STOCKHOLMS UNIVERSITET WALLENBERGLABORATORIET

Strålningsbiologiska inst. S-106 91 Stockholm

Tel. 15 01 60 (växel)

April 17, 1979

Tand H

Dr. Robert B. Cumming Biology Division Oak Ridge National Laboratory P.O. Box Y Oak Ridge, Tennessee 37830 U.S.A.

Dear Bob,

The enclosed comments have been delayed because I expected a comment from Gordon Goodman. According to a brief statement by telephone, he is very positive and thinks the title should be ".... Research" rather than assessment. I was however so far unable to see him, and will send you his comments later.

Hope to hear from you on the various points in the "list".

Best greetings.

Yours,

Lars Ehrenberg / Inga Horndahl

secr.

Viewpoints on a new journal:

"International Journal on Risk Assessment" (working name suggested in preliminary discussions of R.B. Cumming, Oak Ridge, Tenn., and L. Ehrenberg, Stockholm).

- 1. Need for a journal: A good forum for publications in the increasingly important field of risk research does not exist. Papers in this field are at present published (a) in journals for specific subjects which are preipherically or sectorially concerned with risk problems; (b) and Nature, in general scientific journals especially Science; (c) national or organisational (e.g. MARC) reports or series.
 - In (a), treatments of risk problems "get in a mass of papers to concerned with subjects pertaining the title of the journal, and are often forced to use a subject-specific language which makes them less accessible to those who are concerned with risk problems. Reports of type (c) have mostly limited distribution, and are mostly non-available in libraries. Reports of type (b) have a great value and reviews/ treatments of this kind should continue to appear in Science and Nature.

A journal "Foresight, J. of Risk Management" is issued in UK. It seems to be rather technically than scientifically oriented.

2. General subjects covered by a new journal:

A journal is needed for developments and testing of methods for assessment, estimation and evaluation of risk. These concepts might then be defined as

Risk: probability of damage to life, health and environment (the latter in a rather wide sense)

Risk assessment: Determination whether a risk is at hand or not

Risk estimation: Quantitation of the risk (and harm)

Risk evaluation: Application of data from assessment and estimation e.g. in cost-benefit evaluation, on economic, adminstrative, political levels.

3. Name of journal.

Considering point 2, a name like "Int. J. of Risk Research" would possibly be preferable to the one suggested introductorily.

4. Specific fields covered.

This can only be tentatively given here by examples. A programme for the journal has to be worked out with utmost care.

Development of methods for risk assessment and risk estimation. With a basis in mathematics and statistics, methodologies which are essentially chemical, biological, physical, etc. Stress—should be laid on basic scientific approaches; applications should be eligible for the journal when their research profile is sufficiently strong, e.g., when they have a purpose of verifying the usefulness of models, or are concerned with scientific studies of risk evaluation.

Especially stochastic effects should be considered, also rare events including irreversible effects causing great harm. Special subjects of interest: dose-response relationships, interaction of causes, early warning systems.

Risk perception belongs probably to the field (behavioural sciences, etology, sociology, etc.).

Educational problems.

5. The cross-scientific or multidisciplinary character of the contents of the suggested journal may cause difficulties in mutual understanding of readers from different specific fields. Partly at least such difficulties could be overcome by (a) subdivision of contents into sectors (at least initially?); (b) requirement for well-written summaries in a language intelligible to scientists in general; (c) presenting very comprehensive field-specific work in reports and/or subject-specific journals in mathematics, biochemistry, ecology, etc., with proper references to these reports/papers; reports should be available to interested on request.

It should, on the other hand, be realized that the problems of risk assessment/estimation/evaluation are interdisciplinary, and the fact that at present experts often disagree (e.g., on energy problems) seem to be related to their being educated in different fields with the consequence that they lack a common language. From this point of view, the creation of a journal as planned may promote better mutual understanding of experts, and of consumers of the experts' data.

As discussed, much would be gained by having a bifocal editing of the planned journal, both sides of the Atlantic represented. Professor Torbjörn Thedéen, Dept. of Statistics, Stockholm University, is willing to assist.

I believe that means for a contribution to the start could be obtained

The general and specific layout of the journal should be drawn up at a Symposium on some specific subject, not too complicated (i.e., not energy), where sufficient data are available to a meaningful scientific approach on all levels. I also believe that support could be obtained for such a Symposium in Sweden.

