AGENDA
CMA EXECUTIVE COMMITTEE MEETING
1:00 p.m., Monday, September 8, 1980
The Lodge at Pebble Beach (Library)
Pebble Beach, California

		TAB
1:00 p.m.	1. Call to Order -- Chairman Oreffice	
1:01-1:02	2. Approval of Meeting Minutes -- B. M. Barackman June 4, 1980 (Regular Meeting) June 5, 1980 (Special Meeting)	1
1:02-1:12	3. Financial Report -- G. C. Herrman	2
1:12-1:15	4. Director Resignation (Class of 1981) -- H. Barclay Morley	
1:15-1:30	5. Review of Committee Reports to the Board -- Chairman Oreffice	
	6. Association Activities:	
1:30-1:35	a. Technical & Functional Committees -- B. M. Barackman	3
1:35-1:55	b. Hazardous Waste Response Center -- Charles L. Sercu, Chairman, EMC	4
1:55-2:05	c. Discontinuance of Technical Publications -- G. V. Cox	5
2:05-2:35	d. Risk Benefit Analysis -- Carl W. Umland, Exxon Chemical Americas & G. V. Cox	6
2:35-3:05	e. Special Committee on Hazardous Communications -- W. C. Krumrei	7
3:05-3:50	f. Superfund Report - Louis Fernandez	8
3:50-4:20	g. ChemCAP Status Report and Budget Review -- J. N. Sites/R. A. Roland	9
4:20-4:30	h. Regulation of Export of Hazardous Substances	10
4:30-4:35	i. Proposed New Task Group on United Nations Study (International Trade Group)	11
4:35-4:45	7. New Business	
4:45	8. Adjournment	

MINUTES OF MEETING
CMA EXECUTIVE COMMITTEE
The Lodge at Pebble Beach
Pebble Beach, California
September 8, 1980

1. The meeting was called to order at 1:00 p.m. by the Chairman. There were present:

Paul F. Oreffice, Chairman
Harry W. Buchanan
J. Earl Burrell
Louis Fernandez
Alexander F. Giacco
James B. Henderson
Richard J. Hughes
H. Barclay Morley
L. John Polite, Jr.
Robert A. Roland
William G. Simeral
Raymond C. Tower

Bruce M. Barackman, Secretary
Edmund B. Frost, General Counsel
Gary C. Herrman, Treasurer

By Invitation:
*Lee R. Bobker, Vision Associates Inc.
*Stephanie Chan, Vision Associates Inc.
Geraldine V. Cox, CMA
Richard F. Gold, Stauffer Chemical Company
Stephen L. Goldstein, Olin Corporation
*Myron T. Foveaux, CMA
William C. Krumrei, The Procter & Gamble Company
Victor H. Peterson, CMA
Edward B. Pollak (SOCMA), Olin Corporation
*Robert J. Reichert, E. I. du Pont de Nemours & Company
*Charles L. Sercu, Dow Chemical U.S.A.
James N. Sites, CMA
William M. Stover, CMA
*Carl W. Umland, Exxon Chemical Americas

*part time

2. Minutes of the June 4, and June 5, 1980 Meetings The minutes of the June 4 and June 5, 1980, meetings of the Executive Committee, as distributed, were approved.

3. Treasurer's Report Mr. Herrman's report is attached as Exhibit A. In addition he advised:

- It is too early to discuss projected year-end results with any accuracy, but appropriate comments will be included in the August report.

- As of the end of August, nine companies had not paid their dues. These are being followed up at the appropriate level.

- Through the end of August CMA has received $2,460,000 from the January 1980 ChemCAP assessment. Three companies have not yet remitted their assessment. They are being followed up at the executive level.

- The second assessment under ChemCAP will be billed in December 1980 with a due date of January 1981. It will be for 43% of the dues amount and is designed to raise approximately $3.6 million. Recent cash flow projections indicate that we will have advanced the program approximately $1.2 million before the cash from the second assessment begins to come in.

- Final pricing on the majority of the items for the new headquarters has been received and it appears that we will exceed the original capital equipment estimate by about $75,000. The actual date of building completion has been moved back by several months. A relocation date of mid to late November is now being estimated. CMA is doing better in acquiring subtenants than was originally estimated and this, combined with the later moving date, should result in net rental savings to the Association during the first year of occupancy.

4. Director Vacancy Mr. Morley advised that John D. Ong, Chairman of the Board, The BFGoodrich Company, would be nominated for election as a director of the Association at the Board meeting tomorrow, filling the vacancy created by the resignation of Charles W. Parry, Aluminum Company of America.

5. Review of Committee Reports to the Board Mr. Oreffice not d the recommendations of Mr. Lowrey, Chairman of the Government Relations Committee. Following discussion it was agreed to table the recommendation that an Association PAC be established. This action was taken pending the resolution of certain legal considerations at which time it will be reconsidered.

The Executive Committee also acknowledged the importance, as stressed by the Government Relations Committee and others, of economic impact data of regulations and legislation. The CMA staff was requested to study techniques to improve the capability to develop this data and report their recommendations.

6. Association Activities

(a) Technical and Functional Committees The following appointments were approved: Donald L. Heywood, Union Carbide Corporation, to the Chemical Regulations Advisory Committee for a term ending May 31, 1981; George E. Knowles, Diamond Shamrock Corporation, to the Energy Committee for a term ending May 31, 1982; and John E. Aiken, M.D., Cities Service Company, to the Occupational Safety and Health Committee for a term ending May 31, 1981.

(b) Hazardous Waste Response Center (HWRC) Mr. Reichert highlighted, with a slide presentation, the attached report, Exhibit B. Following discussion, the Executive Committee approved continuance of the HWRC at its present level, with emphasis on: the training of member company personnel in site management; the development of protocols for site management, such as personnel safety and drum waste consolidation -- for use by member companies and agencies; work with EPA as outlined in their letter to develop protocols, advise and guide them in approaching and prioritizing the overall program. Some further site studies, working directly with EPA, primarily for personnel training (both member company and EPA personnel) are envisioned. The EMC and Hazardous Waste Response Center were requested to return to the Executive Committee in October with a detailed program of activities tailored to conform to the foregoing constraints.

A recommendation to change the scope of the HWRC to include data generation by member company individuals in this activity was referred to the General Counsels' Group. It will be reconsidered in October.

(c) Discontinuance of Technical Publications The discontinuance of technical publications as recommended in Exhibit C was approved.

(d) Public Risk Analysis Mr. Umland illustrated with a slide presentation the attached report, together with recommendations, Exhibit D. This was approved following discussion. Dr. Weis was appointed chairman of the Public Risk Analysis Special Committee thus established.

(e) Hazards Communications Special Committee Mr. Krumrei's remarks are attached as Exhibit E. Following his presentation the Executive Committee approved part A of Exhibit F relating to the committee organization and formation of task groups.

Part B of Exhibit F, beginning with page B-3, was deleted and Exhibit G substituted therefor. This in turn was amended by

adding a footnote to the bottom of page 4 (B-6) which explains that the matrix is not based on scientific data; it is for illustrative purposes only. With the foregoing substitution as amended, Part B was approved.

Distributed to those present was a list of member companies together with a list of trade associations active in the Hazards Communications Special Committee.

(f) Superfund Report Dr. Fernandez referred to Exhibit H as containing a good status report of Superfund legislation and also invited attention to the attached waste end fee concept being advanced by CMA. He advised that the House bills H.R. 85 and H.R. 7020 are scheduled to come to the floor this week. He reviewed the strategy previously agreed to, i.e. H.R. 7020 or better, and noted that meanwhile H.R. 7020 has changed in terms of size of the fund. The hope was expressed that Congressman Florio would initiate action to lower the amount closer to the original proposal.

In regard to S. 1480, which is unacceptable, CMA will testify in opposition to the bill before the Senate Finance Committee on September 11 and the Senate Commerce Committee on September 12. Included in the testimony will be the waste end fee proposal. Dr. Fernandez summarized by saying that there have been no real substantive changes in policy. He urged the members of the Executive Committee to continue their personal involvement.

Mr. Simeral reviewed results of contact with the White House, concluding that the chances are remote that anything positive will develop.

(g) ChemCAP Status Report and Budget Review Mr. Bobker presented a rough interlock of the new CMA film "DOING SOMETHING". This is described in Exhibit I under the old title, "PROTECTING OUR ENVIRONMENT: What Five People Are Doing About It". The film was endorsed following its review and the producers were directed to edit it for preview at the October meeting in Houston.

Mr. Sites briefly reviewed the ChemCAP program and the materials produced to date. He said the key question is, "What do we do after June 1981?" The Communications Committee is preparing recommendations to present for consideration by the Communications Policy Review Group. A full Board report will follow in January.

(h) Regulation of Export of Hazardous Substances Exhibit J was approved.

(i) Proposed New Task Group on United Nations' Study Following discussion of Exhibit K the Executive Committee:

- Approved participation by CMA in a meeting scheduled for September 30 regarding the preparation of a United Nations' report on the structure and characteristics of transnational corporations.

- Rejected CMA involvement in a second report intended to profile specifically five U.S. chemical companies.

- Agreed further participation by CMA after the September 30 meeting will be reviewed after additional information concerning the scope of the study has been received. Ongoing monitoring will be effected by involved corporate counsel, CMA counsel, and staff.

7. New Business

- Mr. Roland recommended that Dr. Otto Sturzenegger, Chairman of the Board and CEO, CIBA-GEIGY Corporation, be asked to chair the CMA Special Projects Advisory Group. This was approved.

- The Executive Committee was advised that the guidelines for the Special Projects Advisory Group will be on the agenda for the October meeting. This generated a discussion of the growing proliferation of ad hoc or "splinter" groups. The view was expressed that there are good justifications such as marketing or advocacy for single product groups being formed. However, a basic concern was expressed with the tendency to divide the research, technical, and advocacy activities, which doesn't appear to make sense --- nor does the establishment of splinter groups. Concern was also expressed for the potential destructive effect on long-range strategy of organizations, such as CMA, resulting from the activities of splinter groups unaware of the complexities involved. It was suggested that when a group is proposed, each member company should consider carefully where the group would be best located. CMA is the place to discuss the matter when it arises.

- Mr. Roland invited attention to the fact that twelve percent of the new headquarters working space will be devoted to conference rooms. They will require $300,000 to furnish. Any member

company wishing to help with the financing will be given the opportunity to do so. A dedicated conference room would be identified by a bronze plaque suitable to the donor.

- In the conduct of future Executive Committee meetings, Mr. Oreffice requested that presentations not be made. It will be assumed that reports and recommendations in the workbook have been read by those in attendance. Only a summarization of action requested should be necessary. This will maximize time available for discussion.

Bruce M. Barackman
Secretary

Certified correct:

Paul F. Oreffice, Chairman
CMA Executive Committee

Exhibit A

TREASURERS REPORT

Three Month's Ending August 31, 1980

This report will be prepared and distributed following the end of the month.

For your reference, the following is provided:

- The 1980-81 annual budget as originally approved.
- The reclassification of expenses to provide for the hiring of a technical writer and secretary to offset outside technical consulting.
- The 1980-81 annual budget as amended.

CMA
EC-9/8/80
BD-9/9/80

CHEMICAL MANUFACTURERS ASSOCIATION
Budget for Fiscal Year 1980-81
(As amended through August 31, 1980)

REVENUE:	1980-81 Annual Budget	Approved Amendment	1980-81 Budget as Amended
Membership Dues & Entrance Fees	$ 8,677,300	$ --	$ 8,677,300
CHEMCAP Special Assessment Jan. 1980	891,800	--	891,800
CHEMCAP Special Assessment Jan. 1981	3,600,000	--	3,600,000
Investment Income	700,000	--	700,000
General Meeting Income (Net of Exp.)	129,200	--	129,200
Publications Sales	22,000	--	22,000
Overhead Reimbursement - Special Projects	400,000	--	400,000
TOTAL	$14,420,300	$ --	$14,420,300
GENERAL OPERATING EXPENSES:			
General Counsel	$ 638,700	$ --	$ 638,700
Government Relations & Econ. Affairs	860,700	--	860,700
Communications & Public Relations	965,300	--	965,300
CHEMCAP	4,491,800	--	4,491,800
Technical Administration	187,700	--	187,700
Health, Safety & Chemical Regs.	521,600	79,700	601,300
Distribution, Energy, Engineering	367,400	--	367,400
Environment & Haz. Waste Center	743,900	--	743,900
CHEMTREC	503,300	--	503,300
Special Research Projects	453,800	--	453,800
Executive Department	891,000	--	891,000
Finance, Accounting & Business	665,300	--	665,300
Printing & Distribution	289,700	--	289,700
TOTAL OPERATING EXPENSES	$11,580,200	$ 79,700	$11,659,900
LEGAL & RESEARCH			
Legal Fees & Expenses	$ 1,420,000	$ --	$ 1,420,000
Research & Consulting	1,373,000	(79,700)	1,293,300
TOTAL	$ 2,793,000	$ (79,700)	$ 2,713,300
TOTAL EXPENSES	$14,373,200	$ --	$14,373,200
Contribution to Reserves	$ 47,100	$ --	$ 47,100

CMA 062816

Exhibit B

HAZARDOUS WASTE RESPONSE CENTER

Problem Some abandoned hazardous waste sites have created hazards to the environment and to human health. These sites have offered both financial and technical challenges to clean-up efforts. Attendant publicity has given the chemical industry a bad name.

Objective:

1. To assist government agencies by bringing chemical industry expertise to bear on the problems of failing, hazardous waste sites.

Background CMA through its Environmental Management Committee (EMC) and HWRC task group acting in conjunction with the U.S.E.P.A. has completed a pilot program limited to the investigation of three abandoned, failing hazardous waste sites. The program has been well received and acknowledged as an important part of solving a critical problem.

Recommendations: The EMC recommends that these activities be continued over the next 12-15 months and that the primary objectiv should be to provide expert company assistance to state and federal agencies to assess potential (and failing) hazardous waste disposal sites.

Impact

Money: The proposed program will require an estimated 125,000 out of pocket costs to CMA member companies. No additional funds are anticipated as necessary for CMA budget.

Company Personnel: A total of 6.2 years of total personnel time divided among 30 persons.

Staff Personnel: A total of 2.5 years of staff effort.

Action Required Approval of recommendation contingent upon securing adequate liability insurance.

HAZARDOUS WASTE RESPONSE CENTER

Pilot Program

On June 6, 1979, in White Sulfur Springs, W.V., the Executive Committee of the Chemical Manufacturers Association (CMA) unanimously approved the formation of Hazardous Waste Response Center (HWRC) as a means for assisting governmental agencies by bringing chemical industry expertise to bear on the problems of failing, hazardous waste sites. CMA undertook a pilot program which was limited to three sites and subject to the following constraints:

- The U.S. Environmental Protection Agency (EPA) would select candidate sites for study subject to CMA approval.
- CMA would consider only those sites which were both failing and orphaned (no responsible party identified).
- Candidate sites would not be in litigation or under imminent threat of litigation.
- CMA would assess sites using only existing data and not by generating new data through sampling and testing.

To implement the pilot program, CMA formed a HWRC task group which reports through a sponsor to the Environmental Management Committee. The HWRC task group has organized Advisory Response Teams (ARTs) to conduct site investigations, directed ART activities, selected sites for study, and reviewed work products.

The EPA referred some 12 candidate sites to the HWRC task group. Three sites representative of the types likely to be encountered were chosen for study under the pilot program. These sites were:

Lipari Landfill - an inactive, leaking landfill at Pittman, New Jersey.

Motco - a series of abandoned lagoons containing hazardous materials near Texas City, Texas.

Tate Cove - an abandoned pile of corroded and leaking chemical waste drums near Ville Platte, Louisiana.

ARTs have visited these sites, made investigations, and submitted reports of their findings to the EPA.

Fifteen CMA member companies have participated directly in

the pilot program by contributing the efforts of some 30 knowledgeable representatives. Five task group members and three ART captains expended a total of 1,100 man-hours (a commitment of 7% of their time) while twenty ART members contributed approximately 1,000 man-hours (2.5% committed time). Member company "in-house" staff supported ART member activites with an additional 480 man-hours. Costs of the pilot program are summarized below.

Manpower Costs of Pilot Program		Man-Hours
Task Group Members	(5ea)	860
ART Captains	(3ea)	240
ART Members	(20ea)	1,000
ART Support		480
	Total	2,580

Direct Costs of Pilot Program	Amount
To Member Companies	
Travel Expenses	$ 22,000
To CMA	
Salary & Overhead	82,500
Insurance	7,500
Protective Gear	2,000
Total	$114,000

Reaction to the Pilot Program

Both state and federal regulatory agencies have cooperated in the pilot program. To date, personnel from six state agencies, three regional EPA offices, and EPA-Washington have participated.

EPA-Region II has had the most opportunity to evaluate ART performance. Region II cooperated with CMA on the Lipari site investigation and provided most of the information for the basis of the Lipari report. The informal (verbal) report by EPA Region II to the final Lipari report expressed a certain measure of dissatisfaction in that the report lacked site specific engineering specifications.

EPA Region VI cooperated in the CMA investigations of the Tate Cove and Motco and we await its comments once the final reports are submitted to that office.

EPA-Washington's evaluation of the pilot program, although informal, has been quite favorable. On June 2, 1980, CMA sent a letter to Mr. H. Snyder, Chief Hazardous Waste Site Control Branch, requesting feed back on CMA investigations of Lipari, Motco, and Tate Cove sites, and comments on the overall program in order to complete the evaluation of the CMA pilot program. No formal written comments have been received to date.

Mr. Snyder did, however, meet with HWRC task group representatives on August 7, 1980 to express his views on the work of the HWRC. He described the work of HWRC as a source of useful reports which will be helpful as tools in making management decisions about the investigated sites, as references on specific sites, and as text books for training personnel in managing waste disposal sites.

Representatives from the states of New Jersey, New York, Maryland, Pennsylvania, Texas, and Louisiana have met with the HWRC task group during the course of the three site investigations. State and local agency personnel have indicated a willingness to cooperate whole heartedly with CMA in efforts to solve the technical problems associated with hazardous waste sites while relegating political considerations to the background.

Although publicity was not sought in the pilot program, CMA, in speeches given by its officers, staff, and member company personnel, in seminars, and in its general press releases and publications has generated considerable public interest in the HWRC. Contacts from the academic community to supply technical expertise also resulted. CMA received requests from councils of state legislators and governors, and various commissions for such hazardous waste technical expertise.

Recommended Future Program

Both the HWRC task group and the Environmental Management Committee recommend that the HWRC activities be continued. We feel the primary effort of the future program should center on generating and maintaining a high level of recognition for CMA and the chemical industry as experts in hazardous waste site assessment and hazardous waste management. We forsee the following benefits from this program.

- Fulfilling a social responsibility of the chemical industry to express and demonstrate a significant concern for the harm caused by failing chemical waste disposal sites.
- Deterring unwarranted action against the chemical industry stemming from exaggerated hazard assessment.
- Exercising an oversigt function on the expenditure of superfund monies and thus reducing its cost to the chemical industry.
- Participating in the development of regulations implementing superfund legislation.
- Positioning CMA as expert to protect the chemical industry from potential regulatory

threat now developing as groundwater policy.

- Producing reference materials for agency and member company technicians of proper procedures for site hazard assessment and corrective action.

Regulatory agency activities have become a fact of life and there is agreement that they are very costly to the chemical industry. Thus it is prudent for the chemical industry to seize every possible opportunity to insure that these activities are cost effective. The EPA is presently developing ground water policy which will cover any and all waste sites which are contaminating ground water. The potential cost of poorly developed regulations to the chemical industry is staggering. As a recognized waste site expert, CMA will be in a strong position to monitor the development of regulations and to challenge unworkable solutions.

The HWRC task group recommends an expanded 12-15 month HWRC program to include:

- Investigations of up to 9 sites with the option of taking data as determined desireable.

- Prepare certain protocols, i.e. drum consolidations and site study personnel safety practice.

- Be available to make a few selected limited site investigations, when and if such investigations would be beneficial to HWRC's overall objectives.

- Continue to work with the EPA, but be authorized to handle site surveys that originate with states.

The proposed program is one which requires an increase in both committed man-hours and direct costs over those required for the pilot program. We anticipate a need for some 10,000 man-hours of effort divided amongst 30 representatives from member companies plus some 2,400 man-hours of back-up support for these representatives. CMA staff committed time will also increase but the change can be accomodated with existing personnel. Both direct costs and manpower requirements of the proposed program are detailed below.

RESOURCES REQUIRED

Personnel Needs

	No. People	% Time Committed	Personnel in Yr. Equivalents
Member Company Personnel			
Task Group Members	11	20	2.2
ART Members	19	15	2.8
ART Support	30	4	1.2
Subtotal	60	--	6.2
Staff Personnel			
Professional	1	100	1.0
Legal	1	50	0.5
Support	1	100	1.0
Subtotal	3	--	2.5

Budget Requirements

Additional Operating Cost - None, projected expenses are within the approved FY 80/81 budget.

Research & Consulting - The EMC budgeted $68,000 for the proposed HWRC program versus a projected total of $70,000.

CMA
BD-9/8/80
EC-9/9/90

Technical Publications -- Proposal to Discontinue

Problem

The Technical Publications program is not financially viable. It cannot be reviewed in accordance with outside counsel's instructions for periodic review and update without substantial increase in costs. Information which was once available only from CMA but is now available from other sources negates our need to provide this service.

Objective

CMA should continue to disseminate information, but we should use other mechanisms such as trade publications, scientific journals or other appropriate vehicles which would not require a mandatory update. The preliminary shifting of workload burden for TSCA activities to the positions previously authorized to support the Technical Publications should continue in order to relieve the external workload pressure in the high priority hazards communications and TSCA areas.

Background

Technical Publications have formed a part of CMA activities for almost forty years. Last year the Executive Committee voted to discontinue the publication of material safety data sheets, and CMA's projected revenue dropped $122,000. Our operating cost was about $260,000 (including $93,000 insurance) for FY 79-80 while our revenue from sales was reduced to $32,500.

The remaining Technical Publications include Cargo Information Cards, Chem-Cards, Safety Guides and miscellaneous publications. The cards are no longer needed based on a membership poll. The Safety Guides could and should be published in the scientific press. Over 50% of CMA's existing Safety Guides currently require major revisions. Other publications require major revisions -- the Laboratory Waste Disposal Manual will cost $63,000 to revise and approximately $5,000 to publish.

Recommendations

Discontinue CMA Technical Publications as described in the background material and continue the shift of resources to support the higher priority hazards communications and TSCA activities.

Impact

Money: CMA will need to continue the estimated $93,000 annual cost for insurance for several years and

will spend about $5,000 for advertisements notifying the public of the discontinuation of these publications. The financial impact of law suits from CMA's prior publishing activities is impossible to predict but could be substantial.

Company Personnel: More than 1.5 years of company staff time will be saved.

Staff Personnel: The full-time staff executive and support staff will be assigned to the hazards communications and other health, safety and chemical regulations activities. Publications clerks and fulfillment effort can and should be shifted to support the increasing Chem-CAP activities.

Action Required

Approval to discontinue CMA's Technical Publications activities as of this date.

*

CMA

EC - 9/8/80
BD - 9/9/80

Technical Publications

Background for Discontinuation

Technical Publications should be discontinued for the following reasons:

- without material safety data sheets, the program is not financially viable;
- the information needs that CMA previously supported are now met through other sources;
- the liability associated with the program outweighs its benefits; (Insuring against liability in this area will become increasingly expensive and possibly unobtainable with the potential of severe financial loss for CMA.)
- staff could be used more effectively in other CMA programs; and
- company participation is insufficient to meet the publications program needs.

1. Financial

In FY 79-80, the following income was recorded:

Chem-Cards	$ 9,700
Cargo Information Cards	7,000
All others	15,800
Total revenue	$32,500

The expenses for the same period were:

Direct Expenses:

Insurance	$ 93,000
Other direct expenses	113,000
Total direct expenses	$206,000
Estimated Indirect Expenses:	54,000
Total	$260,000

If Technical Publications are discontinued, the insurance policy must be continued for several years to protect liabilities. Close-out expenses must include advertisements in trade publications to limit liability from use of outdated materials. This should run approximately $5,000.

2. Information needs are met through other organizations.

CMA received only 42 responses from a survey of 240 distribution contacts, CHEMTREC Advisors and project team members. Of those responding, only one-third recommended that we continue the Chem-Card program and one-half recommended that we continue the Cargo Information Card program. Of all of the company personnel surveyed, only 6% recommended continuing the Chem-Card program and 9% recommended continuing the Cargo Information Cards.

The Department of Transportation said that cancellation would not pose regulatory problems. The trucking association supplies this information in book form.

Safety Guide materials are generally available from the professional literature. (See Appendix for list of Technical Publications to be discontinued.)

3. Liability

PRIVILEGED MATERIAL REDACTED

We publish about 170 Cargo and Chem-Cards which cost about $1,000 each for printing. This does not include the labor to review the cards prior to publication. A $50,000 three-year revenue cannot support this.

PRIVILEGED MATERIAL REDACTED At present, revisions on SG-2, -4, and -17 are in draft form. SG-3, -5, -6, -7, -9, -10, -11, -18, -19, -20, -23, and -24 need revision. Each revision will cost $3,000 for publication alone.

The largest revenue item outside of the material safety data sheets ($75,000/year) was the discontinued Laboratory Waste Disposal Manual. It was discontinued because the recommendations violated the Federal Water Pollution Control Act. A contractor has bid $63,000 to revise the Manual and it would cost $5,000 to publish. If republished, it would require revision every three years plus staffing to process inventory, mailing and billing.

