100 per inch in a 3.25-inch-wide column in 10 point Times type with 11 point leading.

The RISK newsletter is published four times a year. Submit advertisements to the Editor, with billing instructions, by 1 March for the First Quarter issue (April), 1 June for the Second Quarter issue (July), 1 September for the Third Quarter issue (October), and 1 December for the Fourth Quarter issue (January).



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Deadline for RISK newsletter submissions

Information to be included in the First Quarter 1998 SRA RISK newsletter, to be mailed at the beginning of April, should be sent to the Editor at the address above no later than 20 February.



Member News

Fergus Bolger and Paul Anand

Fergus Bolger and Paul Anand have set up a discussion/information list called <Risk@mailbase.ac.uk>. To join just send the message Subscribe Risk Your Name to <mailbase@mailbase.ac.uk>.

Gail Charnley

The Weinberg Group Inc., the Washington-based international consultancy, announced Gail Charnley, Ph.D., formerly Executive Director of the Presidential/Congressional Commission on Risk Assessment and Risk Management, has been named Practice Director - Risk Management, U.S., in the firm's Worldwide Environmental, Health, and Safety Group.

In announcing Charnley's appointment, Matthew R. Weinberg, Chief Executive Officer of The Weinberg Group, commented, "Recognizing the continued importance of risk management to our clients, we consider ourselves extremely fortunate to have someone of Dr. Charnley's caliber on our staff. Dr. Charnley's experience will significantly expand the firm's existing capabilities in offering strategic risk management and communication services." ◇◇

REMEMBER THE SRA's WEB SITE

The site has over 30 pages of information, ranging from a listing of the officers to a description of opportunities available to members. The URL is <www.sra.org>. The site is intended to be dynamic, so send us your suggestions!

Thank You to SRA Sustaining Members

The Society for Risk Analysis gratefully acknowledges the financial contributions of the following sustaining members:

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