OAK RIDGE NATIONAL LABORATORY

OPERATED BY

UNION CARBIDE CORPORATION
NUCLEAR DIVISION



Toud:

POST OFFICE BOX Y
OAK RIDGE, TENNESSEE 37830
August 13, 1979

Dr. Lars Ehrenberg Wallenberg Laboratory University of Stockholm S-106 91 Stockholm SWEDEN

Dear Lars:

I have been trying to reach you by phone for the last several weeks, but without success. When I returned from vacation on the west coast (July 23) I found your letter of July 10. I agree with essentially everything in it. I will continue to try to reach you by phone but I am not encouraged that this will be successful. Meanwhile, there are certain matters which must be dealt with.

I have talked to about 40 U.S. scientists, including highly placed people in at least four U.S. Federal agencies, about the proposed risk assessment journal. The response has been overwhelmingly and uniformly positive and supportive. There are a number of suggestions to add to our own and to sort through. The suggestion comes from Mort Mendelsohn (President of the U.S. EMS) that it is time to stop talking and start acting. He suggests that we convene an ad hoc committee of manageable size to work out details of what should be done. I propose to have such a meeting, hopefully, when you are visiting this country - which brings up the subject of your trip.

You will be attending Legator's meeting on September 17-19. I hope you are flexible and will be in no great hurry to return because I have some suggestions for your itinerary. I will be in South America and will return to Oak Ridge on August 24 (Monday). The people at EPA, Dick Hill and Cris Chaisson among others, are very anxious to see you and have some money to contribute to your expenses. I suggest that you spend the two days after the Legator meeting with them (Sept. 20-21). Bill Lee is most anxious to host you in Baton Rouge on the weekend of the 22nd and perhaps the first day or so of the following week (Sept. 24, 25 ?). He promises to show you some real southern hospitality and if you give him a small seminar he will give you \$200 which will cover your additional expense. There is a direct flight from Washington to Baton Rouge. We would like to have you for a few days in Oak Ridge. I suggest that you could come to Oak Ridge from Baton Rouge. We of course would cover your expenses and would like a seminar. It would be nice if you could spend the balance of that week in Oak Ridge and give us a seminar on Friday, September 28. I could

travel with you back to Washington on the weekend for purposes which I will outline below.

The only time I could arrange the meeting to discuss the implementation of the Journal was on October 1 (Monday). This is because several of the logical attendees at such a meeting will be in Europe the previous week to attend an ICPEMC meeting. Accordingly, I have assumed (hoped) that you could follow a schedule similar to the one outlined above and travel with me from Oak Ridge to Washington on September 30 to attend this meeting. I have scheduled the meeting at the National Academy of Sciences in Washington for 1:00 p.m. on October 1, 1979. There will be a meeting of the Subcommittee on Environmental Mutagenesis in Bethesda that morning which would tie up some of our attendee's, thus, the afternoon time. Those now committed to attend the Risk Assessment Journal meeting of the NAS include: Alexander Hollaender, Associated Universities; Fred de Serres, NIEHS; Gary Flamm, FDA; Joe Rodericks, FDA; Bob Tardiff, NAS; Dick Hill, EPA; and Bob Cumming and Chet Richmond, ORNL. We hope you will be there and there will be several others who are not yet firm. Dave Hoel of NIEHS supports the effort but he will be in Japan at the time of this meeting - we will keep him informed. There will be at least one more representative of EPA present at this meeting and at least one person from NCI. Several of these people represent potential sources of funds to back up a Journal or to support a symposium.

I strongly support the idea of an "International Symposium on problems in Risk Analysis" or something like that for Stockholm for next year. We should do it as soon as possible but I doubt we can pull it off by the spring of 1980. I believe that if we can get support in Sweden, we can get additional support in the United States. We should take the time to work out a proposed program for such a symposium when you are in Oak Ridge and the Washington meeting will give us the possibility to discuss possible U.S. support. My experience with the Chlorine Conference leads me to believe that a Risk Symposium could be an important and well recognized meeting.

I am looking forward to seeing you in September. My best regards to all of my friends there.