4. Staff could be assigned to other projects.

The personnel assigned to Technical Publications could be used for hazards communications activities and toxic substances issues. In staff's opinion, this will have a greater value for the industry than the Technical Publications.

5. Company participation is insufficient.

Our experience has shown enthusiastic support for drafting the original document, but little support for revisions. The burden falls upon CMA staff to prepare these revisions.

APPENDIX

TECHNICAL PUBLICATIONS

These are publications of particular interest to managers and operators of chemical-producing plants.

Environment

Guidelines for Chemical Plants in the Prevention, Control, and Reporting of Spills (1973)	**$1.00**
WR-1 A Guide for Subsurface Injection of Waste Fluids from Chemical Manufacturing Plants (1976)	**$1.50**

Safety and Health

Occupational Epidemiology, A Brief Overview	**$1.00**
Case Histories of Accidents in the Chemical Industry.	
Vol. One—1962	**$3.75**
Vol. Two—1966	**$3.75**
Vol. Three—1970	**$3.75**
Vol. Four—1975	**$3.75**
Index of Case Histories of Accidents in the Chemical Industry	**$1.00**
Set of All Four Volumes and Index	**$15.00**
Guidelines for Risk Evaluation and Loss Prevention in Chemical Plants (Revised 1976)	**$2.50**

SAFETY SERIES

These are technical publications specifically designed to assist in the safe commercial production and transportation of chemicals.

Safety Guides
$2.50 EACH

Preplanning for safety. Practices and procedures useful to those engaged in many aspects of chemical manufacturing, but especially those at the plant level.

Health Factors in the Handling of Chemicals (1979)	SG-1
Emergency Organization for the Chemical Industry (1979)	SG-4
Electrical Switch Lockout, Tag and Try Procedures (1978)	SG-8
Maintenance and Inspection of Fire Protection Equipment (1978)	SG-13
Safety in the Scale-up and Transfer of Chemical Processes (1978)	SG-14
Training of Process Operators (1978)	SG-15
Liquid Chemicals—Sampling of Tank Car and Tank Truck Shipments (1979)	SG-16
Fire Protection in the Chemical Industry (1980)	SG-17
Safety Inspection Committee for a Small Plant (1973)	SG-20
Guidelines for a Chemical Plant Safety Program and Audit (1978)	SG-21
Siting and Construction of New Control Houses for Chemical Manufacturing Plants (1978)	SG-22

NOTE: Future issues in this series may be obtained on a continuing subscription basis, billed at the end of each year

TRANSPORTATION EMERGENCY GUIDES
50¢ EACH

CMA CHEM-CARDS. Each card gives useful information in case of accidents involving overland shipments (truck, rail) of dangerous cargoes. Cards are 17.5 cm × 25.4 cm (7" × 10"), 3-hole punched.

Acetaldehyde	CC-49
Acetone	CC-23
Acetone Cyanhydrin	CC-34
Acetonitrile	CC-64
Acrolein (Inhibited)	CC-76
Acrylonitrile	CC-15
Allyl Alcohol	CC-35
Allyl Chloride	CC-63
Ammonia, Anhydrous	CC-44
Ammonia, Aqua	CC-66
Anhydrous Hydrazine	CC-7
Aniline Oil	CC-51
Benzene	CC-17
Benzyl Chloride	CC-54
Boron Trifluoride	CC-87

TRANSPORTATION EMERGENCY GUIDES
50¢ EACH—Continued

Bromine	CC-59
Butadiene	CC-81
Butyl Acetate	CC-60
Butyl Alcohol (Secondary or Tertiary)	CC-80
Butyllithium	CC-28
Butraldehyde	CC-50
Carbolic Acid (Phenol)	CC-48
Caustic Potash (Liquid)	CC-32
Caustic Soda (Liquid)	CC-33
Chlorine	CC-53
Chloride Trifluoride	CC-2
Chlorosulfonic Acid	CC-73
Cresol	CC-77
Cyclohexane	CC-20
Diethylamine (Anhydrous)	CC-27
Diethylenetriamine	CC-72
Dimethyl Ether	CC-61
Dimethyl Sulfate	CC-55
Epichlorohydrin	CC-29
Ethanol	CC-70
Ether (Ethyl)	CC-16
Ethyl Acetate	CC-18
Ethyl Acrylate	CC-95
Ethyl Chloride	CC-24
Ethylene Dichloride	CC-62
Ethylene Oxide	CC-36
Fluorine (Liquid)	CC-10
Formic Acid	CC-83
Hydrazine/UDMH	CC-9
Hydrochloric Acid	CC-82
Hydrofluoric Acid (Anhydrous or Aqueous)	CC-42
Hydrogen, Liquid	CC-12
Hydrogen Peroxide (High Strength)	CC-14
Isopropanol	CC-71
Isopropylamine	CC-56
Isopropyl Ether	CC-58
Methanol	CC-69
Methyl Acrylate	CC-74
Methylamines (Anhydrous)	CC-26
Methylamines (Aqueous)	CC-84
Methyl Bromide (Liquid)	CC-38
Methyl Chloride	CC-67
Methyl Ethyl Ketone	CC-22
Methyl Isobutyl Ketone	CC-57
Methyl Methacrylate	CC-43
Mixed Acid	CC-65
Monomethyl Hydrazine	CC-11
Motor Fuel Antiknock Compound	CC-30
Nitric Acid	CC-47
Nitric Acid (Red, Fuming)	CC-3
Nitrobenzol (Liquid)	CC-79

TRANSPORTATION EMERGENCY GUIDES
50¢ EACH—Continued

Nitrogen, Liquid	CC-6
Nitrogen Tetroxide	CC-1
Oleum	CC-68
Oxygen, Liquid	CC-13
Pentaborane	CC-5
Peracetic Acid	CC-86
Perchloryl Fluoride	CC-4
Phosphorous Oxychloride	CC-39
Phosphorous Pentasulfide	CC-41
Phosphorus Trichloride	CC-40
Phosphorus (White or Yellow in Water)	CC-37
Sodium (Metallic)	CC-31
Sulfur Dioxide	CC-78
Sulfur Trioxide	CC-52
Sulfuric Acid	CC-25
Toluene	CC-19
Unsymmetrical Dimethyl Hydrazine	CC-8
Vinyl Acetate	CC-21
Vinyl Chloride	CC-46
Vinylidene Chloride	CC-75
Xylene	CC-45

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50¢ EACH

Each card gives useful information in case of accidents involving barge shipments of dangerous cargoes. Cards are 17.5 cm × 25 × .4 cm (7" × 10") Varnish Coated.

Acetaldehyde	CIC-1
Acetic Acid	CIC-2
Acetic Anhydride	CIC-3
Acetone Cyanohydrin	CIC-4
Acetonitrile	CIC-5
Acrylonitrile	CIC-6
Adiponitrile	CIC-7
Allyl Alcohol	CIC-8
Allyl Chloride	CIC-9
Aminoethylethanolamine	CIC-10
Ammonia, Anhydrous	CIC-11
Ammonium Hydroxide	CIC-12
Aniline	CIC-13
Benzene	CIC-14
Butadiene (Inhibited)	CIC-15
n-Butyl Acrylate	CIC-16
n-Butyraldehyde	CIC-17
Camphor Oil	CIC-18
Carbolic Oil	CIC-19
Carbon Bisulfide or Carbon Disulfide	CIC-20
Carbon Tetrachloride	CIC-21

CARGO INFORMATION CARDS
50¢ EACH—Continued

Caustic Potash Solution	CIC-22
Caustic Soda Solution	CIC-23
Chlorine	CIC-24
Chlorobenzene	CIC-25
Chloroform	CIC-26
Chlorohydrins (Crude)	CIC-27
Chlorosulfonic Acid	CIC-28
Cresols	CIC-29
Crotonaldehyde	CIC-30
Dichlorodifluoromethane	CIC-31
Dichloropropane	CIC-32
Dichloropropene	CIC-33
Diethanolamine	CIC-34
Diethylenetriamine	CIC-35
Diisopropanolamine	CIC-36
Dimethylamine	CIC-37
Epichlorohydrin	CIC-38
Ethyl Acrylate	CIC-39
Ethyl Chloride	CIC-40
Ethyl Cyanohydrin	CIC-41
Ethylenediamine	CIC-42
Ethylene Dichloride	CIC-43
Ethyleneimine	CIC-44
Ethylene Oxide	CIC-45
Ethyl Ether	CIC-46
2-Ethyl-3-Propylacrolein	CIC-47
Formaldehyde Solution	CIC-48
Formic Acid	CIC-49
Furfural	CIC-50
Hydrochloric Acid	CIC-51
Hydrofluoric Acid	CIC-52
Hydrogen Chloride	CIC-53
Hydrogen Fluoride	CIC-54
Isobutyl Acrylate or Butyl Acrylate (iso)	CIC-55
Isobutyraldehyde or Butyraldehyde (iso)	CIC-56
Isoprene	CIC-57
Methyl Acrylate	CIC-58
Methyl Bromide	CIC-59
Methyl Chloride	CIC-60
Methyl Methacrylate	CIC-61
Monochlorodifluoromethane	CIC-62
Monoethanolamine	CIC-63
Monoisopropanolamine	CIC-64
Morpholine	CIC-65
Motor Fuel Antiknock Compounds	CIC-66
Oleum	CIC-67
Phenol	CIC-68
Phosphoric Acid	CIC-69
Phosphorous	CIC-70
Propionic Acid	CIC-71
Propylene Oxide	CIC-72

CARGO INFORMATION CARDS
50¢ EACH—Continued

Styrene	CIC-73
Sulfur, Liquid	CIC-74
Sulfuric Acid	CIC-75
Sulfuric Acid, Spent	CIC-76
Triethanolamine	CIC-77
Triethylenetetramine	CIC-78
Vinyl Acetate	CIC-79
Vinylidene Chloride (Inhibited)	CIC-81
Compressed Gases	CIC-82
Cargoes with flashpoints of 20° F and lower	CIC-83
Cargoes with flashpoints above 20° F to and including 80° F	CIC-84
Cargoes with flashpoints above 80° F	CIC-85
Cargoes with flashpoints above 80° F and requiring heat for transfer	CIC-86

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Exhibit D

Formation of a
Public Risk Analysis Special Committee

Objective To follow and impact the development of risk analysis as a regulatory decision tool.

Purpose This special committee will evolve chemical industry positions on the value, limitations and practice of risk analysis.

Background The chemical industry has advocated risk analysis for several years as the most logical decision-making tool for highly complex issues such as chemical safety. The recent Supreme Court Benzene decision forces OSHA to consider risk and benefits of benzene before it modifies regulatory action. Congressmen are discussing possible legislation to define acceptable risk at this time.

The National Association of Manufacturers will coordinate trade association activities in risk analysis, and AIHC is working on the topic as it relates to chronic health issues. The American Petroleum Institute and the Business Round Table also have activities in progress.

The public decision issue of risk analysis will have a unique impact on the chemical industry which is more intense and broader that will be covered by the other associations -- distribution of hazardous chemicals, for example.

Methods of risk analysis are being developed in universities and government. Industry must understand and participate sufficiently to impact the evolving application of risk analysis. This group must be sensitive to the concerns of other industries as this issue evolves. This is well beyond the conventional view of mere "risk/benefit".

This CMA special group will coordinate with the other Association activities, but will focus on the special problems confronting the chemical industry.

Recommendations — Form a special committee with an Executive Committee member as chairman. This Committee will operate for one year and during that period it will develop strategies for chemical industry responses. (This may be a recommendation for formation of a standing committee or some other action.) A special committee is recommended because of the intense concentration of varied disciplines that must be coordinated to manage this emerging issue.

Impacts

Money: Until the committee develops an action plan, it is difficult to estimate. A budget request will be prepared along with the charter and will be submitted later.

Company Personnel: A total company time commitment is approximately 1.5 years.

Staff Personnel: A one-year contract company person will be used as a staff executive. It will be necessary to hire a secretary to support this activity.

Action Required — Approve formation of a special committee on public risk analysis for one year.

*

CMA

EC - 9/8/80
BD - 9/9/80

SOCIAL DECISION MAKING:
A CHALLENGE FOR THE '80s

THE NEED FOR SOUND DECISION MAKING IN THE HEALTH/SAFETY AREA CONSTITUTES A MAJOR NATIONAL POLICY ISSUE DEMANDING URGENT AND CONCENTRATED ATTENTION AND EFFORT

CMA

EC - 9/8/80
BD - 9/9/80

INTRODUCTION

This report outlines some major, critical issues which must be addressed in the health/safety area as society develops a sound policy for managing chronic health risks. The report also summarizes some general conclusions about indicated action for the business community in providing a positive contribution to the development of this needed social policy.

BACKGROUND

This report summarizes the work of an ad hoc group, whose members address the same health and safety issues in a variety of other trade associations (CMA, AIHC, API, and the Business Round Table). This group arose from a common concern that the increasing interest in the interrelated concepts of "risks", "benefits", and "costs" among a variety of groups in industry, the regulatory agencies, the Congress, academia, and the public were not supported by adequate identification of issues, definitions of terms, or development of a sound conceptual structure. There was concern that the seductively simple and logical concept of "risk/benefit" analysis was gaining broad acceptance without a valid understanding of its complexities, its inappropriateness for many situations, and pragmatic problems of execution.

Common sense dictates that a sound, integrated national policy for dealing with health and safety issues should incorporate two basic concepts:

1) Policy decisions should be based upon sound science, which reflects all available scientific data.

2) Policy decisions should reflect a reasonable, socially and politically acceptable, and rational balancing of risks, benefits, costs, social and economic issues, and the abstract but important issue of assuring personal freedom of choice.

This report is presented as a step toward clarifying some of these issues and as a basis for future evaluation by others.

WORKING HYPOTHESES

A number of working hypotheses seem to be gaining a broad-based acceptance as a part of a general conceptual framework in the health/safety policy area:

1) A risk-free society is neither feasible nor affordable.

2) Degree of "risk" can vary widely from the "trivial" to the "unacceptable" and the degree of regulatory control should vary according to the risk involved.

3) Sound regulatory policy requires that different standards for regulation be applied to risk where the exposure is "voluntary", vs. those for which the exposure is "involuntary."

4) For risks which are not "unacceptable" and for which exposure is voluntary, the appropriate degree and type of regulatory action should provide society with an opportunity for informed freedom of choice on quality of life issues.

5) There is a developing consensus that it is a proper function of government to educate the public on relative levels of risk, but there is also recognition that some degree of risk is so generally associated with most aspects of daily life, that there is a potential for creating confusion among the public by over-communication.

6) There is a developing recognition that naturally-occurring risks (e.g., carcinogens) present special and difficult problems.

KEY ISSUES

To resolve current confusion and problems, and to establish a socially and politically acceptable and scientifically sound framework, we believe the following key issues must be addressed jointly by government legislative and regulatory groups, industry, academia, and the public:

1) What should the relative roles be for industry and government in protecting the public against risks in the health and safety area? What are the responsibilites of each to the individual member of the public?

2) To the extent that a "zero risk" approach to risk management is abandoned, what are the responsibilities of government and industry to advise the exposed public of the degree of risk to which they are exposed? How can adequate communication be provided without so overloading the public's circuits as to "turn them off?"

3) Recognizing that risks differ in kind, degree, reversibility, timeframe, population at risk, and voluntariness (or involuntariness) of exposure; can these risks be "scaled" by order of magnitude? If so, should similar levels of risk be communicated equally to the public and be regulated equally?

4) Recognizing that the interests of many different constituencies (e.g., labor unions, industries, the consumer, and the environmentalists) vary widely and are often contradictory, how can a socially and politically acceptable policy framework be developed?

5) What role should industry play in developing a framework for such policy and to what extent should industry undertake the responsibility for informing and gaining support of government and other interested groups for such a policy framework? If industry undertakes this responsibility, what should be the locus of developmental effort?

6) Given the near-term realities of legislation in Congress under active consideration on these issues, of developing regulatory concepts within IRLG and individual agencies, and of judicially-initiated concepts which require clarification (e.g., "significant

risk", "significant reduction in risk," and "substantial evidence" on the benzene case); how can industry play a responsible role in the absence of a conceptual framework which is acceptable to all parts of industry? How do we avoid having such issues resolved in a manner which might obviate or complicate appropriate options in an industry-developed conceptual framework, before that framework is developed?

Concepts of objectively established, science-based quantitative risk assessment and "relative risk" may be cornerstones of an appropriate conceptual framework, but how does industry keep its options open?

These and a wide variety of other issues are detailed in the attached: "Risk-Benefit-Cost Background Report: Issues, Terms, Methodologies, and Activities."

INDICATED ACTION AND CONCLUSIONS

There are no easy answers to the above issues, but we believe that responsible industry must act now to address these issues. We propose the following:

1) Industry should undertake the formulation of a sound conceptual framework for regulation of health/safety hazards in our society . . . with particular emphasis on chronic health hazards.

2) This project should be approached on a pan-industrial basis to permit resolution of parochial and often contradictory interests and problems before the framework is presented to the government, the public, and special interest groups for their consideration and critique.

3) This is an enormous undertaking. An unusual organization, with a central forum or locus of responsiblity within industry should be set up to coordinate the effort.

   The alternative is to allow the regulatory agencies, the legislative branch, or special interest groups to take the initiative on this issue . . . and for industry to be in a responsive mode, with ill-prepared and conflicting points of view.

4) Key trade associations must be encouraged to undertake extraordinary commitments to both internal and coordinated effort. This will involve allocation of resources and parceling of issues to avoid unwarranted duplication of effort to deal with the near-term issues in this area simultaneously with the development of the longer-term conceptual framework.

5) Industry must commit itself not only to the development of the concept, but also to the broad political task of educating other constituencies about our proposal and motivating their support.

6) The benzene decision provides a brief opportunity to inject common sense into a national policy for sound decision making on societal issues. We urge active commitment by industry to participate in the development of a soundly conceived policy.

RISK-BENEFIT-COST BACKGROUND REPORT:

ISSUES, TERMS, METHODOLOGIES, AND ACTIVITIES

Document developed for Risk-Benefit-Cost

Scoping Study Steering Group

June 1980

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EC - 9/8/80
BD - 9/9/80

INDEX

INTRODUCTION

The intent of this brief report is to bring together pertinent background information in the Risk-Benefit-Cost arena to facilitate informed decision-making by industry representatives responsible in this field. Its purpose is to serve as a beginning primer to acquaint the reader with the issues, the meanings of some of the currently used terms, the methodologies, and some of the key players or leading specialists in this area. It will attempt to identify where in government, academia, and the private sector some of the Risk-Benefit-Cost work and studies are being conducted.

Risk-Benefit-Cost analyses are used formally and informally in nearly every activity of life. In certain areas, quantification of the risks, benefits, and costs is quite rigorous. However, in health, safety, and environmental areas many of the elements of an analysis are intangible and not immediately perceivable. Believing that the interest of the Risk-Benefit-Cost Scoping Study Steering Group lies mainly in the health and safety areas, our cursory survey has confined itself, where necessary, to the following materials controlled by well defined statutes and where risk assessment is used in their regulatory practice.

Material (Media)	Statutes
Air	Clean Air Act (CAA)
Air Quality Standards	
Carcinogens	
Chemical Substances	Toxic Substance Control Act (TSCA)
Drugs	Federal Food Drug and Cosmetic Act (FFDCA)
Food	
Material and Ingredient	FFDCA
Additive	
Contaminant	

Water	Clean Water Act & Safe Drinking Water Act
Water Quality Standards	
Priority Pollutants	
Workplace	Occupational Safety & Health Act (OSHA)
Health	
Safety	

Within this framework, this report attempts to fulfill the following listed charges given by the Steering Group to the working party:

1. Develop listing of issues.

2. Identify centers and range of activities by others on these issues.

3. Develop definitions of risks, benefits, and ancillary terminology with range of use.

4. Establish what methodologies are currently used for standard setting.

The report is organized by Chapters which address the above topics. Finally, we have included reprints of selected articles which the Task Force recommends as particularly germane to the use of risk-benefit-cost analysis in regulatory practice. These four reprints include:

Bazelon, D. L. 1979. Risk and Responsibility. Science 205:277-280.

Leape, J. P. 1980. Quantitative Risk Assessment in Regulation of Environmental Carcinogens. Harvard Environmental Law Review 4:86-116.

Okent, D. 1980. Comment on Societal Risk. Science 208 (4442):372-375.

U. S. Congress. Senate. Benefits of Environmental Health and Safety Regulation. Committee on Governmental Affairs. 25 March 1980. Prepared for Committee by the Center for Policy Alternatives at the Massachusetts Institute of Technology. *Nicholas A. Ashford, Co-principal Investigator.

CHAPTER I

Background: Legislative and Regulatory Impetus and Conflicts.

The United States, together with many developed nations, experienced rapid economic growth and improvement in our standard of living in the decades immediately following World War II. Development of the petrochemical industry contributed a major component of the growth rate. Technological innovation has resulted in rapid expansion of basic materials, an introduction of many new substances each year, and broadscale dispersion of these and older substances in wide application in industrial processes and consumer products.

Some products of technological growth have involved risks of toxicity to man and his environment. In response to society's perception of these risks, the United States Congress in the 1970's enacted several laws that govern the conditions under which chemicals or products may be introduced into the environment. (See Appendix I, Table 1.)

Paralleling this legislation is the rapid growth of the bureaucracy required to develop, administer, and enforce the regulations. The various regulatory agencies have greatly enlarged their manpower, scientific capability, and the scope of screening and monitoring programs. (See Appendix I, Table 2.)

This growth has been mainly piecemeal, incremental, responsive to crisis, and lacking in a basic policy for the coherent management of the nation's health and safety resources. As a result, a variety of problems have arisen. The nation has laws and regulations with inconsistent dictates: some too strong to be met (e.g. by marginal industries), others too weak to provide protection (e.g. to high-risk groups). There are agencies with overlapping mandates (e.g. FDA, EPA, and CPSC). There are inconsistencies between different approaches to risk assessment and risk management, and conflicts between the public, industry, and government.

The statutes are not consistent in requiring regulatory agencies to consider the economic, environmental, social, and technological costs and benefits of regulating risks. Table 3 (in Appendix I), developed for the National Academy of Sciences Study on Food Safety Policy, summarizes for eleven statutes 1) the statutory standard for regulatory action and 2) the agency concerns in regulatory action.

Health, safety and social requirements are closely linked. However, early legislation in these areas separated issues according to media of exposure, often resulting in overlapping or conflicting requirements. As recognition of these commonalities has occurred, there is a greater tendency for generic regulations encompassing broad areas of control with hundreds of materials being affected by a single sweeping regulation. To cope with the increasing complexity, modeling is used more and more to assist in the decision-making process. As the complexity of the regulatory process increases, modeling techniques as a part of

risk-benefit-cost analysis will be extended into more areas of regulatory decision making.

As these concepts are utilized by government groups (legislative and regulatory) to fit their particular needs, inductry needs to develop unified positions on methodology and policy in order to interact effectively. Since much of the critical information in the decision making process will derive from the industry sources, insuring its proper interpretation and application can best be done with industry involved. Thus, regulatory decision making process must permit and encourage industry participation.

CHAPTER II

Issues in Risk/Benefit/Cost Analysis

"A thing is safe if its risks are judged to be acceptable."(1)

This simple statement embodies all of the complex and controversial elements of risk/benefit analysis. The statement clearly emphasizes that two very different kinds of activities are involved: measuring the risk and judging the acceptability of that risk. The estimation of risk is basically a scientific activity, although it can be extended to include economic factors as well. The judgment of the acceptability of the risks involves value judgments in which benefits figure prominently.

The fundamental issue is how to allocate our national resources in order to obtain the greatest improvement in health and safety for the resources expended. It should be recognized, particularly at this time, that the national resources which can be expended in improving health and safety are not unlimited. We need to allocate these resources as wisely as possible with due consideration, not only for the humanistic and ethical implications, but with consideration of economics as well. Now what is needed is a process which will set national priorities, based on objective evaluation of costs, risks, and benefits. The current approach on a piecemeal, case-by-case basis has frequently led to use of resources to obtain less than optimal results.

The more detailed listing of issues which follows further subdivides the problem into three broad areas: scientific, societal, and structural/policy.

A) Scientific - Estimation of the risk involved in a particular activity is primarily a scientific exercise. The process is based on the development of the technical facts around the consequences of exposure and estimation of the means and extent to which the negative consequences will be experienced by various populations. This process, at its best, is objective and free of value judgments. Specific issues are as follows:

- How to get the highest quality and most objective scientific assessment. Both industry and regulatory scientists have been criticized for lack of objectivity. In cases of unusual importance the National Academy of Sciences, as an objective, unbiased, prestigious, scientific group, has been drawn in to make risk assessments. Even this group has not always been able to keep from letting value judgments creep into their assessments.

(1) Of Acceptable risk - Science and the Determination of Safety; Lowrance, William W., William Kaufmann, Inc.; Los Altos, California; 1976.

- Should the scientific assessment of risk be separated organizationally from the regulatory and enforcement functions? The regulatory process needs to find a way to develop the scientific assessment of risk as free from value judgments and political pressure as possible. Furthermore, we need to improve the effectiveness of the interface between scientific assessment of risk and the political/social assessment of benefits and the balancing of these benefits against the entailed risks.