Sincerely,

Robert B. Cumming Biology Division

RBC/ars

ase

NATIONAL RESEARCH COUNCIL

ASSEMBLY OF LIFE SCIENCES

2101 Constitution Avenue Washington, D. C. 20418

Jardill

EXECUTIVE DIRECTOR

BOARD ON TOXICOLOGY AND
ENVIRONMENTAL HEALTH HAZARDS

May 29, 1979

Dr. Robert Cumming Cak Ridge National Laboratory Biology Division P.O. Box Y Cak Ridge, TN 37830

Dear Bob:

It was indeed a pleasure to have the opportunity to see you again to discuss many ideas of mutual interest. I wish to encourage you in your proposal to develop an international journal on risk assessment. I personally feel that such a journal is needed in view of the rapidly expanding field and in view of the substantial diversity of disciplines contributing to this endeavor. By coalescing these diverse activities, it may be possible to create an environment that will lead to a greater dialogue among scientists and to the stimulation of exciting new ideas. If I may be of any assistance in the development of this journal, please feel free to call on me.

During our discussion, I promised to send you the address and phone numbers of individuals whom you may wish to contact about risk assessment. They are as follows:

Dr. Norton Nelson
Department of Environmental Medicine
New York University Medical Center
550 First Avenue
New York, NY 10016
212/679-7207 or
914/351-2566

Dr. Roy Albert
Department of Environmental Medicine
New York University Medical Center
550 First Avenue
New York, NY 10016
914/351-2396

Dr. Robert Cumming Page Two May 29, 1979

> Dr. Richard L. Hall Vice President of Science and Technology McCormick and Company 11350 McCormick Road Hunt Valley, MD 21031 301/667-7301

Dr. Jerome Cornfield Department of Statistics George Washington University Washington, D.C. 20036 202/676-6549

Dr. Lars Friberg
Department of Environmental
Hygiene
Karolinska Institute
S-1041 Stockholm
60 Sweden
08/330113

Since our last meeting, I have not had any further thoughts on the upcoming program on water chlorination. However, if I get some additional ideas, I will convey them to you. If you feel it profitable, I would be pleased to engage in a dialogue with you and other members of the Planning Committee on the health effects and risk assessment components of the conference.

Best personal regards.

Very truly yours,

Robert G. Tardiff, Ph.D. Executive Director

Tard !

September 10, 1979

MEMORANDUM

TO: Dr. Alexander Hollaender

Dr. Chester R. Richmond

Dr. Lars Ehrenberg

Dr. Roy Albert

Dr. Fred De Serres

Professor Sugimura

Dr. Gary Flamm

Dr. Marvin Schneiderman Dr. Charles Brown

Dr. Joseph Rodericks

,

Dr. Richard Hill

FROM: Robert G. Tardiff

RE: Organizational Meeting for Risk Assessment Journal

Dr. Cumming has asked me to organize the <u>first meeting</u> of the steering group to consider the formation of a risk assessment journal. The meeting will be held at the National Academy of Sciences, Room 180, 2101 Constitution Avenue, N.W., Washington, D.C. beginning at 9:00 a.m. on Monday, October 1. If you need assistance in obtaining a hotel room, please contact my secretary, Jackie Prince. Unfortunately, the Academy will be unable to provide any reimbursement for travel expenses.

If you have any questions, please call me at 202-389-6914

cc: Robert Cumming

OAK RIDGE NATIONAL LABORATORY

OPERATED BY

UNION CARBIDE CORPORATION NUCLEAR DIVISION



POST OFFICE BOX Y OAK RIDGE, TENNESSEE 37830

October, 1980

STEERING

Dear Colleague,

A new scientific society, The Society for Risk Analysis, has been formed in response to the obvious need for better communication among the various disciplines involved in the process of evaluating the risks which are so pervasive in modern society. The Society will publish a journal called RISK ANALYSIS, and the first issue is due to appear early next year.

The Society is starting a drive to recruit charter members. package contains items which will supply information about the new Society and its journal. We ask that you look them over. We are anxious to encourage involvement of all interested persons in the development of the new Society. If you have any questions after studying the enclosed material, do not hesitate to call one of the officers.

As an officer of the Society, I invite you to become a member. The materials required for application for charter membership are included in this packet. The early indications are that the Society and journal COMITY LWY will be very useful and exciting developments. We hope that you will share in the effort to make them viable and effective.

Sincerely,

Robert B. Cumming, President Society for Risk Analysis

SOCIETY FOR RISK ANALYSIS

INFORMATION BULLETIN

October 1980

The Society. An international scientific society called The Society for Risk Analysis has recently been formed. The Society has been incorporated under the laws of the District of Columbia in the United States of America but its activities will not be limited to any one country or geographic area. Its application is pending for recognition as a non-profit organization under the internal revenue law of the United States and thus to be exempt from taxes under the provisions of that statute.

The Society will attempt to facilitate communication among those concerned with the various aspects of risk analysis, risk perception and acceptability and risk management. Its scope will be broad, including health risks, engineering risks, mathematical and stochastic processes involved in risk analysis, the social, psychological, economic and philosophical aspects of risk, and the governmental and regulatory implications of risk analysis.

The purpose of the Society is detailed in Article 2 of its constitution, but briefly, it is to promote communication among different disciplines involved in dealing with risk; the many geographic areas, worldwide, concerned with risk problems; and the various institutions and interest groups who have a need to deal with risk in one or more of its many aspects. The Society will also strive to become an unbiased focal point for the many diverse elements of the risk analysis-management community.

History. The proposal for the establishment of this Society evolved from the conversations of many scientists and government workers in the United States and Europe over the past several years. The suggestion was made to convene a committee of manageable size but as representative as possible to study the proposal further and make specific recomendations. This committee later called "The Steering Group for the Society for Risk Analysis" was organized and had its first meeting at the National Academy of Sciences in Washington, D. C. on October 1, 1979. A number of people were invited to participate in the deliberations of the "Steering Group". For one reason or another some of them were never able to attend the formal meetings, but expressed great interest and had significant input into the work of the committee. A list of the "Steering Group" is appended to this document and it includes the addresses and telephone numbers of the members. list contains only the names of those who attended one or more of the four meetings of the group which have been held to date at the National Academy of Sciences in Washington, D. C. Many others have had significant involvement. There is no attempt to be exclusive--the participation of all interested individuals is invited. The "Steering Group" was merely a mechanism to provide a working nucleus for getting things started. It is hoped that the strong United States flavor of the Society, which was occasioned by the necessity of starting it somewhere, will quickly become very much more international, as was the initial intent of the "Steering Group".

The "Steering Group" elected officers to govern itself. When the new Society was incorporated it was necessary for it to have an interim set of officers for the purpose of incorporation and to guide its affairs until an election could be held. The "Steering Group", acting as an organizing agent for the new Society, voted to ask its officers to act as interim officers of the Society until elected officers and councilors can be installed. These interim officers, who will serve until the first annual meeting of the Society on June 2, 1981, are:

President:

Robert B. Cumming Biology Division

Oak Ridge National Laboratory

P. O. Box Y

Oak Ridge, TN 37830

(615) 574 0847

Vice President*

Joseph Rodricks

Clement Associates

Suite 660

1010 Wisconsin Avenue, NW Washington, DC 20007

(202) 333 7990

Secretary

Robert G. Tardiff

Board on Toxicology and Environmental

Health Hazards

National Academy of Sciences 2101 Constitution Avenue, NW

Washington, DC 20418

(202) 389 6914

Treasurer

Gordon W. Newell

Board on Toxicology and Environmental

Health Hazards

National Academy of Sciences 2101 Constitution Avenue, NW

Washington, DC 20418

(202) 389 6224

*Dr. Rodricks fills the position designated "President Elect" in the By-laws, however, he will not automatically ascend to the Presidency of the Society in 1981. The first election will select a complete slate of officers.

The "Steering Group" is acting as the Council of the Society, also pending the 1981 elections.

The First Annual Meeting. The first annual meeting of the Society for Risk Analysis will be held at the National Academy of Sciences in Washington, D. C. on the evening of June 2, 1981. The meeting will be preceded by an election of the officers and the council of the Society by mail ballot of the charter

members. Those elected will take office at the first annual meeting. The results of this and all Society elections will be announced in the Society's quarterly newsletter. The first annual meeting will be held in conjunction with the Society-sponsored workshop described below.