- How to handle scientific uncertainty. Even with the most conscientious effort, scientific information, particularly on chronic, long-term issues, is seldom definitive. Scientists are left with some uncertainty which is most often handled by conservatism. If the scientific uncertainties are expressed, they frequently are conveyed to the public and to regulators, and only tend to increase anxiety.

- How to update risk assessment without losing face as new scientific information becomes available.

- How to communicate conclusions based on highly technical information to the societal sector understandably and effectively.

- How to handle "trans-scientific problems." These are problems in which definitive scientific information is unobtainable, but, nevertheless, decisions must be made. It has been suggested that these kinds of problems cannot be handled by scientific means alone--there are political implications which must be integrated into the decision.

- The special case of risks from cancer. The scientific debate between the threshold theory and the one-hit theory of carcinogenesis has not been resolved. Uncertainty about the mechanism of initiation of cancer continues to complicate risk assessment in this area.

- How do we deal with remote but finite probabilities of a risk occurring? How do we determine the point at which a risk becomes so remote that it is not worth considering?

- How to quantitate the increase in probability of a risk occurring due to human error, equipment malfunction and improper maintenance and combinations of these items, e.g. Three Mile Island.

- How do we evaluate the acceptability of risks to future generations; of risks whose manifestations come only later and of combinations of hazards, e.g. cigarette smoking and asbestos exposure?

B) Societal Issues - Once the magnitude of the risk has been established by the scientists it falls to the politicians and courts, more or less responsive to public opinion, to make the value judgments as to whether or not the risk is acceptable. These judgments are clearly influenced by advocacy groups and by lobbyists. The process generally evolves to a subjective judgment based on scientific findings, but importantly influenced by political and policy considerations. Much of the controversy over the usefulness of risk/benefit analysis and its practice in setting regulatory standards stems from the subjective value judgments which are made. The "zero risk" approach to regulation finds its roots in this part of the process. Following are some of the societal issues involved.

- How to preserve freedom of individual choice. Benefits may be valuable to some but perceived of no value, and therefore, not worthy of risk to others. How do we regulate risk while still preserving the basic democratic tenet of freedom of choice?

- How to articulate benefits which are psychological or aesthetic. In a risk/benefit analysis any risk involved must be balanced against benefits. If the benefits are intangible, they still may be of value and therefore worth some risk.

- Rather than evaluating risks and benefits on an absolute scale, would it be better to position risks relative to others with which society is familiar and which have been accepted?

- How to equitably distribute risks and benefits. Society frequently asks people to take risks while others enjoy the benefits. Should risk-takers who do not receive the benefits be compensated, and if so, how?

- How to quantitate all of the risks and all of the benefits. Any rigorous benefit/risk/cost analysis has to balance all of the consequences. The task of making a global assessment of all of the consequences most often is not possible.

- How to handle the fact that risks and benefits are in different units. Here the purely economic approach runs into the morally distasteful task of putting a dollar value on human life. Similarly, how can such intangible items as peace of mind and quality of life be evaluated in dollar terms--should we even try?

- Should we be using the concept of efficacy rather than benefit? The concept of benefit in the regulatory context implies a value judgment which someone must make on behalf of others. Would we be better off to think in terms of efficacy, as is now done in drug regulation where the question is much simpler--"Does it do the job for which it is intended?"

- The philosophical basis for risk assessment needs to be re-examined. Should we be trying to define what is an unacceptable risk rather than trying to define which risks are acceptable?

- How should society account for risks which may be statistically remote, but the consequences if the risk is realized are huge?--e.g. a major nuclear power plant disaster.

- There is a wide range of personal acceptance between known (familiar) and unknown (not familiar) risks, and between risks voluntarily accepted and risks involuntarily imposed on us by someone else. How are these factors handled in a benefit/risk analysis?

- An analysis of the risk/benefit/costs of a given action also needs to include a similar analysis of <u>not</u> acting. The consequence of inaction is most frequently ignored.

C) <u>Structural/Policy Issues</u> - In an ideal society the consequences of a given action can be rigorously analyzed and used in legislative and regulatory decision making for the optimized good of the society. Ideally we could make a global assessment of the risks-benefits-costs, and allocate our national resources to get the best overall result. However, there are a number of other issues which need to be resolved before this can be achieved.

- Who is responsible? In times past a commercial enterprise took full responsibility for the consequences of its actions. More recently, the responsibility for protecting the society from unacceptable risk has been assumed by government stimulated by public interest groups. Much of the conflict around regulatory constraints has arisen because of the shifting responsibility.

- As government has assumed increasing responsibility in the health and safety area, the incentives for action or restraint have shifted. A business enterprise, motivated to make a profit for shareholders, draws a careful balance between risks and benefits recognizing that undue risk jeopardizes the company's reputation, the product's viability, and risks reducing profit. The government's approach has been to provide incentive for responsible action through imposition of penalties. What is the most appropriate way to encourage commercial enterprise to responsible action?

- How can regulatory agencies avoid the personal and organizational risk-avoidance approach to regulation?

- Are the techniques of risk/benefit analysis sufficiently well developed that they can be used as a rigorous part of the decision-making process? With all the deficiencies and uncertainties described above, is our society ready to rely on risk/benefit analysis as a central part of the process? Would we be better off to recognize that risk/benefit analysis is still an imprecise science and accept that it is only a tool to help organize the analysis process as some have suggested?

- What is the media's role and responsibility in shaping a balanced opinion on risk taking?

- Labor unions appear to be violently opposed to the use of risk/benefit analysis in decision making. Would their interests be better served long term by a process which brings to the public attention such issues as jobs lost or gained as a result of proposed action?

- In the spirit of preserving the right to individual choice, what action is needed to make this choice an informed one?

- How should our society develop an enlightened policy around risk assessment and the judgment of what is an acceptable risk? If we had such an enlightened policy, how does this become a part of the legislative and regulatory processes?

CHAPTER III

Terms and Definitions

This chapter attempts to define some of the terms commonly used in risk-benefit-cost analysis. Broadly speaking, the terms are used with consistent meaning by workers in the field. Where confusion arises, it is usually in the limitations of the scope applied in using the term--e.g. what kind of elements are considered as benefits or as risks. Value judgments may be used by the analyst or by the public, sometimes unintentionally, in defining the scope of the terms as it is used in a specific instance. The following definitions are stated in the broadest terms:

Risk: Rates of occurrence of undesirable events.

Risk Assessment: The total process of quantifying a risk.

Risk Management: A process utilizing the three elements of 1) risk assessment, 2) cost/benefit analysis, and 3) value judgment to arrive at an optimal decision.

Safety: A judgment of the acceptability of risk.

Benefit: Whatever promotes social welfare. Reductions in social costs.

Costs: Whatever outlay of time, money, labor, self-denial, etc., is required to secure benefit.

Cost-Benefit Analysis: Evaluation and comparison of costs versus benefits.

Cost/Benefit Analysis: Evaluating the ratio of costs to benefits.

Cost-Effectiveness Analysis: Comparison of alternatives to achieve lowest cost/benefit ratio.

The following are some examples of how these terms have been defined by experts to suit their specific needs:

Risk

Hazards exist (trees will fall) as possible events. "Risk is the potential for realization of unwanted negative consequences of an event." (W.D. Rowe)

"A measure of the probability and severity of harm to human health" (objective but probabilistic). (W.W. Lowrance)

Carcinogenic Risk - "A quantitative estimate in probabilistic terms of cancer occurring due to exposure to specific agents." (RARG)

Risk Assessment

"The total process of quantifying a risk and finding an acceptable level of that risk for an individual, group, or society. It involves both risk determination and risk evaluation." (W. D. Rowe)

"Human risk assessment is a very inexact exercise, based largely upon theoretical assumptions concerning interspecies extrapolation." (Food Safety Council) (See references Chapter IV.)

Process steps are:

1. Define conditions of exposure.
2. Identify adverse effects.
3. Relate exposure with effect (Dose-Response).
4. Estimate overall risk.

"When policy decisions are based on calculated probabilities, the base numbers should be supplemented with 'confidence limits'." (J. R. Ravertz)

Safety

"A matter of personal and social value judgement." (W. W. Lowrance)

"The acceptability of risks cannot be simply derived from a scientific study of quantified probabilities, costs, and benefits. The human factor influences the analysis at every point. But fairness in discussions and effectiveness in controls of risk can be approached by the use of scientific methods among others, provided that the diversity of human interests, values and perceptions of risks is always respected." (M. Swann, et al.)

Benefit

". . . anything received that causes a net improvement to accrue to the recipient" and "a result of a specific action that constitutes an increase in the production possibilities or welfare level of society." (W. D. Rose)

Cost

"A result of a specific action that constitutes a decrease in the production possibilities or welfare level of society." (W. D. Rowe)

Cost/Benefit Analysis

"An attempt to delineate and compare in terms of society as a whole the significant effects, both positive and negative, of a specific action." (W. D. Rowe)

Cost-Effectiveness Analysis

"A term less specific than cost/benefit analysis, usually meaning the selection of the lowest cost alternative that achieves a pre-determinec level of benefits. Alternatively, the analysis and selection of the path that yields the largest social benefit for a pre-determined specified level of social costs." (W. D. Rowe)

Appendix III, Table 1 provides a more extensive glossary of terms taken from W. D. Rowe, Anatomy of Risk, (1977).

REFERENCES

Lowrance, W. W. 1977. Of Acceptable Risk: Science and the Determination of Safety. William Kaufman, Inc., Palo Alto, CA.

RARG (Regulatory Analysis Review Group). Council on Wage and Price Stability. OSHA Proposal for Industry. Submitted 24 October 1978.

Ravertz, J. R. 1977. The Risk Equation--The Political Economy of Risk. New Scientist 75.

Rowe, W. D. 1977. An Anatomy of Risk. John Wiley and Sons, New York.

Swann, M. 1977. The Acceptability of Risks. Council for Science and Society. Barry Rose Ltd., London.

CHAPTER IV

Methodologies in the Health and Safety Areas

A complete, full fledged risk-benefit-cost analysis is a complex, sophisticated multi-disciplined exercise, still in an evolutionary development stage. The basic elements of the analysis are: an estimate of the exposure required to produce a biological effect; an estimate (frequently in probabilistic terms) of the frequency at which the population will experience the biological effect based on projected exposure; an estimate of all costs required to limit or control the exposure; and an estimate of all the benefits expected from the expenditure required to reduce exposure.

Each step in the procedure normally involves assumptions and uncertainties which should be identified and expressed as fully as possible.

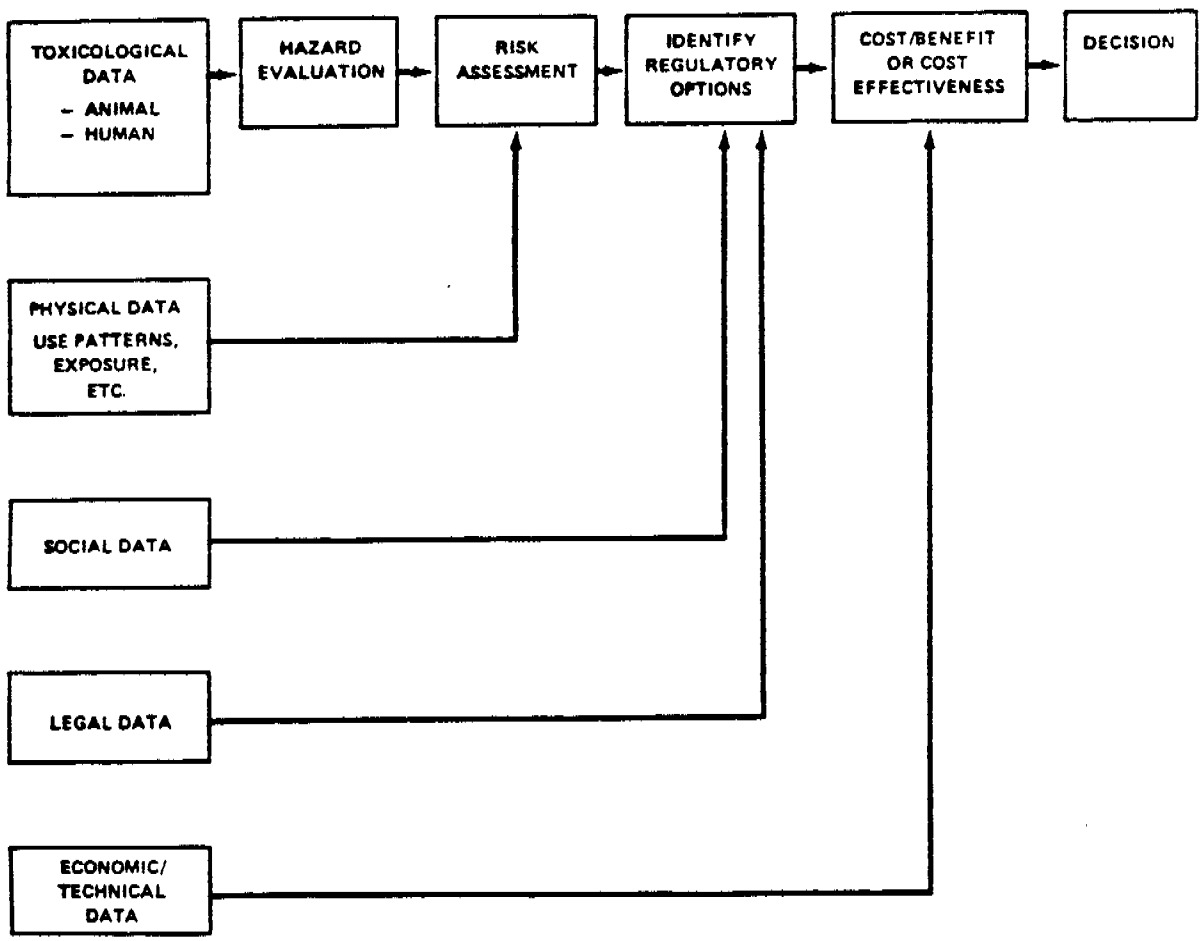
The first steps, i. e., the estimation of exposure required to produce a biological effect and an estimate of the exposure the population will experience, are basically scientific. Many techniques (listed below and more fully described in Appendix IV) have been devised to improve the quality of risk estimation. Nonetheless, many critical issues remain for investigation--the theory of cancer initiation, problems with the extrapolation from animals to man, and so forth.

The remaining steps in the process, estimation of costs and benefits, are economic and societal. Much of the controversy in interpreting results from risk-benefit-cost analysis lies in the biases and value judgments which are inevitable in the subjective part of the process.

The diagram on the following page illustrates the many elements and their sequences in a typical analysis scheme.

Two examples of risk assessment methodologies are briefly outlined in the next sections of this chapter.

AMERICAN PETROLUEM INSTITUTE
PROJECT PROPOSAL: RESOURCE STUDY
OF RISK ANALYSIS AND DECISIONMAKING
ICOSH RISK ASSESSMENT TASK FORCE



CMA 062852

Food and Cosmetics Toxicology published two decision trees in 1978, which are abstracted here.

FEMA (Flavor and Extract Manufacturers Association)
FSC (Food Safety Council)

See references 1) and 2) below for a complete discussion of the methods.

FEMA DECISION TREE - See diagram on following page.

1. The decision tree consists of 33 questions, each answered "yes" or "no". Each answer leads to another question or to final classification into one of three classes (I, II, II) reflecting a presumption of low, moderate, or serious toxicity.

2. The tree is for use with all ingested, structurally defined organic and metallo-organic substances. Major chemical classifications are the organized branches of the tree.

3. Answering the questions requires chemical or biochemical training, and relies primarily on features of chemical structure.

4. The tree takes into consideration:

   - occurrence in body tissues and fluids, and
   - natural occurrence in food.

5. The logic of the tree rests heavily on known metabolic and toxicity data.

6. To establish priorities and to define tentatively the extent of appropriate testing, one can combine:

   - the classification according to presumptive toxicity, with
   - knowledge of human intake to provide for each substance a "protection index".

---

1) FEMA Cramer, G. M., and R. A. Ford. 1978. Estimation of Toxic Hazard--A Decision Tree Approach. Food and Cosmetics Toxicology. 16(3):255-276.

2) FSC Food Safety Council. (Scientific Committee) 1978. Proposed System for Food Safety Assessment. Chapter 11: Quantitative Risk Assessment. Food and Cosmetics Toxicology, 16(suppl. 2): 109-136.

FEMA DECISION TREE

(Figure 1)

Decision tree prediction of toxic risk

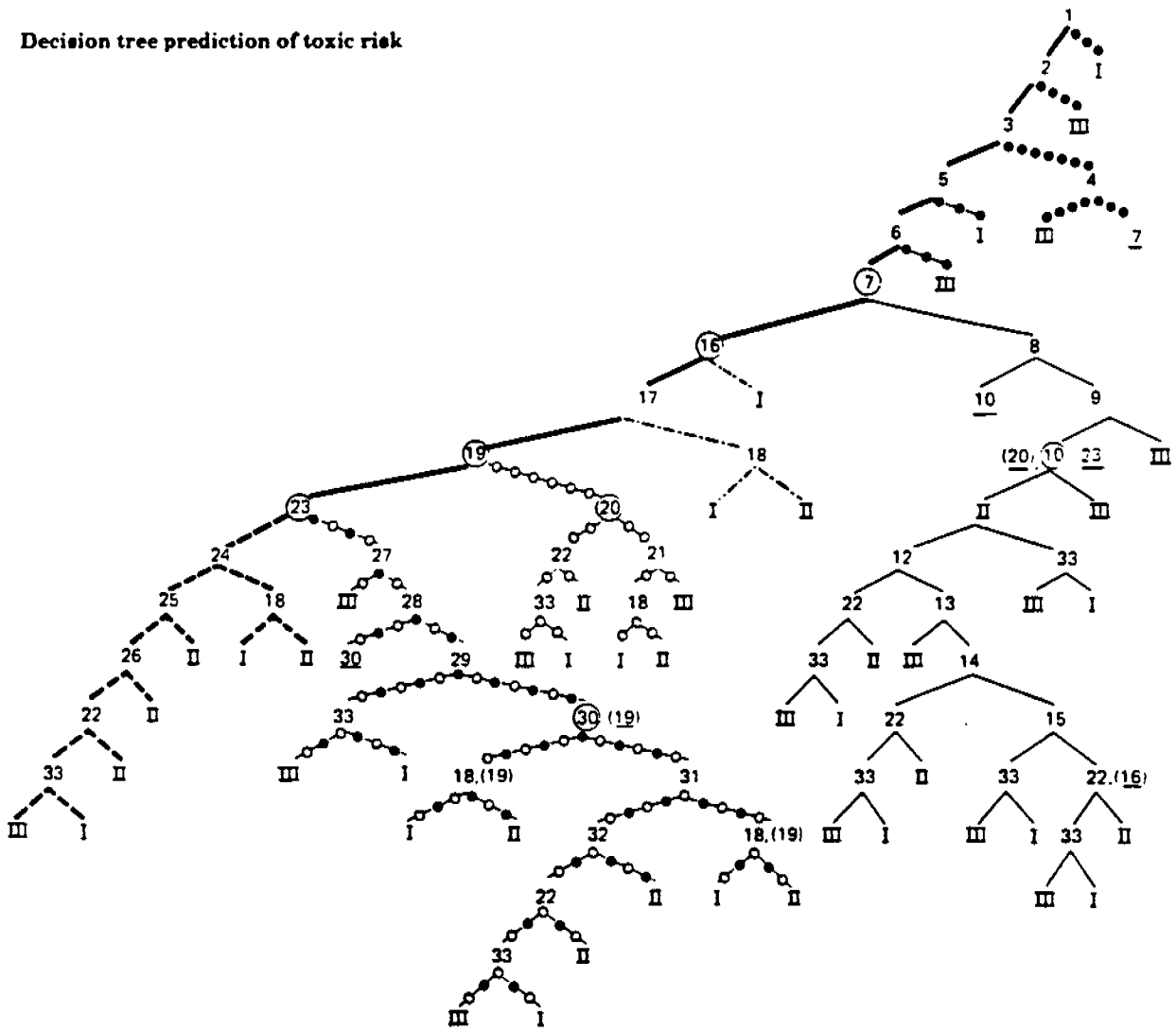


Fig. 1. A schematic diagram of a decision tree for the estimation of probable toxicity. Assessor should (a) start with question 1. (b) proceed by 'no' ↙ or ↘ 'yes', (c) move from any underscored number encountered to same circled number and (d) proceed to final classes I, II or III. Working downwards through the tree, the symbols designate the following groupings: biological normality (●●●●), high and low toxicity (●–●–●); heterocyclics (——); terpenoids (—·—); aliphatics (○–○–○–); aromatics (○–●–○–●); alicycles (—▬—).

CMA 062854

FSC Revised Quantitative Risk Assessment[3)]

1. Introduction

2. Mathematical Models:

   - Probit Model
   - Logit Model
   - One-Hit Model
   - Gamma Multi-Hit Model
   - Armitage-Doll Model
   - Weibull Model
   - Simplified Statistico-Pharmacokinetic Model
   - Joint Effects of Two or More Agents

3. Biological Factors:

   - Evaluation of Chronic Cancer Bioassay Data
   - Evaluation of Characteristics of the Compound
   - Population at Risk

4. Methods Available for Low-Dose Risk Assessment:

   - Mantel-Bryan Procedure (most common)
   - Method Based on the One-Hit Model (low-dose linearity) (most common)
   - Methods based on the Armitage-Doll Model
   - A Method Based on the K-Hit Model
   - A Method Based on the Weibull Model
   - A Method Based on the Pharmacokinetic Model

5. Performances of the Gamma, Armitage-Doll, Weibull and One-Hit Models--Tables 2, 3, and 4. Dose-response data from 14 different experiments with the following 14 substances:

   - NTA
   - Aflatoxin B1
   - Ethylenethiourea
   - 2, 3, 7, 8-tetrachlorodibenzo-p-dioxin
   - Dimethyl Nitrosamine
   - Vinyl Chloride
   - Hexachlorobenzene
   - Botulinum toxin Type A
   - Bischloromethyl urea
   - Sodium Saccharin
   - Ethylenethiourea

---

3)J. B. Cordaro--Executive Director of the Good Safety Council--provided a pre-publication draft of the substantially revised Chapter 11, "Quantitative Risk Assessment", of the Scientific Committee's report. This revised chapter is the basis of our summary. Food and Cosmetics Toxicology will publish the revised chapter in the next few months.

- Dieldrin
- DDT
- Rapeseed (span) oil

6. Recommendations for Risk Assessment Methods:

   a. Choice of the models currently seen usable for low-dose extrapolation: (See Appendix IV for brief description.)

      - Probit
      - One-Hit
      - K-Hit
      - Armitage-Doll
      - Weibull

   b. Choice of extrapolation procedure:

      - inexactness of behavior of models in low-dose range, cannot be firmly justified on either statistical (goodness-of-fit) or biological grounds; choice of extrapolation procedure is matter of judgment.

      - pick one of models which incorporate low-does linearity as well as non-linearity, (K-Hit; Weibull; Armitage-Doll) together with extrapolation procedure with desired conservativeness.

   c. Choice of Societal Risk Level (Risk Level P0 to which one extrapolates.)

7. Other Considerations of Low-Dose Risk Assessment:

   - Combination of results for two or more species.
   - Combination of separate studies on the same species.
   - Interspecies extrapolation.
   - Accounting for variations in human ingestion.
   - Multiple responses.
   - Concurrent and historic controls.
   - Confidence limits versus best estimates.

8. Summary: Risk Assessment Involves Risk and Benefit.

   a. Recommended use of calculations of VSD's (virtual safe dose) from four models:

      - One-Hit
      - Armitage-Doll
      - Weibull
      - Gamma Multi-Hit

      as inputs into the decision procedures.

   b. These calculations should be done for a variety of risk levels in the range of societal concern.

c. Choice of estimates made should reflect the use of the more flexible models:

- ° Armitage-Doll
- ° Weibull
- ° Multi-Hit

when they fit better and seem appropriate biologically.

Conservative procedure: one-hit model or some other low-dose linear extrapolation procedure seems justified.

Blind use of low-dose linear extrapolations or conservative one-hit model appear scientifically indefensible.

Returning to the diagram on page 14, the areas relating to cost/benefit analysis require three areas of activity:

1. Identify the negative aspects (costs) and the positive aspects (benefits):

   - ° Individual - Group - Society
   - ° Direct - Indirect
   - ° Tangible - Intangible
   - ° Economic - Welfare

2. Measure the above factors in terms of:

   - ° Quality of Life
     - Health
     - Safety
     - Environmental Amenities
   - ° Dollars
   - ° Risks

3. Compare costs with benefits:

   - ° Explicit - Implicit
   - ° Ethics
   - ° Value Judgments
   - ° Discounting for Timing Differences

In the first activity, a lot of uncertainty and confusion exists. The identification of all non-trivial effects of a particular decision demands the widest possible exploration on the total system impacts by knowledgeable representatives of areas affected by the decision. Short-term and long-term effects are both possibilities. Who and what is affected, and how needs determination. Societal, group and individual impacts can by psychological and emotional as well as material.