The Society for Risk Analysis and the Board on Toxicology and Environmental Health Hazards of the National Academy of Sciences will jointly sponsor a Workshop on the Analysis of Real versus Perceived Risks. The Workshop will be held at the National Academy of Sciences in Washington, D. C. on June 1-3, 1981. The general Chairman of the Workshop will be Dr. Norton Nelson of New York University's Institute of Environmental Medicine. The organizing committee for the Workshop consists of: Dr. Vincent T. Covello of the National Science Foundation, Dr. W. Gary Flamm of the US Food and Drug Administration, Dr. Joseph Rodricks of Clement Associates and Dr. Robert G. Tardiff of the National Academy of Sciences. The first annual meeting of the Society for Risk Analysis will be held in conjunction with this workshop. As additional information on the Workshop becomes available it will be communicated to the members of the Society, and a complete description of the Workshop will appear in the first issue of the Society's newsletter. The proceedings of the Workshop will be published.

Journal. The Society for Risk Analysis will publish a journal called RISK ANALYSIS: An International Journal. Initially the journal will be issued quarterly, and a subscription to it will be included in the membership dues for the Society. RISK ANALYSIS will be published for the Society by Plenum Publishing Corporation of New York and London. The first issue will appear early in 1981. This will be a fully peer reviewed journal of the highest possible quality. The editorial policies for RISK ANALYSIS are still evolving. However, to let you know where we stand at the moment, appended to this document are: 1) A preliminary "Instructions for Contributors" sheet; 2) An information sheet of "Peer Reviews, Comments and Responses"; 3) A preliminary "Contents" of Volume 1, Number 1; and 4) A list of those involved in the editorial structure of RISK ANALYSIS as it now stands. It should be emphasized that all of these items are subject to further change but that considerable progress has already been made. The Editor-in-Chief of RISK ANALYSIS is:

Dr. Robert B. Cumming Biology Division Oak Ridge National Laboratory P. O. Box Y Oak Ridge, TN 37830 (615) 574 0847

Inquiries about the journal should be directed to Dr. Cumming. Suggestions for making RISK ANALYSIS more effective will be welcomed. We ask that those of you who have high quality material related to risk for publication consider RISK ANALYSIS as a possible medium for publication.

STEERING GROUP FOR THE FORMATION OF A SOCIETY FOR RISK ANALYSIS

Dr. C. S. Aaron
Toxic Effects Branch TS-792
Health Review Division
Environmental Protection Agency
401 M Street, S. W.
Washington, DC 20460
(202) 472-3095

Dr. Elizabeth Anderson
Office of Health and Environmental
Assessment RD-689
Environmental Protection Agency
401 M Street, S. W.
Washington, DC 20460
(202) 755

Dr. Donald Barns
Office of Pesticides and Toxic
Substances
Environmental Protection Agency
401 M Street, S. W.
Washington, DC 20460
(202) 755-4362

Dr. Charles Brown
Biometry Division
National Cancer Institute
Landow Building
Bethesda, MD 20205
(301) 496-3116

Dr. Kenneth P. Cantor Environmental Epidemiology Branch National Cancer Institute Landow Building 3C07 Bethesda, MD 20205 (301) 496-1691

Dr. Joseph Coleman
Deputy Director
Office of Technology Inpacts
Department of Energy
Room G-036, Forrestal Building
1000 Independence Avenue, S. W.
Washington, DC 20585
(202) 252-2061

Dr. Vincent T. Covello
Technology Assessment and Risk
Analysis Group
National Science Foundation
1800 G Street, N. W.
Washington, DC 20550
(202) 357-9828

Dr. Robert B. Cumming Biology Division Oak Ridge National Laboratory P. O. Box Y Oak Ridge, TN 37830 (615) 574-0847

Dr. Fredrick J. de Serres
National Institute of Environmental
Health Sciences
P. O. Box 12233
Research Triangle Park, NC 27709
(919) 541-3492

Dr. W. Gary Flamm
Acting Deputy Associate Commissioner
for Health Affairs
HFY-3
Food and Drug Administration
5600 Fishers Lane
Rockville, MD 20857
(301) 443-1587

Dr. George F. Flanagan Engineering Physics Division Oak Ridge National Laboratory P. O. Box X Oak Ridge, TN 37830 (615) 574-6155

Dr. Gio B. Gori The Franklin Institute 1320 Fenwick Lane Silver Spring, MD 20910 (301) 565-4200

Dr. Peter G. Groer
Institute for Energy Analysis
Oak Ridge Associated Universities
P. O. Box 117
Oak Ridge, TN 37830
(615) 576-3254

Dr. Richard Hill
Office of Pesticides and Toxic
Substances TS-788
Environmental Protection Agency
401 M Street, S. W.
Washington, DC 20460
(202) 755-4362

Dr. Alexander Hollaender Associated Universities 1717 Massachusetts Avenue, N. W. Washington, DC 20036 (202) 462-1676

Dr. Gordon W. Newell
Board on Toxicology and Environmental
Health Hazards
National Academy of Sciences
2101 Constitution Avenue, N. W.
Washington, DC 20418
(202) 389-6224

Dr. Chester R. Richmond
Associate Director for Biomedical
and Environmental Research
Oak Ridge National Laboratory
P. O. Box X
Oak Ridge, TN 37830
(615) 574-4332

Dr. Joseph Rodricks Clement Associates Suite 660 1010 Wisconsin Avenue, N. W. Washington, DC 20007 (202) 333-7990 Dr. Robert G. Tardiff
Board on Toxicology and Environmental
Health Hazards
National Academy of Sciences
2101 Constitution Avenue, N. W.
Washington, DC 20418
(202) 389-6914

Dr. V. R. R. Uppuluri Computer Sciences Division Oak Ridge National Laboratory P. O. Box Y Oak Ridge, TN 37830 (615) 574-3145

Dr. William E. Vesely
Methodology Applications Section
Nuclear Regulatory Commission
1130-SS
Washington, DC 20555
(301) 427-4505

SOCIETY FOR RISK ANALYSIS

INCORPORATED

CONSTITUTION

ARTICLE FIRST

NAME

The name of this organization shall be Society for Risk Analysis.

ARTICLE SECOND

PURPOSE

The purpose of the Society shall be to promote the acquisition and utilization of knowledge in risk analysis (e.g., identification, quantification, prediction, or perception of risks; risk-benefit comparison and balancing; or cost-benefit analysis) and to facilitate the exchange of information among its members as well as other interested professionals.

The Society through its activities shall foster and promote

- knowledge and understanding of risk analysis techniques and their applications,
- communication and interaction among individuals engaged in risk analysis,
- application of risk analysis techniques to assess the hazards and risks to which individuals and populations are exposed,
- dissemination of risk analysis information and concepts to all interested individuals,
- advancement of the state-of-the-art in all aspects of risk analysis, and
- integration and interaction of the various disciplines involved in risk analysis.

No part of the net earnings of the corporation shall inure to the benefit of or be distributable to its members, trustees, officers, or other private persons, except that the corporation shall be authorized and empowered to pay reasonable compensation for service rendered, and to make payments and distributions in furtherance of the purposes herein above set forth. No part of the activities of the corporation shall be

the carrying on of propaganda, or otherwise attempting to influence legislation, and the corporation shall not participate in, or intervene in (including the publishing or distribution of statements) any political campaign on behalf of any candidate for public office.

ARTICLE THIRD

MEMBERSHIP

- Section 1. There shall be three classes of membership: Active, Honorary and Student.
- Section 2. Active Members. Qualified persons who have a continuing professional interest in risk analysis or are engaged in some phase of development or application of risk analysis shall be eligible for active membership subject to the conditions set forth in the By-laws.
- Section 3. Honorary Members. Distinguished contributors to the advancement of knowledge in risk analysis shall be eligible for Honorary membership, subject to the conditions set forth in the By-laws.
- Section 4. Student Members. Any full time student engaged in studies leading to a degree in a discipline in which risk analysis is a distinct element shall be elegible for Student membership subject to the conditions set forth in the By-laws.
- Section 5. Voting. Each member of the Society described under Sections 2 and 3 of this Article shall be entitled to vote on all matters pertaining to the affairs of the Society which are duly presented for consideration and for election of officers of the Society, and such other officials as are under the By-laws in force from time to time to be elected by the members and on such other matters as may from time to time pursuant to the By-laws be approved by action taken at any meeting of the members for submission to the full membership. A member designated under Section 4 of this Article shall have no voting rights.