The application of measure, especially dollars for comparative purposes, in the second activity is heavily value-laden. Quoting B. R. Putnam, American Cyanamid, (CEP, February, 1980):

> "The most emotionally gripping argument against cost-benefit, and especially risk-benefit, is that it is impossible to put a dollar value on improvements to human safety or health. The plain fact, however, is that both industry and government make such valuations every day, whether they recognize it or not. As Robert W. Crandall, senior fellow of the Brookings Institution has asked: "Why do regulators set limits ...which are greater than zero? Why did OSHA not argue for 0 parts per million for benzene? Or why are not all of the primary ambient air standards set at 0 ppm? Surely it is not because we know with certainty that reducting current standards to 0 ppm would improve one's health. It is, quite simply, because the administrators of EPA and OSHA do not believe the additional health benefits are "worth it." Or, alternatively, they do not think that the courts will sustain such a high value placed on human health. Either way, we have social institutions reaching judgments about the value of improvements in human health. They must. They cannot avoid it.
>
> "Therefore, all a proponent of sensible judgments would ask is that they write down these values and defend them, and that they use them consistently in evaluating all regulations and options to each regulation. It is that simple."
>
> It is time for the regulatory agencies to acknowledge this responsibility publicly. That their decisions do have significant economic consequences is undeniable. That these consequences should be weighed against identified anticipated benefits is equally clear. Costs versus benefits is a process that already exists in regulatory decision making; what remains is formal acceptance of the philosophy underlying the process."

In the comparison activity of risk assessment, the ethical considerations arise. Are we to promote just the greatest good for the greatest number, or do we wish to see that the benefits are distributed such that all persons are as well or better off with no additional harm to anyone?

CHAPTER IV

REFERENCES

API, American Petroleum Institute. 1980. Project Proposal: Resource Study of Risk Analysis and Decisionmaking. Interdepartmental Committee on Occupational Safety and Health (ICOSH) Risk Assessment Task Force. (Flow Chart).

Food Safety Council (FSC), (Scientific Committee). 1978. Proposed System for Food Safety Assessment. Chapter 11: Quantitative Risk Assessment. Food and Cosmetics Toxicology 16(Suppl. 2):109:136.

Food Safety Council, (Social and Economic Committee). 1980. Principles and Processes for Making Food Safety Decisions. Food Technology. 34(3):79-125.

Food Safety Council. Pre-publication of revised Chapter 11 provided by J. B. Cordaro--Executive Director of the Food Safety Council. Food and Cosmetics Toxicology will publish the revised Chapter 11 in the next few months.

National Academy of Sciences (NAS). 1979. Food Safety Policy: Scientific and Societal Considerations. Trauberman, J. Appendix C: A Comparison of FDA Food Safety Regulation with Federal Regulation of Other Environmental Hazards.

Putnam, B. R. 1980 (February), CEP American Cyanamid. (Incomplete citation.)

Scientific Bases for Identification of Potential Carcinogens and Estimation of Risks. Report of IRLG, Work Group on Risk Assessment. Federal Register 44(131):39858-39879. 6 July 1979. Journal of National Cancer Institute. 63(1):242-268. July, 1979.

CHAPTER V

Activities: Centers and/or Principal Individuals Involved in Risk-Benefit-Cost Activities.

Risk-benefit-cost activities are on an exponential growth curve. The proliferation of centers and individuals involved in these activities in the last year is tremendous now that risk assessment, risk analysis, risk-benefit analysis, and cost-benefit analysis have become "buzz" words in Washington. None of these activities are new as this report attempts to document. For example, risk assessment has replaced technology assessment -- which has not lived up to promises its advocates hoped for.

The literature is massive. The authors of this report have culled the literature, conferred with numerous individuals, and gladly accepted the Steering Group's suggestions in developing a list of centers and principal individuals involved in risk-benefit-cost activities. We have selected the following eight categories which comprise the body of this chapter as an organizational framework.

I. Washington Governmental Activities
II. Washington Quasi-Governmental Activities
III. Academia
IV. Centers, Contractors, and Organizations
V. Contractors
VI. Law
VII. Public Interest Groups
VIII. Trade Associations

We accept responsibility for those individuals and centers that we intentionally or unintentionally did not include. We welcome the Steering Group's comments and further additions and deletions to our selected listing -- as this is a working document.

In addition to the several bibliographies assembled independently by Haight, Haxby, Ifland, and Norberg, we requested two formal computer-generated literature searches: 1) Toxline using different combinations of the following sets of terms: (Risk or Risks)(Assessment or Analysis or Evaluation)(cancer or carcinogen or carcinogenic)(cost and Benefit and Analysis)(impact) and (chronic) augmented by Chemical Industry Institute, and 2) Smithsonian Science Information Exchange. These bibliographies are on file and available as well as some of the selected references, at the American Industrial Health Council, 1612 K Street NW. Washington D.C.

I. Washington Governmental Activities*,°

U. S. Congress

Office of Technology Assessment

Assessment of Technologies for Determining Cancer Risks from The Environment.
Project Personnel: Michael Gough and Robert Fensterheim
Topics: Environmental cancer estimates, testing technologies, extrapolation techniques, "unreasonable risk".

Associated Conference: N.Y. Academy of Sciences Workshop on Management of Assessed Risk for Carcinogens. 17-18 March 1980.

Impacts of Applied Genetics.
Project Director: Zsolt Harsanyi
Topics: Identify, characterize, and analyze environmental social, and ethical issues accompanying the use of genetic technologies.

Environmental Contaminants in Food.
December, 1979. (GPO 052-003-00724-0) OTA-F-103.

House of Representatives:

H.R. 4939 ° Ritter 24 July 1979
"To provide for a Federal mechanism within the Office of Science and Technology policy for assessing the comparative risks involved in actions in scientific, technical, and related fields." (Referred to Committee on Science and Technology.)

H.R. 5091 ° Martin et al. 2 August 1979
"To amend the Federal Food, Drug, and Cosmetic Act to authorize the issuance of a regulation for a food additive on the basis of an evaluation of the risks and benefits of the additive. . ." (Referred to Committee on Interstate and Foreign Commerce.)

* Individuals and/or activities worthy of special attention for their current and potential future significant contributions.

° Individuals whose names appear within one or more categories indicating potential crossover influence.

H.R. 6521 Wampler and Grassley 13 February 1980
"To establish the National Science Council to decide questions of scientific fact which arise in agency adjudications involving restricting the use of certain substances which are primarily used in food production, processing, or marketing, and which may be harmful to human health. . ." (Referred jointly to Committees on Agriculture, Interstate and Foreign Commerce, and Science and Technology.)

Committee on Interstate and Foreign Commerce
Subcomittees on Oversight and Investigations and/or
Consumer Protection and Finance.
Hearings: Cost-Benefit Analysis by Regulatory Agencies.
Witnesses:

30 July 1979
- Lester Lave
- Robert Crandall
- Baruch Fischoff
- Nicholas Ashford

24 October 1979
- Mark Green
- James C. Miller, III
- Murray L. Weidenbaum
- Allen R. Ferguson

17 April 1980
- H. L. Krieger (GAO)
- Congressman Herbert E. Harris, III

Committee on Science and Technology

1. Risk/Benefit Analysis in the Legislative Process.
24 and 25 July 1979. (Committee Print 71 and Serial KK)
Joint Hearings before:
Subcommittee on Science, Research and Technology
of Committee on Science and Technology.

Subcommittee on Science, Technology, and Space of the
Senate Committee on Commerce, Science, and Transportation

AAAS Congress/Science Forum
Witnesses:
- Aaron Wildavsky
  Harold P. Green (George Washington University)
  Edwin Diamond (MIT)
  Eula Bingham (OSHA)
- Congressman James G. Martin
- Nicholas Ashford
  Samuel W. Greenhouse (George Washington University)
  Lewis H. Sarett (Merck and Co.)
  Marvin Schneiderman (NCI)

CMA 062862

Senator Paul Tsongas
° Hon. Howard T. Markey
John H. Gibbons (OTA)
° Congressman Don Ritter
° David Okent
° Daniel Callahan
° Paul Slovic
Congressman Richard L. Ottinger
Congressman John W. Wydler
° William Lowrance
Robert P. Morgan (Washington University)
John Stewart (Senate Subcommittee)

2. Committee Report 96-61 to accompany H.R. 2729--
Appropriations to the National Science Foundation (NSF).
Recommendation by Committee that NSF:

a) "Sponsor systematic research to improve the methods for evaluation of long-term comparative risks of alternative technological solutions, including inaction, to such national concerns as energy, materials, environmental quality, food or drugs."

b) "Promote education in risk assessment methods and stimulate public and professional application of comparative risk research." (See also NSF and NRC entries.)

3. Hearing scheduled for 14 and 15 May 1980 before
Subcommittee on Science, Research, and Technology.
Potential Witnesses: FDA, EPA, CPSC, and OSHA.
Topic: H.R. 4939 (. Ritter) Federal mechanism for use of risk assessments in choosing between alternative scientific or technological options. (See Appendix V)

Committee on Judiciary.
Hearings on Regulatory Reform, H.R. 3263.

SENATE:

S. 2234 Stevenson Recombinant DNA (Referred to Committee on Labor and Human Resources.)

Committee on Governmental Affairs.
1) Hearings on Regulatory Reform Legislation.
(S. 262, S. 755, S. 445, S. 93) Parts 1 and 2.
Held in March, April, May, and June of 1979.
Over 81 witnesses testified.

2) S. 2147.

3. ° Benefits of Environmental, Health, and Safety Regulation. Prepared for the Committee by the Center for Policy Alternatives (MIT). 25 March 1980. Nicholas A. Ashford, Co-principal Investigator.

4. Study on Federal Regulation. 6 vol. 1977. Committee on Commerce, Science, and Transportation; Subcommittee on Science, Technology, and Space.

See House Committee on Science and Technology joint hearings on Risk/Benefit Analysis in the Legislative Process.

Hearing scheduled for 20 May 1980 on "Industrial Applications of Recombinant DNA Techniques." (See Appendix V)

National Science Foundation (NSF)
(See previous entry under House Committee on Science and Technology)

Technology and Risk Assessment Group
Joshua Menkes and Vincent Covello
Activities: 1) Funding grants on risk assessment.
2) Requested National Research Council (NRC) to assess the current state of knowledge concerning major issues in risk assessment, and the use of information about risk in the decision-making process, and to develop an agenda for future research on the science and technology policy aspects of risk assessment.

Ethics and Values in Science and Technology Program
Arthur L. Norberg
Activities: Joint funding of grants with the Technology and Risk Assessment Group (NSF) and with the National Endowment for the Humanities (NEH) on ethical issues in regulation, risk assessment, and risk management.

Intergovernmental Regulatory Liaison Group (IRLG)
(CPSC, EPA, FDA, and FSQS of USDA)

1. Scientific Bases for Identification of Potential Carcinogens and Estimation of Risks. Report of IRLG, Work Group on Risk Assessment.

   Federal Register. 44(131):39858-39879. 6 July 1979.
   Journal of National Cancer Institute. 63(1):242-268. July, 1979.

2. Chemical Testing Guidelines -- Acute Eye Irritation, Acute Oral Toxicity, Acute Dermal Toxicity, Acute Inhalation, Teratogenicity. Consensus Testing Requirements. 9 April 1979.

Food and Drug Administration (FDA)

1. Symposium on Risk/Benefit Decisions and the Public Health. Proceedings of the Third FDA Science Symposium. Colorado Springs, CO. 15-17 February 1978. (Conducted in conjunction with EPA, CPSC, and OSHA.)

2. Sensitivity of Method (SOM) -- ongoing.

3. Delaney Clause and other food safety aspects of the FFDCA. Modification recommendations; document for submission to Congress in response to PL 95-203.

4. Formaldehyde/IRLG.

Environmental Protection Agency (EPA)

1. See also Regulatory Council and IRLG.

2. Risk assessment:
   Mutagenicity Assessment Group (MAG)
   Carcinogenicity Assessment Group (CAG)
   Teratogenicity Assessment Group (TAG)

3. Office of Toxic Substances.
   Lets many grants and contracts.

4. Specific examples include:
   FIFRA Hazard Evaluation Guidelines.
   Federal Register 44(187):55213-55218. 25 September 1979.
   Proposed Guidelines for Registering Pesticides in the United States; Hazard Evaluation: Humans and Domestic Animals.

Airborne Carcinogens
Federal Register 44(197):58642-58670. 10 October 1979.
National Emission Standards for Identifying, Assessing, and Regulating Airborne Substances Posing a Risk of Cancer.

Cancer Risk Assessment.
Federal Register 45. 29 February 1980.
Proposal to report production and exposure-related data on approximately 2300 chemicals -- for ranking chemicals for investigation and for preliminary risk assessment.

Consumer Product Safety Commission (CPSC)

1. See IRLG.

2. Selection of Chemical for Toxicological Testing:
Peter Preuss -- Health Sciences.

Occupational Safety Health Administration (OSHA)

Identification, Classification, and Regulation of Potential Occupational Carcinogens.. Final Rule. Federal Register 45(15):5001-5269. 22 January 1980.

National Toxicology Program (NTP)

1. NHS Agencies:
FDA/NCTR
NIH/NCI/NIEHS/NIOSH
CDC

2. David P. Rall, Director (NIEHS)

3. Activities: Toxicology Research and Testing Coordinative Management of Activities Annual Report of Carcinogens, mandated by PL 95-622, scheduled for release in mid-summer.

Risk Assessment Methodologies grants to academia.

Office of Recombinant DNA Activities (ORDA), NIAID, NIH.
William J. Gartland
Federal Register publishes changes in the NIH Guidelines for Research Involving Recombinant DNA Molecules.

Council on Environmental Quality (CEQ)

1. August, 1979. Toxic Substances Strategy Committee March/April, 1980 -- draft revision of above.

2. December, 1979. (released 21 April 1980.) The Benefits of Air and Water Pollution Control: A Review and Syntheses of Recent Estimates. A. Myrick Freeman, III, (Bowdoin College).

Regulatory Council

Statement on Regulation of Chemical Carcinogens; Policy Request for Public Comment. Federal Register 44(202):60038-60049.

17 October 1979.

Office of Science and Technology Policy (OSTP)

Calkins, D. R., R. L. Dixon, C. R. Gerber, G. S. Omenn, and D. Zarin. 1980 Framework for Federal Carcinogen Policy. JNCI 65(1). (Adapted from "Identification, Characterization, and Control of Potential Human Carcinogens: A Framework for Federal Decision-Making". 1 February 1979.

Office of Management and Budget (OMB)

Office of Regulatory and Information Policy (organized 1 February 1980). Jim J. Tozzi, Director.
Activities: End unnecessary regulation and develop regulatory cost-accounting system.

II. Washington Quasi-Governmental Activities

National Research Council (NRC)

1. Review of Risk Assessment in NRC Reports:
   25% of all NRC studies concerned with risk assessment;
   25% devoted to management of known hazards.

2. Perspectives on Benefit-Risk Decision Making.
   Report on a colloquium conducted by the Committee on Public Engineering Policy. 26-27 April 1971. Washington,D.C. National Academy of Engineering. 1972.

3. Food Safety Policy: Scientific and Societal Considerations.
   March, 1979. Institute of Medicine. Mandated by PL 95-203.

4. Committee for a Planning Study for an Ongoing Study of Costs of Environment-Related Health Effects. Institute of Medicine. (Study mandated by PL 95-623.)
7 May 1980. Public meeting to receive views on current and future needs for information in assessing environment-related hazards to human health and in assessing costs associated with those hazards.

5. Committee on Risk and Decision Making (CORADM).
See previous entry in NSF (p. 26.) Technology and Risk Assessment Group.

Project Title: Risk and Decision Making: Development of Systematic Research to Improve Risk Analysis and Decision Making.

Public Meeting (workshops) to be held summer of 1980.

Members:

Raiffa, Howard (Chair)	Harvard University
Mosteller, Frederick C.	Harvard University
° Wilson, Richard	Harvard University
Ruina, Jack	MIT
° Schuck, Peter	Yale University
Serene, Eileen	Yale University
Lindblom, Charles E.	Yale University
° Kates, Robert W.	Clark University
Tuersky, Amos	Stanford University
Yalow, Rosalyn	Bronx Veterans Hospital
Loury, Glenn C.	University of Michigan
Coleman, James	University of Chicago
Radner, Roy	Bell Telephone
Ruckelshaus, William D.	Weyerhauser
A. Karim Ahmed	National Research Defense Council
David Cohen	Common Cause

Staff: ° James W. Vaupel and John D. Graham.

III. Academia

Clark University	°*R. W. Kates and R. Kasperson
UCLA	*David Okent
Harvard University	°Richard E. Wilson
MIT (Center for Policy Alternatives)	°Nicholas Ashford
University of Maryland	°Martin J. Bailey
Georgetown University	Edward J. Burger
UC, Davis	M. Goldman
Bryn Mawr College	Jane C. Kronick
Carnegie Mellon	°Lester Lave
Stanford University	°William D. Lowrance
American University	William D. Rowe
UCLA	Rakesh Sarin
Yale University	Peter Schuck
Duke University	°James W. Vaupel
UC, Berkeley	°Aaron Wildavsky
Washington University	°Murray L. Weidenbaum
Harvard University	Richard Zeckhauser
New York University	Bernard Altschuler

°See listing of CORADM members within NRC, Section II.

University of Chicago
University of Indiana
University of North Carolina

IV. Centers, Contractors, and Organizations

Hastings Center	Daniel Callahan
Food Safety Council	J. B. Cordaro
Brookings Institution	°Robert Crandall
	°Lester Lave
The Conservation Foundation	Terry Davies
Decision Research (Perceptronics)	°Baruch Fischoff
	Sarah Lichtenstein
	°Paul Slovic
Franklin Institute	Gio B. Gori
Resources for the Future	Allen Kneese
American Enterprise Institute(AEI)	°James C. Miller
	°Martin J. Bailey
	°Murray L. Weidenbaum
Electric Power Research Institute	Chauncey Starr
	Chris Whipple
American Health Foundation	E. L. Wynder
General Motors Research Laboratory-Dept. of Societal Analysis	Walter A. Albers, Jr.
New York Academy of Sciences	

V. Contractors

Clement Associates, Inc.	
Decision Research	Warner North
Engineering Science, Inc.	C. R. Barden
Arthur D. Little, Inc.	R. E. Wechsler
Mitre Corporation	
Rand Corporation	John Van Ryzin
	K. Rai
Science Research Systems	Kenny S. Crump
SRI International	M. Merkhoffer
Tracor Jitco, Inc.	

VI. Law

Franklin Pierce Law Center	M. S. Baram
U.S. Court of Appeals	°Hon. David L. Bazelon
Harvard Law School	J. P. Leape
U. S. Court of Customs and Patent Appeals	°Hon. Howard T. Markey
(Washington law firm; formerly FDA)	Richard M. Cooper
Covington and Burling	Peter Barton Hutt

VII. Public Interest Groups

Congress Watch	°Mark Green
Corporate Accountability Research Group	Norman Waitzman
Environmental Defense Fund	Robert Rousch
Environmental Law Institute	R. C. Anderson
Public Interest Economics Center	Allen F. Ferguson

VIII. Trade Associations

American Industrial Health Council (AIHC)
°American Petroleum Institute (API)
°Business Roundtable
Chemical Manufacturers Association (CMA)

Two proposed business sponsored projects in the regulatory risk-benefit-cost area deserve special attention. The proposals -- developed independently by the American Petroleum Institute (API) and by the Business Roundtable--directly address many of the central interests and concerns of the Steering Group. Both projects may serve to complement and supplement the ongoing CORADM study undertaken for NSF at Congressional urging. (See pages 25, 26, 30.)

First, the American Petroleum Institute's Interdepartmental Committee on Safety and Health (ICOSH) Risk Assessment Task Force has approved funding for a one-year contract to conduct a retrospective study on the use of risk management by selected Federal regulatory agencies. (See Appendix V for a detailed summary of the API proposal. The schedule shown has been delayed by about six months, but is now underway. The objectives of the study are to:

- °isolate/identify basic principles of risk analysis and its use in decision making.
- °describe what is happening in selected Federal regulatory agencies, and
- °provide a mechanism for business, government, and academic experts to work together on these issues.

Second, the Business Roundtable Task Force on Risk, Cost, Benefit Analysis is considering publication of a book dealing with improving regulatory analysis and decision making for health and safety. Business, academia, and government will contribute articles to the document, which will serve as the basis for a Business Roundtable's position paper in this area.

The Task Force visualizes that the contributed articles will develop a set of standards for :

- °assessing scientifically the magnitude of possible health and safety hazards;
- °presenting these assessments in an informative and balanced way that places the risks in perspective;
- °appraising the economic and social benefits and costs of alternative regulations and of other approaches to reducing risks, and
- °synthesizing the available scientific, economic, and social evidence in a systematic "policy analysis" report.

Exhibit E

Report to the CMA
Executive Committee on September 8, 1980

by
William C. Krumrei
The Procter & Gamble Company

I do not plan to give a detailed report since most of my report is already covered under Tab 7. There are some areas, however, that I would like to cover briefly to ensure that I have your approval and also to discuss some of the things that are coming up.

First of all, you have an outline of the committee organization, which you will note from the chart on page A-4 involves five separate Task Groups. (An EPA Task Group, an OSHA Task Group, an Economic Impact Task Group, a Confidentiality Task Group, and an International Labeling Issue Task Group.) Their charters are also in the book beginning on page A-5.

On the committee, we also have representatives of the Distribution Committee, CRAC, and the OSH Committee of CMA and the Internal Affairs Group which is formed jointly between SOCMA and CMA.

The nominees for membership are listed on page A-3. Mr. Chairman, I would appreciate Executive Committee confirmation of those nominees.

My advisers on the staff tell me that we expect that we will be able to live within the presently projected expenditures in the current budget. However, you should know that the Economic Impact Task Group will require hiring an outside consultant to prepare their reports and therefore there is a possibility that we may have to request additional money depending on what our current negotiations with those organizations will yield.

One other general item which is not included in your book but which is at your place is a listing of the companies and associations represented on our Task Groups. In total, the number of people involved in these groups is about 80, representing 41 companies.

I will separate the EPA and OSHA rules since they are quite different and within EPA separate the Acute Hazard Labeling Rule and the Chronic Hazard Labeling Rule. Both EPA documents will be published late this month.

We have been successful with EPA in getting them to separate the Acute Hazard Labeling Rule from the chronic and a summary of the Acute Hazard Rule and its potential impacts is listed on page C-1. We believe that this is a fairly straightforward area in which CMA representatives have

been working for years, and, therefore, there seems to be no essential disagreement.

The area that I would like to spend some time on is the Chronic Hazard Labeling Rule of EPA, the summary begins on page B-1. We believe a decision is required by you to allow us to participate in negotiations and subsequent preparation of comments for both agencies.

Although this may seem to some of you to be a somewhat trivial subject to bring to your attention and on which to request approval, we nonetheless feel it is important because for the first time a large number of companies will have to face up to the fact that we will label materials within our plants and in commerce as potential cancer-causing materials.

Our committee has prepared a proposed CMA position, the full text of which begins on page B-3. The essentials of this are:

1. No signal word other than cancer.

2. Separation of human and animal carcinogens.

3. Fully compatible with AIHC proposals.

4. Inclusion of potency differences.

5. Continued separation of chronic and acute labeling rules.

With have discussed the above in generalities with EPA. The have requested that we provide a position in writing so that they can possibly modify theirs. Mr. Chairman, before I discuss the OSHA proposal, we would appreciate the approval of this proposal or an appropriate modification.

The next item I would like to bring to your attention is the OSHA Hazards Labeling Rule. There is a short summary on Page D-1 in your docket. Subsequent to the writing of that, we had a meeting with the representatives of OSHA who are actually drafting the document. Several things came out of that meeting which should be of interest to you. Dr. Arthur Olnick, Professor of Public Health, University of Michigan, who is an M. D. and a Lawyer, has taken primary responsibility for writing the proposal. He is on leave from the university until this month but then plans to spend one-half time with OSHA every week until as he puts it "we have gone all the way through the Supreme Court." He is assisted by Mr. Richard Banks, a Union lawyer, and they both admit that the deadline of the end of September for the publication of their proposal in the Federal Register is dictated by the needs of the present administration to get something out there before election.

In the meeting two weeks ago, we obtained some concessions but it is still a very detrimental and costly proposal. The improvements that have been made from the original draft are:

1. They will not require safety testing beyond that which is already in existence either in the literature or in company files.

2. Companies will make the decision based on a review of all of the available literature as to whether the material is hazardous and, therefore, requires a label.

3. The provisions do not apply to consumer products, foods, drugs, or cosmetics, but do apply to chemicals used in those products until such time as they have established a product identity. They also apply to pesticides.

4. They claim that good science rather than allegations will prevail and that both animal and human experience will be considered. They will not rely on test tube tests such as the Ames test to determine whether a material is a carcinogen.

5. They have eliminated the need to separately label mutagens, teratogens, and reproductive toxins, but are lumping those together into the general term, "reproductive effect materials."

6. They will not require the analysis of byproducts or chemicals for impurities, which will save us a considerable amount of money and manpower.

7. If the toxic material in a mixture is unknown, they will not require its analysis, but will simply require that the mixture be labeled by its generic name and hazard warning.

8. In spite of much argument, they would not give up the use of the C.A.S. number but indicated that they will consider dropping the chemical name and the substitution of the common name on the label.

9. They would not require Manufacture of MSD sheets but if they are already available, they must be made available to the employees.

10. The employees must not only have the label available but also a substance employee exposure list which would include the name and the C.A.S. number of the chemicals, and the employees which have <u>potentially</u> been exposed to this material. They would require updating of such lists when any change occurs and retention of those

lists on a quarterly basis for thirty years. In addition, the list of all literature reviewed and internal data on safety must be made available to the employees and kept for three years.

11. They do agree that all of this information would not be necessary at the work site but could be kept at a central location, as long as the information could be made available to the employee, his physician, the Union representative, the NIOSH Director, and the OSHA Assistant Secretary within a period of up to seven days.

12. We were unable to change their opinion on the necessity of making such information available to Union leaders even though we stressed the trade secret concerns in this area. They rejected out of hand the possibility of having national Union leaders sign confidential disclosure agreements which could then be used as the basis for a lawsuit against the national Union in the event of a breach of such a document.

13. We also were unable, to date, to stop the labeling of all vessels, pipes, pumps, valves, tanks, etc.

We have now gotten them to recognize CMA as the association representing the chemical industry. We were also able to get them to agree to provide us with a copy of their latest draft which is due today, and to also get their agreement to try to include our views in this latest draft prior to their sending it to the Government Printing Office later this month.

We will immediately begin our preparation of cost impact and our comments for submission at the hearings. We were informed that there would be a total of five or six hearings throughout the country and we were encouraged to submit testimony as an association and individually at as many of these as we felt desirable.

We think our strategy has to be to submit the strongest arguments and testimony that we can possibly muster, including economic impact, and that we prepare as strong a record as possible for litigation in the future. I am convinced that we will be able to make some modification by the time the final draft is published but I am also convinced that we as an industry will not be satisfied with the final regulations.

The last item I would like to discuss is the activity that is now going on in some of the states and local areas, such as California, New York, and Philadelphia. In both California and New New the laws have been passed.

We stand a reasonable chance of potentially winning the battle at the Federal level and losing the war by default at the state and local level. Our committee has addressed itself to this and I have talked with George Polzer, who unfortunately could not be here today, to try to see if CMA could reach a resolution of some method of handling these problems. George has informed me that his committee is still in the throes of decision-making and does not have anything to help us solve our current and ongoing problems.

I talked with Mr. Theodore Brenner, President of the Soap and Detergent Association, who has a network of roughly forty state lobbyists or representatives and he has agreed to act as our eyes and ears to alert us to upcoming legislation in the next year. We have provided him and his people with some background information on areas of interest. We are planning to also work with him in the future to try to reach some agreement as to how we can utilize his people to help us fight these particular laws. Unless we can devise some method, we are literally going to have a very diverse set of regulations with which we must comply.

I would like to ask you gentlemen for help on three things. First, we need the help of your companies and those of the rest of the companies within CMA and our affiliated associations to try to get the best possible feel for the total cost and impact of the proposed regulations and our alternatives.

Secondly, we would like the participation of your people if you are not already represented on Task Groups so that we can get as broad a viewpoint as possible on the many items we are going to be dealing with.

Lastly, we would appreciate your help and thoughts as to how we can handle the state activities.

CMA
EC-9/8/80

Exhibit F

SPECIAL COMMITTEE ON HAZARDS COMMUNICATIONS

WILLIAM C. KRUMREI

A. COMMITTEE ORGANIZATION, FORMATION OF TASK GROUPS
   ACTION REQUIRED: CONFIRM COMMITTEE NOMINEES

B. EPA CHRONIC HAZARDS LABELING RULE
   ACTION REQUIRED: APPROVE CARCINOGEN POLICY

C. EPA ACUTE HAZARDS LABELING RULE
   ACTION REQUIRED: NONE - INFORMATION ONLY

D. OSHA HAZARDS LABELING RULE
   ACTION REQUIRED: NONE - INFORMATION ONLY

Hazards Communications Special Committee
Organization and Formation of Task Groups

Problem: Both the Environmental Protection Agency (EPA) and the Occupational Safety and Health Administration (OSHA) have drafted proposed rules to regulate labeling of hazardous and toxic substances. Those rules, as initially drafted, could adversely impact the chemical industry if not mitigated. Such impacts include unnecessarily burdensome and inefficient regulations, direct costs of compliance and the potential for disclosure of trade secrets and proprietary information. Litigation of these rules may be necessary.

Background: On May 13, 1980, the Executive Committee approved the formation of and a charter for the Hazards Communications Special Committee. (See Attachment 1). On June 23, 1980, letters were mailed to each CMA Executive Contact requesting nominees for that committee. Fifteen nominees were selected, for Board confirmation, at a CMA meeting on July 23. (See Attachment 2). Mr. William C. Krumrei, Dr. Curtis Smith, Mr. Robert Roland and other CMA staff attended that meeting.

Following the tentative selection of committee nominees, the committee was structured to provide five task groups -- composed of industry experts who had been active on other CMA labeling groups -- to develop prospective CMA positions on the labeling issues. (See Attachment 3). For each task group, charters were developed, chairmen were appointed and tentative task group memberships were compiled. Those charters, approved by the Hazards Communications Special Committee at its first meeting, August 11, are included as Attachment 4.

Impact: Money Successful completion of the project will require expenditures for legal and technical consultants. Expenditures already projected in the fiscal year-81 proposed budget should be sufficient. While there is, at this time, no basis for predicting an overrun, the committee will be notified if additional expenses are to be incurred.

Action Required: Confirm members nominated to the Committee.

Attachments

CMA
EC - 9/8/80
B[redacted] - 9/9/80

Attachment 1

HAZARDS COMMUNICATIONS SPECIAL COMMITTEE

CHARTER

Within limits of authority specified by the Executive Committee, the Special Committee will oversee Association hazards communications activities. The scope of these activities includes EPA and OSHA proposals for product labeling, in-plant labeling, material safety data sheets and substance identification lists.

Within this scope, the Special Committee will identify key issues and focus on matters of greatest significance to the chemical industry; establish specific objectives and mobilize resources to produce timely results; advocate responsible regulation within existing statutes; and seek relief from unreasonable regulation by providing alternative language to the agencies, submitting comments to proposed rulemaking, and initiating legal action where appropriate.

The Special Committee will communicate major trends and developments to the Executive Committee, the Board of Directors, the Association President, member companies and other trade associations. The Special Committee will serve for a period of two years on an ad hoc basis. At the end of two years, the Committee's status will be reviewed by the Executive Committee.

CMA
EC - 5/13/80
EC - 9/8/80
BD - 9/9/80

Attachment 2

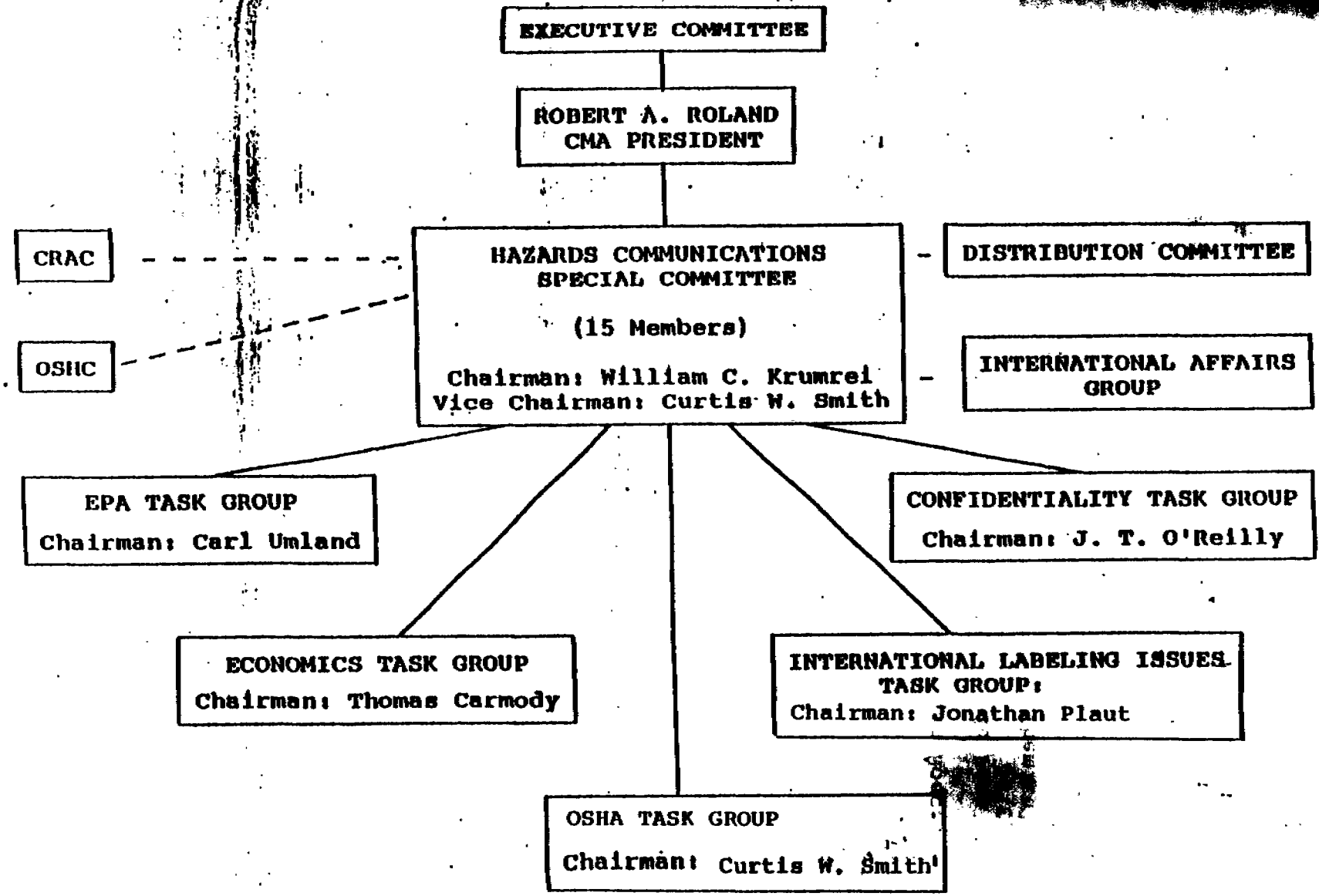
HAZARDS COMMUNICATIONS SPECIAL COMMITTEE

Nominees for Membership

Krumrei, William C. (Chairman)	The Procter & Gamble Co.
Smith, Curtis W. (Vice Chairman and Chairman - OSHA TG)	Shell Chemical Company
Arnold, Grant	Ethyl Corporation
Bittenbender William A.	Borden Chemical
Brubaker, Bruce H.	Diamond Shamrock Corporation
Carmody, Thomas W. (Chairman - Economics TG)	Union Carbide Corporation
Evans, Thomas F.	Monsanto Company
Hanes, James H.	The Dow Chemical Company
Marino, Maryann S.	Koppers Company Inc.
McMillan, Graham W.	International Minerals & Chemical Corporation
Plaut, Jonathan (Chairman - International Labeling Issues TG)	Allied Chemical Corporation
Spainhour, J. D.	Borg-Warner Chemicals
Sullivan, William F.	American Hoechst Corporation
Trexel, James J.	E. I. du Pont de Nemours & Co.
Umland, Carl W. (Chairman - EPA TG)	Exxon Chemical Company

CMA
EC - 9/8/80
BC - 9/9/80

Attachment 3



Straight line means direct reporting and management.

Dotted lin means: (1) Communication; (2) Overlapping representation;

(3) Opportunity to involve Greenbrier procedures.

CMA 062881

CMA EC - 9/8/80 an - a/a/an

Attachment 4

CONFIDENTIALITY TASK GROUP

Charter: Consider confidentiality issues raised by proposals of U.S. agencies and foreign governments and groups that may impact the U.S. chemical industry and recommend to the Hazards Communications Special Committee CMA positions on confidentiality issues.

Chairman: James T. O'Reilly

Membership: 5-10 members appointed for 12 months

Established: July 23, 1980

Sunset Date: July 23, 1982

CMA
EC - 9/8/80
BD - 9/9/80

ECONOMICS TASK GROUP

Charter: To review national proposals for labeling and determine the industry's probable costs of compliance; consider and evaluate alternative proposals, compare CMA and agency estimates of costs; and report to the Hazards Communications Special Committee its findings and recommendations.

Chairman: Thomas W. Carmody

Membership: 5 - 15 members appointed for 12 months

Established: July 23, 1980

Sunset Date: July 23, 1982

CMA
EC - 9/8/80
BD - 9/9/80

INTERNATIONAL LABELING ISSUES TASK GROUP

Charter: Monitor through liaison with the CMA/SOCMA International Affairs Group international initiatives on labeling of hazardous and toxic substances, compare those proposals to existing and proposed U.S. agency labeling rules and standards and recommend to the Hazards Communications Special Committee actions and positions necessary to protect United States chemical industry interests.

Chairman: Jonathan Plaut

Membership: 5 - 15 members appointed for 12 months

stablished: July 23, 1980

Sunset Date: July 23, 1982

CMA
EC - 9/8/80
BD - 9/9/80

EPA TASK GROUP

Charter: Review EPA and other proposals for labeling of hazardous substances, acute and chronic hazards, identify key issues and develop CMA recommended positions and actions for commenting on EPA proposed rules. Meet with government representatives in concert with Hazards Communications Special Committee to negotiate final EPA hazardous substance labeling and records and reports rules acceptable to the chemical industry.

Chairman: Carl W. Umland

Membership: 5 - 25 appointed for 12 months

Established: July 23, 1980

Sunset Date: July 23, 1982

CMA
EC - 9/8/80
BD - 9/9/80

OSHA TASK GROUP

Charter: Review OSHA and other proposals for labeling of hazardous substances, acute and chronic hazards, identify key issues and develop CMA recommended positions and actions for commenting on OSHA proposed standards. Meet with government representatives in concert with Hazards Communications Special Committee to negotiate final OSHA hazardous substances labeling standards, material safety data sheets and records and reports requirements acceptable to the chemical industry.

Chairman: Curtis W. Smith

Membership: 5 - 25 appointed for 12 months

Established: July 23, 1980

Sunset Date: July 23, 1982

CMA
EC - 9/8/80
BD - 9/9/80

ENVIRONMENTAL PROTECTION AGENCY
CHRONIC HAZARDS LABELING RULE, JULY 29, 1980

SUMMARY

BACKGROUND

EPA has announced its intent to issue a regulation designating specific chemical substances as carcinogens and requiring that they be labeled as such. This concept was initially included in the February 1980 draft of a proposed regulation governing hazard warning labeling. As a first step, CMA urged EPA to separate the proposed regulations for acute hazard labeling from that for chronic hazards, because such different issues are involved. EPA has accepted this position and has separated the two proposals (although EPA states that it intends to publish both at the same time.)

The February draft would require any chemical designated as a carcinogen, or any mixture containing that chemical at a level of 1 percent or more, to be labeled "Cancer Hazard." CMA representatives met with EPA to discuss this draft proposal and suggested that (1) the determination of carcinogenicity should be made by a group of independent scientists on the basis of sound scientific data; (2) a distinction should be made between substances known to be human carcinogens and those shown to be carcinogenic in laboratory animals; and (3) some way must be found to distinguish among carcinogens on the basis of their potency.

In July, a revised draft was issued by EPA, which it states will be the version published as a proposal in the Federal Register. None of the CMA comments were accommodated. In the July draft, any designated carcinogen, or any mixture containing 0.1 percent or more of a designated carcinogen, must be labeled as "DANGER! Cancer Hazard" and "Any exposure may be harmful." No distinction is made between human and animal carcinogens and potency is not reflected in any way in labeling.

The CMA task group has worked hard in developing a consensus position on this matter. Unlike acute hazard warning labeling, for which there is a long history of chemical industry involvement, cancer warnings are a relatively new idea and the chemical industry has little experience on which to rely. Because of the importance of this matter, CMA representatives cannot take a firm position on carcinogen labeling with EPA until the Executive Committee approves such a position. It is therefore essential that the position recommended by the CMA be acted upon at the Executive Committee meeting on September 8.

This will allow CMA representatives to advocate CMA's position with EPA in order to obtain some modification of the present draft. Unless a definitive CMA position is reached on September 8, CMA representatives will be in a very poor position to attempt to modify the July EPA draft proposal before it appears in the Federal Register.

The essence of the proposed CMA position is as follows:

(1) No signal word other than "cancer";

(2) Separation of human and animal carcinogens;

(3) Fully compatible with AIHC;

(4) Inclusion of potency differences; and

(5) Separation of chronic and acute labeling rules.

There should be little disagreement on #2,3,4 and 5; there is work group consensus on all of the items.

While this proposed position is specific to carcinogens, it is expected to be of value as a model for other chronic hazards as well (e.g., mutagenicity, teratogenicity, etc.).

ACTION REQUIRED

Approve CMA carcinogen policy (attached).

Attachment

CMA
EC - 9/8/80
BD - 9/9/80

Draft
8/18/80

CMA POSITION ON LABELING CHEMICAL CARCINOGENS

1. TSCA provides that the determination by EPA that a chemical is a carcinogen which must be labeled as such pursuant to Section 6(a)(2) is subject to a hearing pursuant to Section 6(c) and to judicial review pursuant to Section 19.

2. A cancer warning in labeling for a chemical or a mixture containing that chemical should be required only under the following two conditions.

a. First, there is sound scientific evidence that a chemical is a human carcinogen or an animal carcinogen.

i. It is insufficient that a chemical is listed on some governmental or other list of carcinogens. In each instance, existing scientific evidence must be reviewed in detail to determine whether a substance is a human carcinogen or an animal carcinogen.

ii. CMA supports the AIHC position that the determination of carcinogenicity requires the use of informed expert scientific judgment. Accordingly, this determination should be made by eminent experts on a Science Panel that is independent from industry, EPA, or any other regulatory agency whose action is affected by this determination.

iii. Because a determination of carcinogenicity requires the exercise of informed expert scientific judgment, it would be inappropriate for EPA or other agencies to establish a list of rigid rules or criteria for making this determination. A determination of carcinogenicity should be based upon all available data and information, including animal tests, metabolism studies, pharmacokinetics, epidemiology and other human experience, and other pertinent information. In general, such a determination should be based upon positive results in scientifically valid tests with appropriate doses and relevant routes of administration. Examples of suitable criteria for such determinations have been formulated by AIHC.

b. Second, under customary or reasonably foreseeable conditions of handling or use, taking into account its physical and chemical properties, the chemical may result in a form of exposure that could present a potential hazard.

3. Chemicals determined to be carcinogenic should be divided into three separate and distinct categories: human carcinogens, probable human carcinogens, and animal carcinogens. This distinction should be reflected in labeling as follows:

a. Those substances determined to be human carcinogens should be labeled: "Cancer Hazard."

b. Those substances determined to be probable human carcinogens based upon animal tests (see paragraph 4)

should be labeled: "Cancer Hazard Based on Tests with Laboratory Animals."

c. Those substances determined to be animal carcinogens should be labeled: "Possible Cancer Hazard Based on Tests with Laboratory Animals."

d. Any cancer hazard statement should not be required to include any of the traditional signal words used for acute hazard warnings, and should be placed on the label in a prominent place separate from acute hazard warnings. The term "cancer" is itself an adequate signal word.

4. In a few instances, there may be such overwhelming evidence that a chemical is an animal carcinogen that it is highly probable it also presents a serious risk of human cancer. This occurs, for example, where cancer is found in virtually all test animals of all species and sex tested even at relatively low dose levels. Where animal test data are so conclusive and overwhelming that a chemical should be regarded as a probable human carcinogen, its labeling should reflect that increased level of risk.

5. The actual risk posed to humans by any human carcinogen or animal carcinogen varies widely, depending upon the potency of the carcinogen. The range of potency among carcinogens is greater than one million fold. This dramatic difference in risk should be reflected in the minimum levels below which

a chemical product containing a human carcinogen (including a probable human carcinogen) or animal carcinogen would not be required to bear a cancer hazard warning.

a. Carcinogens should be divided into human and animal carcinogens. This reflects the degree of certainty about the existence of a human risk.

b. Both human and animal carcinogens should be further divided into high, moderate, and low potency. This reflects the relative degree of hazard represented by a given amount of a carcinogen.

c. The following matrix should be used to determine the cut-off points below which the presence of a human or animal carcinogen in a chemical product would not require a cancer hazard warning:

	Human Carcinogen (Including Probable Human Carcinogen)	Animal Carcinogen
Low Potency	2.0%	5.0%
Medium Potency	1.0%	2.0%
High Potency	0.1%	1.0%

d. For any of these categories, EPA or manufacturers or distributors should be permitted to present evidence at a public hearing on the proposed regulation, or by subsequent petition, to show that a higher or lower cut-off level is appropriate for a particular chemical substance.

6. Labeling should be required at the above levels only if the manufacturer knows or has good reason to believe that the substance is present in the product, either because it is intentionally added or on the basis of other valid scientific information. If the manufacturer knows or has good reason to believe that the substance is present in the product at the above levels, it should be required either to analyze the product to determine whether the substance is present above or below the cut-off level or to label as though it were present without the necessity of analyzing for the substance. If the manufacturer does not have good reason to believe that the substance is present at those levels, it should not be required to conduct such analyses.

7. Under all circumstances, the manufacturer or distributor of a chemical substance that is a human carcinogen or an animal carcinogen may voluntarily provide additional information about the substance and its potential risk not required by the EPA regulation. Such information must be accurate and not misleading.

8. In addition to the cancer warnings set out above, the label should also bear appropriate information respecting preventive and precautionary measures. Such information should be affirmative rather than negative in nature, and should inform the worker what to do about the hazard rather than just scaring

him about the hazard. For example, the label should state "Avoid Exposure" rather than "Any Exposure May Be Harmful."

ENVIRONMENTAL PROTECTION AGENCY
ACUTE HAZARDS LABELING RULE, JULY 29, 1980

SUMMARY

BACKGROUND

EPA has announced its intent to issue a regulation under Section 6 of TSCA to require acute hazard warning labeling for chemical substances and mixtures. The regulation will be closely patterned after similar regulations issued by the Department of Transportation pursuant to the Hazardous Materials Transportation Act and the Consumer Product Safety Commission pursuant to the Federal Hazardous Substances Act, as well as the voluntary standard for labeling chemical hazards adopted by the American National Standards Institute with the cooperation of the chemical industry.

An initial draft of the proposed regulation was made public by EPA in February. The February draft contained four types of problems: (1) extremely burdensome recordkeeping requirements; (2) a number of technically deficient definitions and other provisions; (3) a failure to include either broad categories of exclusions or a mechanism for specific exclusions of the type used by DOT, CPSC, and ANSI; and (4) insufficient flexibility in implementation.

CMA committees worked extensively on the February draft and met with EPA representatives in an attempt to improve the proposed regulation. EPA recognized the validity of a large number of CMA objections.

On July 31, EPA made public a revised draft of the proposed regulation. This draft accommodates many, but certainly not all, of the CMA objections. All of the recordkeeping provisions were eliminated. Some of the technical deficiencies were corrected; some remain. There is greater flexibility in implementation, but it is still insufficient. Of major importance, there is still no broad or specific exclusions for those chemicals that fall within the various definitions for hazardous products but that nonetheless do not present a significant risk under actual conditions of exposure and use. (e.g., lubricating oils are flammable but there is no need to label them as such).

CMA has prepared and submitted comments on the July draft to EPA in two written documents. One document details the specific wording changes that CMA recommends to correct the deficiencies that remain. The second document explains each of those recommended changes. CMA representatives have met with Mr. Jellinek and his staff to discuss these matters.

It is anticipated that a proposed regulation will be published in the Federal Register early this fall. The precise timing remains quite uncertain. Publication of the proposal will result in an administrative hearing on the matter. The extent to which CMA will be required to appear and present evidence at that hearing will depend entirely upon the degree to which the CMA objections are accommodated in the final proposal.

ACTION REQUIRED

None. For Information only.

CMA
EC - 9/8/80
BD - 9/9/80

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
HAZARDS LABELING RULE, JULY 28, 1980

SUMMARY

BACKGROUND

OSHA's current proposal for chemical identification of defined hazardous chemical substances and mixtures goes far beyond EPA and current industry practice. CMA has discussed with OSHA the extreme nature of their proposals and has presented more cost-effective alternatives with little apparent impact to date.

While these efforts to communicate with OSHA will continue, the Hazards Communications Special Committee (HCSC) is proceeding to develop: 1) formal objections to OSHA's proposed regulation projected for early fall, and 2) an alternative proposal. These will be supported by legal arguments and economic impact assessments. We are preparing for the probability that it may be necessary to challenge OSHA regulations in the courts. Because of the apparent multibillion dollar cost of the expected proposal, efforts will be made to develop political support wherever that appears feasible.

Written comments to OSHA have been submitted by CMA:

- On March 28, 1977, in response to a January 28, 1977, advance notice of proposed rulemaking.
- On May 19, 1978, in response to an April 4, 1978, discussion with Grover Wrenn.
- On May 11, 1980, in response to discussion with Drs. Flo Ryer and Bailus Walker concerning an unpublished December 1979 draft.

OSHA has recently hired two outside consultants -- Dr. Arthur Oleinick, an M.D. and attorney, and Mr. Richard Banks, an attorney with an outside firm that represents labor unions -- to draft their proposed regulation. These two have not released an official draft rule.

An unofficial draft dated July 28, but not released by OSHA, provides the basis for most of the following comments. It should be remembered that this is a draft and is subject to change. In a meeting scheduled for August 27, Dr. Oleinick has promised to review OSHA's latest thinking and has invited technical reaction. Legal or written reactions were rejected until after publication of the proposed regulation in early fall.

This proposal involves chemical identification of defined hazardous chemical substances in the workplace and commerce by a system: labeling of containers, providing listings that cross-reference regulated substances and mixtures with employees exposed to them, making available Material Safety Data Sheets (MSDSs) pertaining to such substances and mixtures, and providing access to relevant records.