ARTICLE FOURTH

AMENDMENTS

Proposed changes in the Constitution shall be submitted in writing to the Council at least four months prior to the annual meeting. Upon approval by a majority vote of the Council, the Secretary shall send written notice of the proposed changes to all members of the Society at least four weeks prior to the annual meeting. A two-thirds vote of the ballots cast shall be required for adoption.

ARTICLE FIFTH

DURATION AND DISSOLUTION

The Society shall continue as a corporation until a proposal for dissolution shall be passed by the Council and the members of the Society. For purposes of notice and voting requirements, any such proposal shall be treated as an amendment to these Articles and shall comply with the provisions of Article Fourth hereof.

Upon the dissolution of the corporation, the Council shall, after paying or making provision for the payment of all of the liabilities of the corporation, dispose of all of the assets of the corporation exclusively for the purposes of the corporation in such manner, or to such organization or organizations organized and operated exclusively for charitable, educational, religious, or scientific purposes as shall at the time qulaify as an exempt organization or organizations under Section 501(c) (3) of the Internal Revenue Code of 1954 (or the corresponding provision of any future United States Internal Revenue Law), as the Council shall determine. Any of such assets shall be disposed of by the Court of Competent Jurisdiction of the county or district in which the prinicpal office of the corporation is then located, exclusively for such purposes or to such organization or organizations, as said Court shall determine, which are organized and operated exclusively for such purposes.

* * * * * * *

RISK ANALYSIS

An International Journal

Editor-in-Chief

Dr. Robert B. Cumming
Biology Division
Oak Ridge National Laboratory
P. O. Box Y
Oak Ridge, TN 37830, USA

Associate Editors

Dr. Joseph Rodricks Clement Associates 1010 Wisconsin Avenue, NW Washington, DC 20007, USA

George F. Flanagan

Prof. Timothy O'Riordan School of Environmental Sciences University of East Anglia Norwich NR4 7TJ, UK

Editorial Board, November, 1980

| Richard J. Albertini | The University of Vermont, Burlington, Vermont |
|----------------------|---|
| Elizabeth Anderson | US Environmental Protection Agency, Washington, DC |
| Michael S. Baram | Franklin Pierce Law Center, Concord, New Hampshire |
| Nathaniel F. Barr | US Department of Energy, Washington, DC |
| Victor P. Bond | The Brookhaven National Laboratory, Upton, New York |
| Robert L. Brent | Jefferson Medical College, Philadelphia, Pennsylvania |
| Bryn A. Bridges | The University of Sussex, Brighton, England |
| Ian Burton | The University of Toronto, Toronto, Canada |
| Jobst Conrad | Battelle Institut, Frankfurt, West Germany |
| Rob Coppock | International Institute for Environment and Society Berlin, West Germany |
| Vincent T. Covello | The National Science Foundation, Washington, DC |
| Udo H. Ehling | Gesellschaft für Strahlen- und Umweltforschung MBH Munich, West Germany |
| Francis Fagnani | C. E. P. N., Fontenay-Aux-Roses, France |
| W. Gary Flamm | US Food and Drug Administration, Rockville, Maryland |

The Oak Ridge National Laboratory, Oak Ridge, Tennessee

| Eduardo Gaitán | The University of Alabama, Birmingham, Alabama |
|------------------------|--|
| David W. Gaylor | National Center for Toxicological Research, Jefferson, Arkansas |
| Leon Golberg | Chemical Industry Institute of Toxicology Research Triangle Park, North Carolina |
| Colin H. Green | The University of Dundee, Dundee, Scotland |
| Peter G. Groer | ORAU Institute for Energy Analysis, Oak Ridge, Tennesse |
| Ronald W. Hart | National Center for Toxicological Research, Jefferson, Arkansas |
| David G. Hoel | National Institute for Environmental Health Sciences Research Triangle Park, North Carolina |
| Ronald A. Howard | Stanford University, Stanford, California |
| Herbert Inhaber | The Oak Ridge National Laboratory, Oak Ridge, Tennessee |
| Roger E. Kasperson | Clark University, Worcester, Massachusetts |
| Allen V. Kneese | Resources for the Future, Washington, DC |
| Lester B. Lave | The Brookings Institution, Washington, DC |
| William R. Lee | Louisiana State University, Baton Rouge, Louisiana |
| William W. Lowrance | The Rockefeller University, New York, New York |
| Brian MacMahon | Harvard University, Boston, Massachusetts |
| Margaret N, Maxey | Energy Research Institute, Columbia, South Carolina |
| Mortimer L. Mendelsohn | The Lawrence Livermore National Laboratory, Livermore, California |
| Alan A. Moghissi | US Environmental Protection Agency, Washington, DC |
| Gordon W. Newell | The National Academy of Sciences, Washington, DC |
| David Okrent | The University of California at Los Angeles Los Angeles, California |
| Harry J. Otway | Commission of the European Communities, Ispra, Italy |
| Talbot Page | The California Institute of Technology, Pasadina, California |
| | |