The proposal goes beyond ANSI and EPA by including as hazardous substances mutagens, teratogens, reproductive toxins, materials that cause mental disturbances or behavioral alterations, or other adverse health effects. Again the proposal goes beyond EPA by including as regulated substances: pesticides, food additives or drugs, hazardous byproducts, impurities, or intermediates and untested mixtures which contain as little as 1% of a hazardous substance or carcinogen.

Beyond the usual definition, "containers" include stationary storage tanks, pipes, pumps, reaction vessels and stacks. Each container of a hazardous substance or mixture must be labeled with the chemical and common names and CAS numbers of hazardous substances present in as little as 1%. All substances are to be listed in order of relative concentration.

For labeling of pipe contents, permanent codes must be applied on the pipe body close to valves, flanges, branches, pipe reactors, where pipes pass through walls or floors or enter or leave the ground. Placards must be placed at reasonable convenient locations giving the most current legend for the codes. Legends must cross-reference each code to show the chemical name, common name, CAS number and hazard warning. Where available, a piping system schematic with appropriate codes must be appended to the placards and lists.

One copy of a Material Safety Data Sheet (MSDS) must accompany each first shipment and a full set of MSDSs must be placed in every work area.

All backup information on hazard assessment must be available for examination and copying.

The only concession to trade secrets is that process information and exact percentage composition are protected.

COMMITTEE ACTION:

None. Information only.

CMA
EC - 9/8/80
BD - 9/9/80

CMA POSITION ON LABELING CHEMICAL CARCINOGENS

1. TSCA provides that the determination by EPA that a chemical is a carcinogen which must be labeled as such pursuant to Section 6(a)(2) is subject to a hearing pursuant to Section 19.

2. A cancer warning in labeling for a chemical or a mixture containing that chemical should be required only under the following two conditions.

a. First, there is sound scientific evidence that a chemical is a human carcinogen or an animal carcinogen.

i. It is insufficient that a chemical is listed on some governmental or other list of carcinogens. In each instance, existing scientific evidence must be reviewed in detail to determine whether a substance is a human carcinogen or an animal carcinogen.

ii. CMA supports the AIHC position that the determination of carcinogenicity requires the use of informed expert scientific judgment. Accordingly, this determination should be made by eminent experts on a Science Panel that is independent from industry, EPA, or any other regulatory agency whose action is affected by this determination.

iii. Because a determination of carcinogenicity requires the exercise of informed expert scientific judgment, it would be inappropriate for EPA or other agencies to establish a list of rigid rules or criteria for making this determination. A determination of carcinogenicity should be based upon all available data and information, including animal tests, metabolism studies, pharmacokinetics, epidemiology and other human experience, and other pertinent information. In general, such a determination should be based upon positive results in scientifically valid tests with appropriate doses and relevant routes of administration. Examples of suitable criteria for such determinations have been formulated by AIHC.

b. Second, under customary or reasonably foreseeable conditions of handling or use, taking into account its physical and chemical properties, the chemical may result in a form of exposure that could present a potential hazard.

3. Chemicals determined to be carcinogenic should be divided into three separate and distinct categories: human carcinogens, probable human carcinogens, and animal carcinogens. This distinction should be reflected in labeling as follows:

a. Those substances determined to be human carcinogens should be labeled: "Cancer Hazard."

b. Those substances determined to be probable human carcinogens based upon animal tests (see paragraph 4) should be labeled: "Cancer Hazard Based on Tests with

Laboratory Animals."

c. Those substances determined to be animal carcinogens should be labeled: "Possible Cancer Hazard Based on Tests with Laboratory Animals."

d. Any cancer hazard statement should not be required to include any of the traditional signal words used for acute hazard warnings, and should be placed on the label in a prominent place separate from acute hazard warnings. The term "cancer" is itself an adequate signal word.

4. In a few instances, there may be such overwhelming evidence that a chemical is an animal carcinogen that it is highly probable it also presents a serious risk of human cancer. This occurs, for example, where cancer is found in virtually all test animals of all species and sexes tested even at relatively low dose levels. Where animal test data are so conclusive and overwhelming that a chemical should be regarded as a probable human carcinogen, its labeling should reflect that increased level of risk.

5. The actual risk posed to humans by any human carcinogen or animal carcinogen varies widely, depending upon the potency of the carcinogen. The range of potency among carcinogens is greater than one million fold. This dramatic difference in risk should be reflected in the minimum levels below which a chemical product containing a human carcinogen (including a probable human carcinogen) or animal carcinogen would not be required to bear a cancer hazard warning.

a. Carcinogens should be divided into human and animal carcinogens. This reflects the degree of certainty about the existence of a human risk.

b. Both human and animal carcinogens should be further divided into high, moderate, and low potency. This reflects the relative degree of hazard represented by a given amount of a carcinogen.

c. The following matrix*should be used to determine the cut-off points below which the presence of a human or animal carcinogen in a chemical product would not require a cancer hazard warning:

	Human Carcinogen (Including Probable Human Carcinogen)	Animal Carcinogen
Low Potency	2.0%	5.0%
Medium Potency	1.0%	2.0%
High Potency	0.1%	1.0%

d. For any of these categories, EPA or manufacturers or distributors should be permitted to present evidence at a public hearing on the proposed regulation, or by subsequent petition, to show that a higher or lower cut-off level is appropriate for a particular chemical substance.

6. Labeling should be required at the above levels only if the manufacturer knows or has good reason to believe that the substance is present in the product, either because it is

*NOTE: This matrix is not based on scientific data. It is for illustrative purposes only.

intentionally added or on the basis of other valid scientific information. If the manufacturer knows or has good reason to believe that the substance is present in the product at the above levels, it should be required either to analyze the product to determine whether the substance is present above or below the cut-off level or to label as though it were present without the necessity of analyzing for the substance. If the manufacturer does not have good reason to believe that the substance is present at those levels, it should not be required to conduct such analyses.

7. Under all circumstances, the manufacturer or distributor of a chemical substance that is a human carcinogen or an animal carcinogen may voluntarily provide additional information about the substance and its potential risk not required by the EPA regulation. Such information must be accurate and not misleading.

8. In addition to the cancer warnings set out above, the label should also bear appropriate information respecting preventive and precautionary measures. Such information should be affirmative rather than negative in nature, and should inform the worker what to do about the hazard rather than just scaring him about the hazard. For example, the label should state "Cancer Hazard. Avoid Exposure. Overexposure May Create Cancer Risk."

CMA
EC-9/8/80

Exhibit H

SUPERFUND:

STATUS, OUTLOOK AND CMA PROGRAM

SEPTEMBER 8, 1980

The summer months have been marked by continued intense controversy and strategic maneuvering in the Congressional debate over proposed Superfund legislation. It has become abundantly clear that the Administration places a high priority on enactment of a broad bill, and is sparing no effort to speed enactment. Chiefly because of delays in Congressional action on budget and appropriations matters, it is now a virtual certainty that the Congress will return following the November elections. The "lame-duck" legislative session is expected to run well into December. This extends the time available for possible approval of Superfund and significantly widens the parlimentary and strategic options of proponents.

Despite intensive industry efforts it appears possible that the House will be in position to approve its two pending Superfund bills during the month of September. The Senate timetable is complicated by the likelihood of further committee referral and hearings, and floor action on some form of Superfund, though possible, is not expected before the October pre-election recess.

Intense media attention to problems associated with the mishandling of chemicals has continued unabated. There are clear indications that EPA is attempting to orchestrate the timing and content of news coverage so as to put pressure on Members of Congress at times when crucial decisions are about to be made. The Ralph Nader organization and other environmental activist groups have also attempted to employ scare tactics.

It is clear that the best efforts of the chemical industry and the widest possible coalition of business groups must focus on Superfund for the remainder of 1980 if we are to avoid imposition of truly onerous, damaging and precedent-setting new law, and if we are to secure enactment of a more limited approach which is responsive to genuine need.

A more detailed discussion of legislative status, prospects, and the CMA program follows.

HOUSE OF REPRESENTATIVES

On August 27, the two Superfund bills pending in the House are scheduled to come before the Rules Committee, the body which determines procedures for House floor debate and amendment. Rules action had been delayed by the need to resolve jurisdictional squabbles among the various committees which have acted on the bills.

The bill H.R.85 has been considered in turn by the Committees on Merchant Marine and Fisheries, Public Works and Transportation, and Ways and Means. It encompasses both ocean oil spills and spills of hazardous substances, and has been opposed by CMA since the addition of chemical spills coverage by the Public Works Committee. We believe it creates a new, unnecessary, and overlapping regime, and we oppose its inclusion of a broad range of third party damages.

H.R.7020 was considered in turn by the Committees on Interstate and Foreign Commerce, and Ways and Means. The Commerce Committee version, drafted by Subcommittee Chairman James Florio (D-NJ) and a bipartisan group of supporters, represents a substantial improvement over earlier versions. While not wholly perfect, the Florio bill is a product of compromise and represents a step toward constructive new law. Its enactment could be supported by a broad segment of the business community.

Further maneuvering by Superfund advocates and the Administration threatens in two additional ways: first, it is likely that efforts will be mounted on the House floor to amend on or both bills to make them even more stringent; and second, House passage of H.R.85 increases the chances for an eventual "ultra-fund" conference between House and Senate. House approval of H.R.7020 alone could influence a narrowing in the scope of an eventual conference since that bill is limited to abandoned and inactive disposal sites.

With these factors in mind, industry efforts have been directed toward delaying or avoiding action on H.R.85 and avoiding damaging floor amendments on either bill. However desirable, these objectives may not be achievable in view of the influence and strategic advantages of Superfund proponents, and the forceful lobbying efforts of the Administration.

CMA's program of communications in the House has encompassed specifically assigned contacts with relevant House Members. constacts with the Leadership, direct discussion with important elements of the Administration, interaction with other segments of business community, and a full range of appropriate technical and legal support services.

U.S. SENATE

A later version of the unacceptable Culver-Muskie bill, S.1480, has cleared the Committee on Environment and Public Works, and is now the center of jurisdictional maneuvering by other committees and strategic pressures applied by proponent Senators. CMA remains deeply troubled by and opposed to onerous and precedent-setting concepts which appear in the Committee bill, namely:

- The scope of the legislation far exceeds the problem of abandoned disposal sites and includes a "release into the environment" concept

- An onerous liability scheme could force companies to to pay more than their fair share

- The Federal liability provisions are a radical departure from current State tort law and make previously acceptable disposal practices unlawful retroactively

- Economic implications and insurance implications of the proposed liability changes are unmeasured and certain to be massive

- The primary petrochemicals and feedstocks to be taxed bear little, if any, relationship to the problem; feedstocks funding will have drastic commercial and economic results falling unevenly and unfairly on a broad range of businesses

- The size of the fund is likely to have a negative effect on the domestic chemical industry and the nation's economy, and need not be nearly so large in order to address the true problem of orphan disposal sites.

The Senate Finance Committee appears likely to secure sequential referral of S.1480 in order to explore revenue-raising implications falling within its jurisdiction. Hearings to be conducted by Senator Patrick Moynihan (D-NY) are due to begin September 11. Committee markup is tentatively set for September 16, 17 & 18. CMA has asked to testify.

Our testimony will address the above-listed issues in the context of Finance Committee jurisdiction. In addition, we will advocate a specific regime for industry funding by means of a waste end tax system. (See attachment one for specifics)

Our funding approach envisions a tax, per ton, levied on those listed wastes in Section 3001 of RCRA. All currently exempted wastes under the RCRA regulations would be statutorily exempted. The development of a waste end degree of hazard tax

system would be mandated within two years. We believe the unfolding RCRA regulations will provide an excellent basis for a very workable degree of hazard tax system. A waste-end fee concept was included in the "CMA bill" endorsed by the Board and Executive Committee at their June meeting, and intended for use in the Senate. The present proposal is a refined implementation of that concept.

In the Committee on Commerce, Science and Transporation there is a high level of concern among key members and staff over the jurisdictional implications of S.1480. Though initially rebuffed in its request for sequential referral, influential Commerce Committee Members remain concerned over the potential reach of S.1480 into areas affecting interstate commerce, common-carrier transportation, insurance, hazardous materials shipment, and ocean oil spills. The resolution of these concerns can have an effect on both the timetables and substance of the final Senate bill.

After omitting Superfund from a July listing of priority measures, the Senate Leadership has come under increasing pressure to expedite action. Senators Bradley, Heinz, and Levin initiated an effort which resulted in a joint request to the Leadership for prompt action co-signed by twenty-five Members. (See attachment two)

Our Senate objective is to stop S.1480 and to produce a climate where enactment of a "H.R.7020-type" bill is possible.

An extremely active program of visits with Senate Leaders, Administration decision-makers, and other industry groups has been conducted in the context of our Senate objectives. We have prepared and are distributing specific amendments to S.1480 and are exploring opportunities for substitute language, delay or parlimentary advantage.

In all likelihood our efforts must be continued into the closing days of the 96th Congress. The Association, through its involved committees and staff, are conducting a full-scale program of technical advocacy, legal preparation and response, and public relations. These are designed to support and augment the direct legislative communications/strategy effort being mounted by the CMA Government Relations Committee, our Washington Representatives, and other like-minded organizations and individuals. A major factor in the success of this effort will be the direct and personal involvment of the top level executives of our industry.

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EC-9/8/80
BD-9/9/80

Attachment 1
August 11, 1980

CMA WASTE END FEE CONCEPT

I. General Discussion of a Waste End Response Fund

There are several basic considerations which must be addressed in the process of developing a workable tax on hazardous wastes.

The first consideration should be the definition of a "hazardous waste." The problem of old dumpsites is caused by "hazardous wastes" which were buried years ago. Although not everyone agrees on the definition of "hazardous waste," the RCRA Regulations promulgated in May 1980 have listed numerous substances, waste streams and characteristics which are now defined as "hazardous." These Regulations provide the basis for a waste end fee system.

In addition, there are several large volume, low toxicity waste streams which should be treated separately from the RCRA regulated wastes and not subject to a Superfund tax. Examples of such wastes are: the aqueous portions of large volume, low toxicity waste streams, mining and milling wastes, fly ash, bottom ash, drilling fluids, and certain agricultural wastes among others. The risks that these wastes pose to human health and the environment are usually minimal.

A tax imposed on hazardous waste would encourage reuse and recycling, sound waste management, including reduced waste generation and waste destruction. Moreover, the Superfund tax should focus on wastes that are truly hazardous. It should accomodate generators in an equitable manner, such as by

statutory exclusion where appropriate or by a lower tax based on relative degree of hazard. For those industies which generate large volume waste streams with some hazardous waste constituents, listed by the RCRA Regulations, an apportioned tax could be calculated.

The second important consideration involves the selection of factors needed to develop a waste end tax. Depending on the alternative selected, the tax should rely only on those factors which can be readily accounted for and consistently measured. Suggested tax mechanisms have been based on: the volume of all listed wastes generated; the volume of all listed wastes received at disposal facilities; and, the dry weight volume of both these alternatives. The factors chosen must also address a related problem -- administration. A mechanism for tracking any of these suggested alternatives must be already in place or capable of quick implementation.

Based on evaluations of these alternatives and considering administrative complexity, the recommended system would be to place a tax on RCRA regulated hazardous waste generation, with certain statutory exemptions. The tax would be assessed on the generated hazardous wastes which are disposed of at a hazardous waste disposal facility as defined in EPA's RCRA Regulations. Such disposal facilities would include landfills, land treatment, ocean disposal, surface impoundments used as disposal sites, and deep injection wells, but would not include waste treatment facilities, recycling facilities or incinerators.

The data base for such a tax system has already been established in the final RCRA Regulations, Section 3002 and 3004 Record and Reporting requirements. The Department of the Treasury would develop a tax reporting form, utilizing this existing data base, from which a Superfund hazardous waste tax payment would be made.

The exemptions to the waste tax would be specific, and would have the dual effect of initially exempting high volume/ low hazard wastes, and taxing only hazardous wastes which are "disposed" in the context of the final RCRA Regulations. Specific statutory language would direct the development and incorporation of the degree of hazard concept into the fee on hazardous waste disposal within a two year period.

Another consideration is the immediate generation of funds for emergency actions on failing dumpsites. One method would be to provide for a loan program through the Treasury Department if fund monies are inadequate at any point in the four year program. Such loans could not exceed one year's revenue in any given year and the Secretary of the Treasury would prescribe the rules and regulations for such borrowing.

II. Operation of a Waste End Response Fund

The Department of the Treasury would be authorized to establish a Response Fund. The Fund would be administered by the President and the Secretary of the Treasury. Components of the Fund would be taxes collected on waste disposal, moneys recovered on behalf of the Fund, Congressionally appropriated

money and interest received from the investment of Fund money.

The total amount which may be collected in taxes shall not exceed $50 M for fiscal year 1981, $75 M for fiscal year 1982, $75 M for fiscal year 1983 and $100 M for 1984. The authorized appropriations for the following fiscal years would be: 1981 - $50 M, 1982 - $75 M, 1983 - $75 M, 1984 - $100 M. In order to distribute the costs as broadly as possible among those who generate hazardous wastes while minimizing the burden of collection and encouraging treatment, reuse and recycling of hazardous wastes, a tax would be collected on all hazardous wastes received at, and which will remain at, hazardous waste disposal facilities. Each generator of hazardous wastes listed in Appendix I will pay a tax for each dry weight ton of hazardous wastes generated, delivered to, and remaining at, a hazardous waste disposal facility. Such hazardous waste disposal facilities shall include landfills, land treatment, ocean disposal, surface impoundments used as disposal facilities, underground injection, and any other facility where hazardous wastes will remain after facility closure. Taxes will not be assessed on any hazardous waste which after generation is either treated (rendered non-hazardous) at any permitted (including interim permitted) hazardous waste treatment facility (as defined in 40 CFR Part 260.10) or is reused or recycled. The list of hazardous wastes in Appendix I should be reviewed annually by Congress based on changes made to the list of hazardous wastes regulated by EPA under Section 3001 of RCRA. The following materials will

not be considered hazardous wastes for the purpose of the tax:

(A) Domestic sewage;

(B) Any mixture of domestic sewage and other wastes that pass through a sewer system to a publicly owned treatment works;

(C) Industrial discharges regulated under Section 402;

(D) Source, special nuclear or by-product material as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et. seq.;

(E) Materials subjected to in situ mining techniques which are not removed from the ground as part of the extraction process;

(F) Household waste, "household waste" means any waste material (including garbage, trash and sanitary wastes in septic tanks) derived from households (including single and multiple residences, hotels and motels);

(G) Wastes generated by any of the following and which are returned to the soil as fertilizers -

(1) The growing and harvesting of agricultural crops,

(2) The raising of animals, including animal manure;

(H) Mining overburden returned to the mine site and waste generated by beneficiation of ore;

(I) Fly ash waste, bottom ash waste, slag waste, and flue gas emission control waste generated primarily from the combustion of coal or other fossil fuels;

(J) Drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of crude oil, natural gas or geothermal energy; and

(K) Any other waste excluded by regulation or act of Congress.

For the first year, the tax imposed on all hazardous wastes listed in Appendix I received at, and which will remain at, hazardous waste disposal facilities after such hazardous waste facility is closed in accordance with Subtitle C of the Solid Waste Disposal Act, will be $3 per dry weight ton. In succeeding years, the Secretary of the Treasury in consultation with the EPA Administrator may modify the tax based on the projected total dry weight tons of such hazardous waste to be disposed in that calendar year. The tax will not, however, exceed $4 per dry weight ton of hazardous waste disposed. The tax will be paid semiannually or at a frequency to be determined by the Secretary of the Treasury, based on a form provided by the Department of the Treasury, utilizing the information collected and submitted to EPA pursuant to Sections 3002 and 3004 of the Solid Waste Disposal Act. The information contained in the form should include:

- o The amount, in dry weight tons, of each hazardous waste listed in Appendix I disposed of at a hazardous waste disposal facility (as identified by the Environmental Protection Agency Handling Code at 40 CFR Part 265, Appendix I, Table 2 - Part 3, "Disposal") (45 F.R. 33253).

The Secretary of the Treasury or his delegate will collect the taxes under provisions of Subtitle F of the Internal Revenue Code of 1954. The Secretary of the Treasury may invest excess Fund monies in interest-bearing ventures of the United States. If at any time Fund monies are inadequate to meet the obligations of this statute, the Secretary of the Treasury may loan the Fund an amount equal to one year's revenue, subject to terms and conditions prescribed by the Secretary of the Treasury.

Within two years after the fee is first initiated, the Administrator of the Environmental Protection Agency, after consultation with the Secretary of the Treasury, will submit a report on the tax system to Congress. Opportunity will be provided for public review and comment. The report should include:

- o A summary of past expenditures from the Fund; and
- o A brief description of all projects and their current status, specifically listing completed operations and cases.

After two years, the Department of the Treasury, with the assistance of EPA, will publish a tiered tax system reflecting the relative degree of hazard, including, for example, such factors as migration potential, persistence, bioaccumulation potential, toxicity and the potential for adverse environmental effects. EPA's background documents used to list wastes under Section 3001 contain the rudiments of a simple degree of hazard system and reference these relative hazards. This information could be used with the additional information provided by the generator's annual report to devise a workable, tiered tax system.

Appendix I

Hazardous Wastes Subject to Superfund Tax

(1) Ignitable wastes as defined in 40 CFR 261.21.

(2) Corrosive wastes as defined in 40 CFR 261.22.

(3) Reactive wastes as defined in 40 CFR 261.23.

(4) EP Toxic wastes as defined in 40 CFR 261.24.

(5) Specific hazardous wastes as listed in the attached.

§ 261.31 Hazardous waste from nonspecific sources.

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
General:		
F001	The spent halogenated solvents used in degreasing: tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and the chlorinated fluorocarbons; and sludges from the recovery of these solvents in degreasing operations.	(T)
F002	The spent halogenated solvents: tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, o-dichlorobenzene, trichlorofluoromethane and the still bottoms from the recovery of these solvents.	(T)
F003	The spent non-halogenated solvents: xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, n-butyl alcohol, cyclohexanone, and the still bottoms from the recovery of these solvents.	(I)
F004	The spent non-halogenated solvents: cresols and cresylic acid, nitrobenzene, and the still bottoms from the recovery of these solvents.	(T)
F005	The spent non-halogenated solvents: methanol, toluene, methyl ethyl ketone, methyl isobutyl ketone, carbon disulfide, isobutanol, pyridine and the still bottoms from the recovery of these solvents.	(I, T)
F006	Wastewater treatment sludges from electroplating operations	(T)
F007	Spent plating bath solutions from electroplating operations	(R, T)
F008	Plating bath sludges from the bottom of plating baths from electroplating operations	(R, T)
F009	Spent stripping and cleaning bath solutions from electroplating operations	(R, T)
F010	Quenching bath sludge from oil baths from metal heat treating operations	(R, T)
F011	Spent solutions from salt bath pot cleaning from metal heat treating operations	(R, T)
F012	Quenching wastewater treatment sludges from metal heat treating operations	(T)
F013	Flotation tailings from selective flotation from mineral metals recovery operations	(T)
F014	Cyanidation wastewater treatment tailing pond sediment from mineral metals recovery operations	(T)
F015	Spent cyanide bath solutions from mineral metals recovery operations	(R, T)
F016	Dewatered air pollution control scrubber sludges from coke ovens and blast furnaces	(T)

§ 261.32 Hazardous waste from specific sources.

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
Wood Preservation: K001	Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol	(T)
Inorganic Pigments:		
K002	Wastewater treatment sludge from the production of chrome yellow and orange pigments	(T)
K003	Wastewater treatment sludge from the production of molybdate orange pigments	(T)
K004	Wastewater treatment sludge from the production of zinc yellow pigments	(T)
K005	Wastewater treatment sludge from the production of chrome green pigments	(T)
K006	Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated)	(T)
K007	Wastewater treatment sludge from the production of iron blue pigments	(T)
K008	Oven residue from the production of chrome oxide green pigments	(T)
Organic Chemicals:		
K009	Distillation bottoms from the production of acetaldehyde from ethylene	(T)
K010	Distillation side cuts from the production of acetaldehyde from ethylene	(T)
K011	Bottom stream from the wastewater stripper in the production of acrylonitrile	(R, T)
K012	Still bottoms from the final purification of acrylonitrile in the production of acrylonitrile	(T)
K013	Bottom stream from the acetonitrile column in the production of acrylonitrile	(R, T)
K014	Bottoms from the acetonitrile purification column in the production of acrylonitrile	(T)
K015	Still bottoms from the distillation of benzyl chloride	(T)
K016	Heavy ends or distillation residues from the production of carbon tetrachloride	(T)
K017	Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin	(T)
K018	Heavy ends from fractionation in ethyl chloride production	(T)
K019	Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production	(T)
K020	Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production	(T)
K021	Aqueous spent antimony catalyst waste from fluoromethanes production	(T)
K022	Distillation bottom tars from the production of phenol/acetone from cumene	(T)
K023	Distillation light ends from the production of phthalic anhydride from naphthalene	(T)
K024	Distillation bottoms from the production of phthalic anhydride from naphthalene	(T)
K025	Distillation bottoms from the production of nitrobenzene by the nitration of benzene	(T)
K026	Stripping still tars from the production of methyl ethyl pyridines	(T)
K027	Centrifuge residue from toluene diisocyanate production	(R, T)
K028	Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane	(T)
K029	Waste from the product stream stripper in the production of 1,1,1-trichloroethane	(T)
K030	Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene	(T)
Pesticides:		
K031	By-products salts generated in the production of MSMA and cacodylic acid	(T)
K032	Wastewater treatment sludge from the production of chlordane	(T)
K033	Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane	(T)
K034	Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane	(T)
K035	Wastewater treatment sludges generated in the production of creosote	(T)
K036	Still bottoms from toluene reclamation distillation in the production of disulfoton	(T)
K037	Wastewater treatment sludges from the production of disulfoton	(T)
K038	Wastewater from the washing and stripping of phorate production	(T)
K039	Filter cake from the filtration of diethylphosphorodithoric acid in the production of phorate	(T)
K040	Wastewater treatment sludge from the production of phorate	(T)
K041	Wastewater treatment sludge from the production of toxaphene	(T)
K042	Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T	(T)
K043	2,6-Dichlorophenol waste from the production of 2,4-D	(T)
Explosives:		
K044	Wastewater treatment sludges from the manufacturing and processing of explosives	(R)
K045	Spent carbon from the treatment of wastewater containing explosives	(R)
K046	Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds	(T)
K047	Pink/red water from TNT operations	(R)
Petroleum Refining:		
K048	Dissolved air flotation (DAF) float from the petroleum refining industry	(T)
K049	Slop oil emulsion solids from the petroleum refining industry	(T)
K050	Heat exchanger bundle cleaning sludge from the petroleum refining industry	(T)
K051	API separator sludge from the petroleum refining industry	(T)
K052	Tank bottoms (leaded) from the petroleum refining industry	(T)
Leather Tanning Finishing:		
K053	Chrome (blue) trimmings generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.	(T)

CMA 062916

§ 261.32 Hazardous waste from specific sources.—Continued

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
K054	Chrome (blue) shavings generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.	(T)
K055	Buffing dust generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; and through-the-blue.	(T)
K056	Sewer screenings generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.	(T)
K057	Wastewater treatment sludges generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue and shearling.	(T)
K058	Wastewater treatment sludges generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; and through-the-blue.	(R, T)
K059	Wastewater treatment sludges generated by the following subcategory of the leather tanning and finishing industry: hair save/non-chrome tan/retan/wet finish.	(R)
Iron and Steel:		
K060	Ammonia still lime sludge from coking operations	(T)
K061	Emission control dust/sludge from the electric furnace production of steel	(T)
K062	Spent pickle liquor from steel finishing operations	(C, T)
K063	Sludge from lime treatment of spent pickle liquor from steel finishing operations	(T)
Primary Copper: K064	Acid plant blowdown slurry/sludge resulting from the thickening of blowdown slurry from primary copper production	(T)
Primary Lead: K065	Surface impoundment solids contained in and dredged from surface impoundments at primary lead smelting facilities	(T)
Primary Zinc:		
K066	Sludge from treatment of process wastewater and/or acid plant blowdown from primary zinc production	(T)
K067	Electrolytic anode slimes/sludges from primary zinc production	(T)
K068	Cadmium plant leach residue (iron oxide) from primary zinc production	(T)
Secondary Lead: K069	Emission control dust/sludge from secondary lead smelting	(T)

§ 261.33 Discarded Commercial Chemical Products, Off-Specification Species, Containers, and Spill Residues Thereof.

The following materials or items are hazardous wastes if and when they are discarded or intended to be discarded:

(a) Any commercial chemical product, or manufacturing chemical intermediate having the generic name listed in paragraphs (e) or (f) of this section.

(b) Any off-specification commercial chemical product or manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in paragraphs (e) or (f) of this section.

(c) Any container or inner liner removed from a container that has been used to hold any commercial chemical product or manufacturing chemical intermediate having the generic name listed in paragraph (e) of this section, unless:

(1) The container or inner liner has been triple rinsed using a solvent capable of removing the commercial chemical product or manufacturing chemical intermediate;

(2) The container or inner liner has been cleaned by another method that has been shown in the scientific literature, or by tests conducted by the generator, to achieve equivalent removal; or

(3) In the case of a container, the inner liner that prevented contact of the commercial chemical product or manufacturing chemical intermediate with the container, has been removed.

(d) Any residue or contaminated soil, water or other debris resulting from the cleanup of a spill, into or on any land or water, of any commercial chemical product or manufacturing chemical intermediate having the generic name listed in paragraphs (e) or (f) of this Section.

[Comment: The phrase "commercial chemical product or manufacturing chemical intermediate having the generic name listed in . . ." refers to a chemical substance which is manufactured or formulated for commercial or manufacturing use. It does not refer to a material, such as a manufacturing process waste, that contains any of the substances listed in paragraphs (e) or (f). Where a manufacturing process waste is deemed to be a hazardous waste because it contains a substance listed in paragraphs (e) or (f), such waste will be listed in either §§ 261.31 or 261.32 or will be identified as a hazardous waste by the characteristics set forth in Subpart C of this Part.]

(e) The commercial chemical products or manufacturing chemical intermediates, referred to in paragraphs (a) through (d) of this section, are identified as acute hazardous wastes (H) and are subject to the small quantity exclusion defined in § 261.5(c). These wastes and their corresponding EPA Hazardous Waste Numbers are:

Hazardous waste No.	Substance [1]
	1080 see P058
	1081 see P057
	(Acetatophenylmercury see P092
	Acetone cyanohydrin see P069
P001	3-(alpha-Acetonylbenzyl)-4-hydroxycoumarin and salts
P002	1-Acetyl-2-thiourea
P003	Acrolein
	Agarin see P007
	Agrosan GN 5 see P092
	Aldicarb see P070
	Aldrin see P049

—Continued

Hazardous waste No.	Substance [1]
P004	Aldrin
	Algimycin see P092
P005	Allyl alcohol
P006	Aluminum phosphide (R)
	ALVIT see P007
	Aminoethylene see P054
P007	5-(Aminomethyl)-3-isoxazolol
P008	4-Aminopyridine
	Ammonium metavanadate see P119
P009	Ammonium picrate (R)
	ANTIMUCIN WDR see P092
	ANTURAT see P073
	AQUATHOL see P088
	ARETIT see P020
P010	Arsenic acid
P011	Arsenic pentoxide
P012	Arsenic trioxide
	Athrombin see P001
	AVITROL see P008
	Azidane see P054
	AZOFOS see P061
	Azophos see P061
	BANTU see P072
P013	Barium cyanide
	BASENITE see P020
	BCME see P016
P014	Benzenethiol
	Benzepain see P050
P015	Beryllium dust
P016	Bis(chloromethyl) ether
	BLADAN-M see P071
P017	Bromoacetone
P018	Brucine
P019	2-Butanone peroxide
	BUFEN see P092
	Butaphene see P020
P020	2-sec-Butyl-4,6-dinitrophenol
P021	Calcium cyanide
	CALDON see P020
P022	Carbon disulfide
	CERESAN see P092
	CERESAN UNIVERSAL see P092
	CHEMOX GENERAL see P020
	CHEMOX P.E. see P020
	CHEM-TOL see P020
P023	Chloroacetaldehyde
P024	p-Chloroaniline
P025	1-(p-Chlorobenzoyl)-5-methoxy-2-methylindole-3-acetic acid
P026	1-(o-Chlorophenyl)thiourea
P027	3-Chloropropionitrile
P028	alpha-Chlorotoluene
P029	Copper cyanide
	CRETOX see P108
	Coumadin see P001
	Coumafen see P001
P030	Cyanides

Hazardous waste No.	Substance [1]
P031	Cyanogen
P032	Cyanogen bromide
P033	Cyanogen chloride
	Cyclodan see P050
P034	2-Cyclohexyl-4,6-dinitrophenol
	D-CON see P001
	DETHMOR see P001
	DETHNEL see P001
	DFP see P043
P035	2,4-Dichlorophenoxyacetic acid (2,4-D)
P036	Dichlorophenylarsine
	Dicyanogen see P031
P037	Dieldrin
	DIELDREX see P037
P038	Diethylarsine
P039	0,0-Diethyl-S-(2-(ethylthio)ethyl)ester of phosphorothioic acid
P040	0,0-Diethyl-0-(2-pyrazinyl)phosphorothioate
P041	0,0-Diethyl phosphoric acid, 0-p-nitrophenyl ester
P042	3,4-Dihydroxy-alpha-(methylamino)-methyl benzyl alcohol
P043	Di-isopropylfluorophosphate
	DIMETATE see P044
	1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro endo, endo see P060
P044	Dimethoate
P045	3,3-Dimethyl-1-(methylthio)-2-butanone-O-((methylamino)carbonyl) oxime
P046	alpha,alpha-Dimethylphenethylamine
	Dinitrocyclohexylphenol see P034
P047	4,6-Dinitro-o-cresol and salts
P048	2,4-Dinitrophenol
	DINOSEB see P020
	DINOSEBE see P020
	Disulfoton see P039
P049	2,4-Dithiobiuret
	DNBP see P020
	DOLCO MOUSE CEREAL see P108
	DOW GENERAL see P020
	DOW GENERAL WEED KILLER see P020
	DOW SELECTIVE WEED KILLER see P020
	DOWICIDE G see P060
	DYANACIDE see P092
	EASTERN STATES DUOCIDE see P001
	ELGETOL see P020
P050	Endosulfan
P051	Endrin
	Epinephrine see P042
P052	Ethylcyanide
P053	Ethylenediamine
P054	Ethyleneimine
	FASCO FASCRAT POWDER see P001
	FEMMA see P091
P055	Ferric cyanide
P056	Fluorine
P057	2-Fluoroacetamide
P058	Fluoroacetic acid, sodium salt
	FOLCODOL-80 see P071
	FOLCODOL M see P071
	FOSFERNO M 50 see P071
	FRATOL see P058
	Fulminate of mercury see P065
	FUNGITOX OR see P092
	FUSSOF see P057
	GALLOTOX see P092
	GEARPHOS see P071
	GERUTOX see P020
P059	Heptachlor
P060	1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4:5,8-endo, endo-dimethanonaphthalene
	1,4,5,8,7,7-Hexachloro-cyclo-5-norbornene-2,3-dimethanol sulfite see P060
P061	Hexachloropropene
P062	Hexaethyl tetraphosphate
	HOSTAQUICK see P062
	HOSTAQUIK see P062
	Hydrazomethane see P068
P063	Hydrocyanic acid
	ILLOXOL see P037
	INDOCI ate P025
	Indomethazin see P025
	INSECTOPHENE see P060
	Isodrin see P060
P064	Isocyanic acid, methyl ester
	KILOSEB see P020
	KOP-THIODAN see P059
	KWIK-KIL see P108
	KWIKSAN see P062
	KUMADER see P001
	KYPFARIN see P001
	LEYTOSAN see P092
	LIQUIPHENE see P092

Hazardous waste No.	Substance [1]
	MALIK see P050
	MAREVAN see P001
	MAR-FRIN see P001
	MARTIN'D MAR-FRIN see P001
	MAVERAN see P001
	MEGATOX see P005
P065	Mercury fulminate
	MERSOLITE see P092
	METACID 50 see P071
	METAFOS see P071
	METAPHOR see P071
	METAPHOS see P071
	METASOL 30 see P092
P066	Methomyl
P067	2-Methylaziridine
	METHYL-E 605 see P071
P068	Methyl hydrazine
	Methyl isocyanate see P064
P069	2-Methyllactonitrile
P070	2-Methyl-2-(methylthio)propionaldehyde-o-(methylcarbonyl) oxime
	METHYL NIRON see P042
P071	Methyl parathion
	METRON see P071
	MOLE DEATH see P108
	MOUSE-NOTS see P108
	MOUSE-RID see P108
	MOUSE-TOX see P108
	MUSCIMOL see P007
P072	1-Naphthyl-2-thiourea
P073	Nickel carbonyl
P074	Nickel cyanide
P075	Nicotine and salts
P076	Nitric oxide
P077	p-Nitroaniline
P078	Nitrogen dioxide
P079	Nitrogen peroxide
P080	Nitrogen tetroxide
P081	Nitroglycerine (R)
P082	N-Nitrosodimethylamine
P083	N-Nitrosodiphenylamine
P084	N-Nitrosomethylvinylamine
	NYLMERATE see P092
	OCTALOX see P037
P085	Octamethylpyrophosphoramide
	OCTAN see P092
P086	Oleyl alcohol condensed with 2 moles ethylene oxide
	OMPA see P085
	OMPACIDE see P085
	OMPAX see P085
P087	Osmium tetroxide
P088	7-Oxabicyclo(2.2.1)heptane-2,3-dicarboxylic acid
	PANIVARFIN see P001
	PANORAM D-31 see P037
	PANTHERINE see P007
	PANWARFIN see P001
P089	Parathion
	PCP see P090
	PENNCAP-M see P071
	PENOXYL CARBON N see P048
P090	Pentachlorophenol
	Pentachlorophenate see P090
	PENTA-KILL see P090
	PENTASOL see P090
	PENWAR see P090
	PERMICIDE see P090
	PERMAGUARD see P090
	PERMATOX see P090
	PERMITE see P090
	PERTOX see P090
	PESTOX III see P085
	PHENIMAD see P092
	PHENOTAN see P020
P091	Phenyl dichloroarsine
	Phenyl mercaptan see P014
P092	Phenylmercury acetate
P093	N-Phenylthiourea
	PHILIPS 1861 see P008
	PHIX see P092
P094	Phorate
P095	Phosgene
P096	Phosphine
P097	Phosphorothioic acid, 0,0-dimethyl ester, 0-ester with N,N-dimethyl benzene sulfonamide
	Phosphorothioic acid 0,0-dimethyl-0-(p-nitrophenyl) ester see P071
	PIED PIPER MOUSE SEED see P108
P098	Potassium cyanide
P099	Potassium silver cyanide
	PREMERGE see P020
P100	1,2-Propanediol
	Propargyl alcohol see P102
P101	Propionitrile

Hazardous waste No.	Substance [1]
P102	2-Propyn-1-ol
	PROTHROMADIN See P001
	QUICKSAM see P092
	QUINTOX see P037
	RAT AND MICE BAIT see P001
	RAT-A-WAY see P001
	RAT-B-GON see P001
	RAT-O-CIDE #2 see P001
	RAT-GUARD see P001
	RAT-KILL see P001
	RAT MIX see P001
	RATS-NO-MORE see P001
	RAT-OLA see P001
	RATOREX see P001
	RATTUNAL see P001
	RAT-TROL see P001
	RO-DETH see P001
	RO-DEX see P108
	ROSEX see P001
	ROUGH & READY MOUSE MIX see P001
	SANASEED see P108
	SANTOBRITE see P090
	SANTOPHEN see P090
	SANTOPHEN 20 see P090
	SCHRADAN see P085
P103	Selenourea
P104	Silver Cyanide
	SMITE see P105
	SPARIC see P020
	SPOR-KIL see P092
	SPRAY-TROL BRAND RODEN-TROL see P001
	SPURGE see P020
P105	Sodium azide
	Sodium coumadin see P001
P106	Sodium cyanide
	Sodium fluoroacetate see P058
	SODIUM WARFARIN see P001
	SOLFARIN see P001
	SOLFOBLACK BS see P048
	SOLFOBLACK SB see P048
P107	Strontium sulfide
P108	Strychnine and salts
	SUBTEX see P020
	SYSTAM see P085
	TAG FUNGICIDE see P092
	TEKWAISA see P071
	TEMIC see P070
	TEMIK see P070
	TERM-I-TROL see P090
P109	Tetraethyldithiopyrophosphate
P110	Tetraethyl lead
P111	Tetraethylpyrophosphate
P112	Tetranitromethane
	Tetraphosphoric acid, hexaethyl ester see P062
	TETROSULFUR BLACK PB see P048
	TETROSULPHUR PBR see P048
P113	Thallic oxide
	Thallium peroxide see P113
P114	Thallium selenite
P115	Thallium (I) sulfate
	THIFOR see P062
	THIMUL see P062
	THIODAN see P059
	THIOFOR see P059
	THIOMUL see P059
	THIONEX see P059
	THIOPHENIT see P071
P116	Thiosemicarbazide
	Thiosultan tionel see P059
P117	Thuram
	THOMPSON'S WOOD FIX see P059
	TIOVEL see P059
P118	Trichloromethanethiol
	TWIN LIGHT RAT AWAY see P001
	USAF RH-6 see P059
	USAF EK-4890 see P092
P119	Vanadic acid, ammonium salt
P120	Vanadium pentoxide
	VOFATOX see P071
	WANADU see P120
	WARCOUMIN see P001
	WARFARIN SODIUM see P001
	WARFICIDE see P001
	WOFOTOX see P072
	YANOCK see P067
	YASOKNOCK see P058
	ZIARNIK see P092
P121	Zinc cyanide
P122	Zinc phosphide (R,T)
	ZOOCOUMARIN see P001

[1] The Agency included those trade names of which it was aware; an omission of a trade name does not imply that the omitted material is not hazardous. The material is hazardous if it is listed under its generic name.

(f) The commercial chemical products or manufacturing chemical intermediates, referred to in paragraphs (a), (b) and (d) of this section, are identified as toxic wastes (T) unless otherwise designated and are subject to the small quantity exclusion defined in § 261.5 (a) and (b). These wastes and their corresponding EPA Hazardous Waste Numbers are:

Hazardous Waste No.	Substance[1]
	AAF see U005
U001	Acetaldehyde
U002	Acetone (I)
U003	Acetonitrile (I,T)
U004	Acetophenone
U005	2-Acetylaminofluorene
U006	Acetyl chloride (C,T)
U007	Acrylamide
	Acetylene tetrachloride see U209
	Acetylene trichloride see U228
U008	Acrylic acid (I)
U009	Acrylonitrile
	AEROTHENE TT see U226
	3-Amino-5-(p-acetamidophenyl)-1H-1,2,4-triazole, hydrate see U011
U010	6-Amino-1,1a,,2,8,8a,8b-hexahydro-8-(hydroxymethyl)-8-methoxy-5-methylcarbamate azirino(2',3':3,4) pyrrolo(1,2-a) indole-4, 7-dione (ester)
U011	Amitrole
U012	Aniline (I)
U013	Asbestos
U014	Auramine
U015	Azaserine
U016	Benz[c]acridine
U017	Benzal chloride
U018	Benz[a]anthracene
U019	Benzene
U020	Benzenesulfonyl chloride (C,R)
U021	Benzidine
	1,2-Benzisothiazolin-3-one, 1,1-dioxide see U202
	Benzo[a]anthracene see U018
U022	Benzo[a]pyrene
U023	Benzotrichloride (C,R,T)
U024	Bis(2-chloroethoxy)methane
U025	Bis(2-chloroethyl) ether
U026	N,N-Bis(2-chloroethyl)-2-naphthylamine
U027	Bis(2-chloroisopropyl) ether
U028	Bis(2-ethylhexyl) phthalate
U029	Bromomethane
U030	4-Bromophenyl phenyl ether
U031	n-Butyl alcohol (I)
U032	Calcium chromate
	Carbolic acid see U188
	Carbon tetrachloride see U211
U033	Carbonyl fluoride
U034	Chloral
U035	Chlorambucil
U036	Chlordane
U037	Chlorobenzene
U038	Chlorobenzilate
U039	p-Chloro-m-cresol
U040	Chlorodibromomethane
U041	1-Chloro-2,3-epoxypropane
	CHLORDETHENE NU see U226
U042	Chloroethyl vinyl ether
U043	Chloroethene
U044	Chloroform (I,T)
U045	Chloromethane (I,T)
U046	Chloromethyl methyl ether
U047	2-Chloronaphthalene
U048	2-Chlorophenol
U049	4-Chloro-o-toluidine hydrochloride
U050	Chrysene
	C.I. 23060 see U073
U051	Cresote
U052	Cresols
U053	Crotonaldehyde
U054	Cresylic acid
U055	Cumene
	Cyanomethane see U003
U056	Cyclohexane (I)
U057	Cyclohexanone (I)
U058	Cyclophosphamide
U059	Daunomycin
U060	DDD
U061	DDT
U062	Diallate
U063	Dibenz[a,h]anthracene
	Dibenzo[a,h]anthracene see U063
U064	Dibenzo[a,i]pyrene
U065	Dibromochloromethane
U066	1,2-Dibromo-3-chloropropane
U067	1,2-Dibromoethane
U068	Dibromomethane
U069	Di-n-butyl phthalate
U070	1,2-Dichlorobenzene
U071	1,3-Dichlorobenzene
U072	1,4-Dichlorobenzene
U073	3,3'-Dichlorobenzidine
U074	1,4-Dichloro-2-butene
	3,3'-Dichloro-4,4'-diaminobiphenyl see U073
U075	Dichlorodifluoromethane
U076	1,1-Dichloroethane
U077	1,2-Dichloroethane
U078	1,1-Dichloroethylene
U079	1,2-trans-dichloroethylene
U080	Dichloromethane
	Dichloromethylbenzene see U017
U081	2,4-Dichlorophenol
U082	2,6-Dichlorophenol
U083	1,2-Dichloropropane
U084	1,3-Dichloropropene
U085	Diepoxybutane (I,T)
U086	1,2-Diethylhydrazine
U087	O,O-Diethyl-S-methyl ester of phosphorodithioic acid
U088	Diethyl phthalate
U089	Diethylstilbestrol
U090	Dihydrosafrole
U091	3,3'-Dimethoxybenzidine
U092	Dimethylamine (I)
U093	p-Dimethylaminoazobenzene
U094	7,12-Dimethylbenz[a]anthracene
U095	3,3'-Dimethylbenzidine
U096	alpha,alpha-Dimethylbenzylhydroperoxide (R)
U097	Dimethylcarbamoyl chloride
U098	1,1-Dimethylhydrazine
U099	1,2-Dimethylhydrazine
U100	Dimethylnitrosoamine
U101	2,4-Dimethylphenol
U102	Dimethyl phthalate
U103	Dimethyl sulfate
U104	2,4-Dinitrophenol
U105	2,4-Dinitrotoluene
U106	2,6-Dinitrotoluene
U107	Di-n-octyl phthalate
U108	1,4-Dioxane
U109	1,2-Diphenylhydrazine
U110	Dipropylamine (I)
U111	Di-n-propylnitrosamine
	EBDC see U114
	1,4-Epoxybutane see U213
U112	Ethyl acetate (I)
U113	Ethyl acrylate (I)
U114	Ethylenebisdithiocarbamate
U115	Ethylene oxide (I,T)
U116	Ethylene thiourea
U117	Ethyl ether (I,T)
U118	Ethylmethacrylate
U119	Ethyl methanesulfonate
	Ethylnitrile see U003
	Firemaster T23P see U235
U120	Fluoranthene
U121	Fluorotrichloromethane
U122	Formaldehyde
U123	Formic acid (C,T)
U124	Furan (I)
U125	Furfural (I)
U126	Glycidylaldehyde
U127	Hexachlorobenzene
U128	Hexachlorobutadiene
U129	Hexachlorocyclohexane
U130	Hexachlorocyclopentadiene
U131	Hexachloroethane
U132	Hexachlorophene
U133	Hydrazine (R,T)
U134	Hydrofluoric acid (C,T)
U135	Hydrogen sulfide
	Hydroxybenzene see U188
U136	Hydroxydimethyl arsine oxide
	4,4'-(Imidocarbonyl)bis(N,N-dimethyl)aniline see U014
U137	Indeno(1,2,3-cd)pyrene
U138	Iodomethane
U139	Iron Dextran
U140	Isobutyl alcohol
U141	Isosafrole
U142	Kepone
U143	Lasiocarpine
U144	Lead acetate
U145	Lead phosphate
U146	Lead subacetate
U147	Maleic anhydride
U148	Maleic hydrazide
U149	Malononitrile
	MEK Peroxide see U160
U150	Melphalan
U151	Mercury
U152	Methacrylonitrile
U153	Methanethiol
U154	Methanol
U155	Methapyrilene
	Methyl alcohol see U154
U156	Methyl chlorocarbonate
	Methyl chloroform see U226
U157	3-Methylcholanthrene
	Methyl chloroformate see U156
U158	4,4'-Methylene-bis-(2-chloroaniline)
U159	Methyl ethyl ketone (MEK) (I,T)
U160	Methyl ethyl ketone peroxide (R)
	Methyl iodide see U138
U161	Methyl isobutyl ketone
U162	Methyl methacrylate (R,T)
U163	N-Methyl-N'-nitro-N-nitrosoguanidine
U164	Methylthiouracil
	Mitomycin C see U010
U165	Naphthalene
U166	1,4-Naphthoquinone
U167	1-Naphthylamine
U168	2-Naphthylamine
U169	Nitrobenzene (I,T)
	Nitrobenzol see U169
U170	4-Nitrophenol
U171	2-Nitropropane (I)
U172	N-Nitrosodi-n-butylamine
U173	N-Nitrosodiethanolamine
U174	N-Nitrosodiethylamine
U175	N-Nitrosodi-n-propylamine
U176	N-Nitroso-n-ethylurea
U177	N-Nitroso-n-methylurea
U178	N-Nitroso-n-methylurethane
U179	N-Nitrosopiperidine
U180	N-Nitrosopyrrolidine
U181	5-Nitro-o-toluidine
U182	Paraldehyde
	PCNB see U185
U183	Pentachlorobenzene
U184	Pentachloroethane
U185	Pentachloronitrobenzene
U186	1,3-Pentadiene (I)
	Perc see U210
	Perchloroethylene see U210
U187	Phenacetin
U188	Phenol
U189	Phosphorous sulfide (R)
U190	Phthalic anhydride
U191	2-Picoline
U192	Pronamide
U193	1,3-Propane sultone
U194	n-Propylamine (I)
U196	Pyridine
U197	Quinones
U200	Reserpine
U201	Resorcinol
U202	Saccharin
U203	Safrole
U204	Selenious acid
U205	Selenium sulfide (R,T)
	Silvex see U233
U206	Streptozotocin
	2,4,5-T see U232
U207	1,2,4,5-Tetrachlorobenzene
U208	1,1,1,2-Tetrachloroethane
U209	1,1,2,2-Tetrachloroethane
U210	Tetrachloroethene
	Tetrachloroethylene see U210
U211	Tetrachloromethane
U212	2,3,4,6-Tetrachlorophenol
U213	Tetrahydrofuran (I)
U214	Thallium (I) acetate
U215	Thallium (I) carbonate
U216	Thallium (I) chloride
U217	Thallium (I) nitrate
U218	Thioacetamide
U219	Thiourea
U220	Toluene
U221	Toluenediamine
U222	o-Toluidine hydrochloride

Hazardous Waste No.	Substance[1]
U223	Toluene diisocyanate
U224	Toxaphene
	2,4,5-TP see U233
U225	Tribromomethane
U226	1,1,1-Trichloroethane
U227	1,1,2-Trichloroethane
U228	Trichloroethene
	Trichloroethylene see U228
U229	Trichlorofluoromethane
U230	2,4,5-Trichlorophenol
U231	2,4,6-Trichlorophenol
U232	2,4,5-Trichlorophenoxyacetic acid
U233	2,4,5-Trichlorophenoxypropionic acid alpha, alpha, alpha- Trichlorotoluene see U023
	TRI-CLENE see U228
U234	Trinitrobenzene (R,T)
U235	Tris(2,3-dibromopropyl) phosphate
U236	Trypan blue
U237	Uracil mustard
U238	Urethane
	Vinyl chloride see U043
	Vinylidene chloride see U078
U239	Xylene

[1] The Agency included those trade names of which it was aware; an omission of a trade name does not imply that it is not hazardous. The material is hazardous if it is listed under its generic name.