Richard Wilson

| David P. Rall | National Institute for Environmental Health Sciences Research Triangle Park, North Carolina |
|---------------------|--|
| Verne Ray | Pfizer Medical Research Laboratories, Groton, Connecticut |
| William D. Rowe | The American University Institute for Risk Analysis Washington, DC |
| Warren K. Sinclair | The Argonne National Laboratory, Argonne, Illinois |
| Paul Slovic | Decision Research, Eugene, Oregon |
| Chauncey Starr | The Electric Power Research Institute, Palo Alto, California |
| Robert G. Tardiff | The National Academy of Sciences, Washington, DC |
| V. R. R. Uppuluri | The Oak Ridge National Laboratory, Oak Ridge, Tennessee |
| Arthur C. Upton | Institute of Environmental Medicine, New York University New York, New York |
| William E. Vesely | US Nuclear Regulatory Commission, Washington, DC |
| John S. Wassom | The Oak Ridge National Laboratory, Oak Ridge, Tennessee |
| Michael D. Waters | US Environmental Protection Agency, Research Triangle Park, North Carolina |
| Alice S. Whittemore | Stanford University, Stanford, California |
| | |

Harvard University, Cambridge, Massachusetts

RISK ANALYSIS

An International Journal

Contents of Volume 1, Number 1

| Item # | Author(s) | Title | Pages* |
|------------|---|---|----------|
| EDITORIALS | 7.5 | | |
| H | Robert B. Cumming | Editorial: Is Risk Assessment a Science? | 9 |
| 7 | Alvin M. Weinberg | Guest Editorial: Reflections on Risk Assessment | - ∞ |
| LETTER T | LETTER TO THE EDITOR | | |
| ٣ | H. Inhaber | Energy Production Risks: Science and Personalities | 2 |
| ARTICLES | | | |
| 4 | Stanley Kaplan and B. John Garrick | On the Quantitative Definition of Risk | 61 |
| | Chris Whipple | Energy Production Risks: What Perspective Should We Take? | 22 |
| 5a | Herbert Inhaber | Comment # 1 on Whipple's Paper | ∞ |
| 5b | John P. Holdren | Comment # 2 on Whipple's Paper | 5 |
| 5c | Chris Whipple | Response: A Reply to Comments on Energy Production Risks: What Perspective Should We Take? | ∞ |
| o | Edmund A. C. Crouch and Richard Wilson | The Regulation of Carcinogens | 27 |
| 6а | Lester B. Lave | Comment # 1 on the Crouch & Wilson Paper: Estimating the Risk of Carcinogens | ī |

RISK ANALYSIS, Contents of Volume 1, Number 1 (Continued)

| Item # | Author(s) | Title | Pages* | |
|------------|---|---|--------|--|
| 6 p | Virgil O. Wodicka | Comment # 2 on the Crouch & Wilson Paper | 4 | |
| 99 | David G. Hoel | Comment # 3 on the Crouch & Wilson Paper | 4 | |
| 6d. | E. A. C. Crouch and Richard Wilson | Response: A Reply to the Comments on The Regulation of Carcinogens | 4 | |
| ~ | Michael D. Hogan and David G. Hoel | Estimated Cancer Risk Associated with Occupational Asbestos Exposure | 28 | |
| 7a | William J. Nicholson | Comment on the Hogan & Hoel Paper | 9 | |
| ∞ | William D. Schulze and Allen V. Kneese | Risk in Benefit-Cost Analysis | 19 | |
| 6 | John D. Graham and James W. Vaupel | The Value of a Life: What Difference Does It Make? | 22 | |
| | | Total | 239 | |

^{*} Pages listed are an approximation of double-spaced typewritten manuscript pages and include figures and tables.