Appendix I—Representative Sampling Methods

The methods and equipment used for sampling waste materials will vary with the form and consistency of the waste materials to be sampled. Samples collected using the sampling protocols listed below, for sampling waste with properties similar to the indicated materials, will be considered by the Agency to be representative of the waste.

Extremely viscous liquid—ASTM Standard D140–70 Crushed or powdered material—ASTM Standard D346–75 Soil or rock-like material—ASTM Standard D420–69 Soil-like material—ASTM Standard D1452–65 Fly Ash-like material—ASTM Standard D2234–76 [ASTM Standards are available from ASTM, 1916 Race St., Philadelphia, PA 19103]

Containerized liquid wastes—"COLIWASA"—described in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods," [1] U.S. Environmental Protection Agency, Office of Solid Waste, Washington, D.C. 20460. [Copies may be obtained from Solid Waste Information, U.S. Environmental Protection Agency, 26 W. St. Clair St., Cincinnati, Ohio 45268]

Liquid waste in pits, ponds, lagoons, and similar reservoirs.—"Pond Sampler" described in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods." [1]

This manual also contains additional information on application of these protocols.

[1] These methods are also described in "Samplers and Sampling Procedures for Hazardous Waste Streams," EPA 600/2–80–018, January 1980.

Appendix II— EP Toxicity Test Procedure

A. Extraction Procedure (EP)

1. A representative sample of the waste to be tested (minimum size 100 grams) should be obtained using the methods specified in Appendix I or any other methods capable of yielding a representative sample within the meaning of Part 260. [For detailed guidance on conducting the various aspects of the EP see "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods," SW–846, U.S. Environmental Protection Agency Office of Solid Waste, Washington, D.C. 20460.[1]]

2. The sample should be separated into its component liquid and solid phases using the method described in "Separation Procedure" below. If the solid residue [2] obtained using this method totals less than 0.5% of the original weight of the waste, the residue can be discarded and the operator should treat the liquid phase as the extract and proceed immediately to Step 8.

3. The solid material obtained from the Separation Procedure should be evaluated for its particle size. If the solid material has a surface area per gram of material equal to, or greater than, 3.1 cm^2 or passes through a 9.5 mm (0.375 inch) standard sieve, the operator should proceed to Step 4. If the surface area is smaller or the particle size larger than specified above, the solid material should be prepared for extraction by crushing, cutting or grinding the material so that it passes through a 9.5 mm (0.375 inch) sieve or, if the material is in a single piece, by subjecting the material to the "Structural Integrity Procedure" described below.

4. The solid material obtained in Step 3 should be weighed and placed in an extractor with 16 times its weight of deionized water. Do not allow the material to dry prior to weighing. For purposes of this test, an acceptable extractor is one which will impart sufficient agitation to the mixture to not only prevent stratification of the sample and extraction fluid but also insure that all sample surfaces are continously brought into contact with well mixed extraction fluid.

5. After the solid material and deionized water are placed in the extractor, the operator should begin agitation and measure the pH of the solution in the extractor. If the pH is greater than 5.0, the pH of the solution should be decreased to 5.0 ± 0.2 by adding 0.5 N acetic acid. If the pH is equal to or less than 5.0, no acetic acid should be added. The pH of the solution should be monitored, as described below, during the course of the extraction and if the pH rises above 5.2, 0.5N acetic acid should be added to bring the pH down to 5.0 ± 0.2. However, in no event shall the aggregate amount of acid added to the solution exceed 4 ml of acid per gram of solid. The mixture should be agitated for 24 hours and maintained at 20°–40° C (68°–104° F) during this time. It is recommended that the operator monitor and adjust the pH during the course of the extraction with a device such as the Type 45–A pH Controller manufactured by Chemtrix, Inc., Hillsboro, Oregon 97123 or its equivalent, in conjunction with a metering pump and reservoir of 0.5N acetic acid. If such a system is not available, the following manual procedure shall be employed:

(a) A pH meter should be calibrated in accordance with the manufacturer's specifications.

(b) The pH of the solution should be checked and, if necessary, 0.5N acetic acid should be manually added to the extractor until the pH reaches 5.0 ± 0.2. The pH of the solution should be adjusted at 15, 30 and 60 minute intervals, moving to the next longer interval if the pH does not have to be adjusted more than 0.5N pH units.

(c) The adjustment procedure should be continued for at least 6 hours.

(d) If at the end of the 24-hour extraction period, the pH of the solution is not below 5.2 and the maximum amount of acid (4 ml per gram of solids) has not been added, the pH should be adjusted to 5.0 ± 0.2 and the extraction continued for an additional four hours, during which the pH should be adjusted at one hour intervals.

6. At the end of the 24 hour extraction period, deionized water should be added to the extractor in an amount determined by the following equation:

V = (20)(W) − 16(W) − A
V = ml deionized water to be added
W = weight in grams of solid charged to extractor
A = ml of 0.5N acetic acid added during extraction

7. The material in the extractor should be separated into its component liquid and solid phases as described under "Separation Procedure."

8. The liquids resulting from Steps 2 and 7 should be combined. This

[1] Copies may be obtained from Solid Waste Information, U.S. Environmental Protection Agency, 26 W. St. Clair Street, Cincinnati, Ohio 45268.

[2] The percent solids is determined by drying the filter pad at 80° C until it reaches constant weight and then calculating the percent solids using the following equation:

$$\frac{(\text{weight of pad} + \text{solid}) - (\text{tare weight of pad})}{\text{initial weight of sample}} \times 100 = \% \text{ solids}$$

Attachment 2

United States Senate

WASHINGTON, D.C. 20510

August 6, 1980

The Honorable Robert C. Byrd, Majority Leader
The Honorable Howard H. Baker, Minority Leader
United States Senate
Washington, D.C. 20510

Dear Senators Byrd and Baker:

The Senate Committee on Environment and Public Works has recently acted favorably on S. 1480, major legislation to deal with releases of hazardous substances.

The reported bill contains some provisions of interest to other Committees. When those Committees have completed their consideration or the issues have been otherwise resolved, we urge that S. 1480 be scheduled promptly for floor action.

In our view, improper disposal of hazardous substances represents a serious threat to the public health of our nation's citizens. This legislation addresses the hazardous substances problem at a time when existing tools have proven inadequate. We therefore urge you to expedite full Senate consideration of this crucial health and environmental measure and to identify S. 1480 as one of the major legislative proposals which must be completed before the Congress adjourns for the elections.

Your cooperation in this matter is appreciated.

Sincerely,

John Heinz

Carl Levin

CMA 062921

Paul S. Sarbanes

Bill Bradley

Mark O. Hatfield

Donald W. Riegle, Jr.

Walter D. Huddleston

William S. Cohen

Patrick J. Leahy

Charles McC. Mathias

George McGovern

Paul E. Tsongas

Robert T. Stafford

Jennings Randolph

John. H. Chafee

John Culver

Daniel Patrick Moynihan

Charles H. Percy

Gary Hart

Harrison A. Williams, Jr.

George J. Mitchell

Richard S. Schweiker

Quentin N. Burdick

Jacob K. Javits

Gaylord Nelson

Exhibit I

August 1980

Expanded Company Involvement in ChemCAP Program

And Formation of ChemCAP Community Committees

Here's what you can do to get this program off the ground within your own company and in your local community:

(1) Name a "ChemCAP Coordinator" and give him the responsibility and authority to implement relevant ChemCAP program segments within your company. Please notify CMA of your selection.

(2) Set up a special ChemCAP involvement meeting with your company's top executives and communications staff to discuss company-wide action. If you wish to have a ChemCAP expert join this session to explain the program, the materials available and how to use them most effectively, telephone Jim Sites at CMA at (202) 328-4292.

(3) Advise your corporate and local executives that they have your approval and support to participate in setting up ChemCAP Community Committees.

Much has been written about company-wide communications concerning ChemCAP, as reflected in the ChemCAP "Guide to Program Materials" and CMA's "Checklist" of suggestions for individual company action. Emphasis here is placed on a new phase of local action -- the formation of a nationwide network of ChemCAP Community Committees.

A ChemCAP Community Committee would be made up of local company managers and communications professionals and would be designed to tie in directly with and supplement the national communications effort in such tasks as ...

(1) Placing speakers on local platforms

(2) Distributing our "key issues" booklets to community leaders

(3) Raising local funds and placing ChemCAP's national ads with leading local publications

(4) Helping localize nationwide news stories and placing these with local news contacts

(5) Identifying prominent radio and TV interview possibilities for appearances by industry executives or members of our Science Advisory Group

(6) Monitoring local news developments and informing CMA headquarters of developing problems and opportunities

The CMA Communications Committee has chosen a number of chemical plant concentration areas for ChemCAP Community Committee pilot programs. Committee members and CMA staff are ready to visit these areas personally with the aim of building viable operating units. Wherever possible, they will work in cooperation with existing Chemical Industry Councils.

Selected areas for possible pilots include...

Charleston, W. Va.	New Orleans/Baton Rouge
Chicago	Parkersburg/Marietta, W. Va.
Delaware (Wilmington)	Philadelphia
Houston	San Francisco
Michigan	St. Louis
New Jersey	Westchester/Fairfield Counties

An action point: If you have plants in any of these areas, it is essential that you advise your management team and local executives that, when contacted by assigned local people, they have your approval and encouragement to participate in a ChemCAP Community Committee. And if you feel that other localities should be included in this initial pilot program, please let CMA know the city -- as well as the names of any local people you know who are willing to put real effort into organizing and operating a Committee.

A list of CMA contacts for special ChemCAP program segments is also attached.

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CMA
EC-9/8/80
BD-9/9/80

CMA Film

"PROTECTING OUR ENVIRONMENT:
What Five People Are Doing About It"

I The 18-minute motion picture will focus on five individual chemical industry employees whose attitudes and actions exemplify people throughout the industry and who suggest to audiences that their own attitudes might benefit from some re-thinking. The individuals are specialists in the five ChemCAP concern areas: environmental protection, hazardous waste, worker safety, product safety and transportation safety

The film...
(a) Directly addresses public concerns
(b) Humanizes the industry
(c) Demonstrates the depth of industry action
(d) Suggests to the audience that what they believe to be true as a result of media and government attack may not be so.

II The 13½-minute version of the above motion picture is designed for public television and the growing cable TV market

III The five 60-second public service films (designed for widespread TV spot use) will capsulize the film's five basic sequences, extending recognition of the five people and their activities until the public gets to know them. The 60-second films have a recurrent phrase that will carry forward in all print support materials. It addresses a concern and states...
"...that's what I'm doing about it."

IV Using the "What We're Doing About It" theme of the ChemCAP booklets, there will be a discussion/user guide. This will be an aid to the individual presenting the film helping assure that any discussion prompted by the film will generate positive answers to audience questions.

V The films are designed to reach the broadest possible non-theatrical audience in the marketplace of ideas through clubs, groups, seminars, the educational community and other arenas where the public convenes. The 18-minute version is also designed for intensive use by CMA member companies, with employees. It is particularly suited to showings that are followed by question-and-answer sessions.

IV Distribution targets by film distribution services (first year):

--200 prints (18-minute version): 4000 bookings; 400,000 audience
--50 prints (13½-minute version): 225 telecasts, to millions
--300-500 prints of 18-minute version will be sold at nominal cost to CMA member companies, for both internal and external uses
--Television and public service prints will be made available to member companies for personalized placement with local television stations.

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BD-9/9/80

CASH OUT[redacted] CHART
COMMUNICATIONS PROGRAM
JUNE 1, 1980 - MAY 31, 1981

Program Segment	Outlays to 6/1/80	6/1/80-9/1/80	9/1/80-12/1/80	12/1/80-3/1/81	3/1/81-5/31/81	TOTAL 6/80 - 5/81	TOTAL 1979 - 1981
ADVERTISING	674,357.00	845,578.00	845,578.00	845,578.00	845,579.00	3,382,313.00	4,056,670.00
Ad Exp. Level Test (400,000 budgeted - postponed)							
PR Agency	118,040.00	45,000.00	45,000.00	45,000.00	45,000.00	180,000.00	298,040.00
Public Opinion Research (tracking studies)	70,000.00			75,000.00		75,000.00	145,000.00
Publications (+Speakers Program)	98,382.00	65,000.00	35,000.00	35,000.00	35,000.00	170,000.00	268,382.00
Films/AV Materials	966.00	30,000.00	115,000.00	30,000.00	30,000.00	205,000.00	205,996.00
Industry/News Workshops			5,000.00	10,000.00	10,000.00	25,000.00	25,000.00
Staff Salaries/ Fringes	100,201.00	53,500.00	53,500.00	66,000.00	66,000.00	239,000.00	339,201.00
Misc. (travel, dues, telephone, postage, supplies, rent, etc.)	61,741.00	50,000.00	50,000.00	50,000.00	50,000.00	200,000.00	261,741.00
TOTAL	$ 1,123,687	1,089,078	1,149,078	1,156,578	1,081,579	4,476,313	5,600,000

CMA
EC-9/8/80
BD-9/9/80

CMA 062927

CMA Slide Presentation
"The Chemical Industry: MEETING THE CHALLENGE OF CHANGE"

A 20-minute, 72-slide presentation, this new ChemCAP speaker's aid focuses on chemical industry action in managing risk in five concern areas: environment (air and water), hazardous waste, worker safety, product safety and transporting safety.

Incorporating both photographs and artwork in 35mm color slides, the show tracks the over-all pattern speech included in the ChemCAP Speakers Resource Manual. It can be presented in two ways:

1) By a speaker articulating the script and operating the projector himself or having an assistant do so.

2) By using an included cassette tape recorded by a professional announcer that incorporates a pulse which automatically advances the projector.

The presentation is designed for community groups, seminars, the educational community and other public meeting situations, as well as for employee audiences. The Public Relations contact person at each CMA member company will be provided at no charge with one set of slides, a pulsed tape, a script and an instructional guide. Additional sets of materials will be available at a cost of $15. The presentation can be followed with a question-and-answer session.

With company involvement the key to success in the ChemCAP Program, intensive member use of this presentation is critical. It is designed expressly as a catalyst for triggering speaking engagements in every plant community in the country.

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EC-9/8/80
BD-9/9/80

Exhibit J

RECOMMENDED CMA POLICY

ON AN

INTERAGENCY WORKING GROUP REPORT

ON

HAZARDOUS SUBSTANCES EXPORT POLICY

A hazardous substances export policy developed by an Administration interagency Working Group proposes that an Executive Order be issued to accomplish the following:

1. Establish an inventory of banned or significantly restricted substances as determined under existing health and environmental laws.

2. Disseminate to foreign governments extensive information on the inventory list.

3. Establish an interagency review of the inventory list, determine those which are severe hazards and place them on a commodity control list.

4. Require validated export licenses for exportation of products on the commodity control list.

Administration of the above provisions would be carried out as a component of U. S. foreign policy.

The proposal covers drugs, medical devices, cosmetics, foods, pesticides, consumer products, and industrial chemicals approved for use in other countries, but not for use in the United States. This includes:

1. products approved for use in other countries to treat diseases or eradicate pests that do not exist in the United States.

2. new products which have been approved by other countries before completing the approval process in the United States.

3. products for which there is a difference of opinion as to the safety of their use.

The CMA opposes the export banning provisions. Such exports are already adequately controlled under existing laws. Notification of countries receiving U. S. exports is acceptable, but only with the provisions for protection of information. The universe of substances contemplated by the HSEP cannot be made to conform to a single export policy evidenced in Congressional treatment in the existing laws.

The HSEP would be an unnecessary export disincentive. The chemical industry with $17.3 billion of exports in 1979 (11.7% of total chemical sales, and 9.5% of all U. S. exports) is badly needed by the United States. The $9.8 billion dollars trade surplus is an important prop to the U. S. trade deficit of $24.7 billion. The U. S. chemical industry has an excellent reputation for quality and safety in its products. There is insufficient evidence presented by the Administration that this sweeping new regulatory process is needed. Creation of a new inventory list of products and a commodity control list will, in effect, become a blacklist to U. S. export customers. The new requirements will, at the very least, get exporters so embroiled in government approvals that sales will be lost to foreign competitors. Regulations still to be issued under some of the laws such as the Toxic Substances Control Act make the HSEP a potentially large inhibitor of chemical exports.

There are doubts that the Export Administration Act sufficiently authorizes regulation of hazardous exports. Legal opinions are in hand to support this view. There is some possibility that if the Executive Order is issued, it would apply to exports of foreign subsidiaries and affilates of U. S. companies.

Action Required: Approval.

CMA

EC - 9/8/80
BD - 9/9/80

ADDITIONAL BACKGROUND INFORMATION ON

RECOMMENDED CMA POLICY

ON AN

INTERAGENCY WORKING GROUP REPORT

ON

HAZARDOUS SUBSTANCES EXPORT POLICY

On August 12, 1980, an Interagency Working Group published a draft report on a hazardous substances export policy (HSEP), presumably to be implemented by Executive Order, a draft of which has been informally circulated by the Administration. The CMA Export of Hazardous Substances Task Group and its parent, the International Trade Group, recommend opposition to the export banning provisions of the HSEP and the corresponding proposed Executive Order.

The HSEP is designed to accomplish the following:

1. To establish an inventory of "banned or significantly restricted substances:, which by definition, is to include substances regulated under specified sections of the principle health and safety statutes including the Federal Insecticide, Fungicide and Rodenticide Act; the Consumer Product Safety Act; the Food, Drug and Cosmetic Act; the Public Health Services Act; the Flammable Fabrics Act; the Hazardous Substances Act; and the Toxic Substances Control Act.

2. To disseminate to foreign governments certain information on these substances which will include, as a minimum, the names of the substances; summaries of the potential risks to human health, or safety, or to the environment that are grounds for the agencies actions. The policy also provides for the dissemination of "additional documents" deemed appropriate by the agency with jurisdiction.

3. To establish an inter-agency task force chaired by the State Department to review the inventory and recommend which of these substances, by virtue of severe hazard, should be relegated to the Commodity Control List. (Since the HSEP cites the Export Administration Act as authorizing legislation the

State Department must find that inclusion of a substance on the Commodity Control List "would further significantly the foreign policy of the United States".)

Substances on the Commodity Control List will require validated export licenses from the Commerce Department for exportation. The State Department, under this provision can recommend that Commerce grant a license only if the export is consistent with U. S. foreign policy and the foreign country expresses no objections to its import.

Scope of Products Affected

Categories of substances covered by the HSEP are listed in Section VII of the published draft (45 FR 53764-8).

The draft proposal covers drugs, medical devices, cosmetics, foods, pesticides, consumer products and industrial chemicals which have been approved for use in other countries, but not for use in the United States. It covers products approved for use in other countries to treat diseases or eradicate pests that do not exist in the United States, and thus their use may never be considered for approval here. The order also covers new products which have been approved by the regulatory agencies of other countries before having completed the approval process in the United States. It further covers products for which a legitimate difference of opinion exists among scientific experts around the world respecting their risks and benefits, e.g., the artificial sweetener, cyclamate, and the food coloring, Red Dye Number 2 which are both used extensively in other countries, but are not approved for use in the United States -- in effect, imposing its judgments respecting these matters on foreign governments.

CMA Position

Considering existing controls, economic disincentives, and questionable legal authority, CMA opposes the export banning provisions in the Administration's proposal. CMA, however, would accept a uniform notification scheme, provided it is properly constructed to prevent disclosure of information protected by statute, such as the protection provided under Section 10(g) of the Federal Insecticide, Fungicide and Rodenticide Act.

The preferred outcome would be to have the HSEP dropped

by the Administration. However, recent consultations with the U. S. Trade Representative's Office (Ambassador Robert Hormats) and the Commerce Department's Homer Moyer (Deputy General Counsel) have made it clear that these agencies feel obliged to go along with at least a notification plan. Further, legal arguments regarding the HSEP and its implementation under the EAA put a question only on the banning provisions. Lastly, it is the banning authority in HSEP that has provoked recent correspondence from members of Congress to the President pointing out that only the Congress has this authority, not the President.

Existing Controls

Exports of the substances addressed by the HSEP are already specifically controlled under the Federal Food, Drug, and Cosmetic Act (section 301, 505 and 801), the Consumer Product Safety Act (section 18), the Toxic Substances Control Act (section 12), the Federal Insecticide, Fungicide and Rodenticide Act (section 17), the Public Health Service Act (sections 262 and 263), and the Hazardous Substances Act (section 14). Most of these controls have been imposed by Congress since the mid-1970's and their emphasis on notification to the receiving country of the export of hazardous substances clearly reflects a congressional attitude that it is appropriate for countries to make their own judgments about their needs for hazardous substances, so long as they are adequately informed.

Furthermore, because of the extensive U. S. effort within various international regulatory organizations, there is no need for the system proposed in the HSEP. The U. S., for example, already participates in a variety of international organizations which are presently establishing or already have established international controls over the import and export of chemical products. Such include the Organization for Economic Cooperation and Development; World Health Organization; Food and Agricultural Organization; Codex Alimentarius Commission; United Nations Environment Programme, and the Tri-Partitie Pesticide Agreement between the United States, the U. K., and Canada.

Finally, the universe of substances contemplated by the HSEP cannot rationally be made to conform to any single export policy. Congress recognized this in shaping quite different regulatory and export policies to accomodate the widely differing circumstances associated with their handling and use.

Economic Impact

Congress quite properly developed differing regulatory and export policies to meet the problems posed by these goods. Imposition of a new, blanket policy on top of existing laws and regulations constitutes a potentially sweeping and harmful change in national policy.

The chemical industry is a leading exporter. Its $17.3 billion of exports in 1979 was 11.7% of total chemical sales and 9.5% of all U. S. exports. The chemical trade surplus of $9.8 billion was an important contribution to the U. S. trade deficit of $24.7 billion.

The industry has an excellent reputation around the world for the quality and safety of its products. Its customers are found in every country and corner of the world. While it is true that isolated instances of harmful effects from U. S. made products can be found, they do not come close to justifying the HSEP. Unilateral action by the U. S. will lose sales of perfectly safe products, if only from bureaucratic delay, that can be bought elsewhere. At the very least, the Administration should arrive at an international agreement applicable to other exporting countries before taking this drastic action. Unilateral U. S. action may be the easy way, but it is by no means an effective way.

More specifically, CMA has the following concerns:

1. An inventory of chemicals is tantamount to a blacklist with customers, and results in all the attendant adverse effects. It offers the opportunity, if not the necessity, to broadly overemphasize whatever problem exists.

2. Embroiling chemical exports in another layer of red tape will further complicate the already serious logistical problems involved in transferring chemicals from point of origin to point of use. Foreign language requirements, letters of credit deadlines, cargo space, special warehousing needs, and government requirements for containers and labels are examples.

3. Pesticide sales to meet agricultural and disease control demands are highly seasonal, and shipments cannot be delayed. In other non-agricultural cases, such as malaria or typhus outbreak, shipments are on a crisis basis. Timing is critical and bureaucratic

delays in approving exportations could result in extensive crop losses, or human illness. As a result, foreign purchasers will turn to sources outside the U. S. who are more than willing to capture the business.

4. Existing law provides domestic manufacturers with a modicum of protection from government disclosure of their data to foreign manufacturers. The HSEP draft would undercut this protection and set the stage for piracy of American data by foreign producers who are in direct competition with American producers. We do not oppose data disclosure, provided restraint is exercised by the U. S. Government, and some control can be maintained by the owner of the data.

5. Contrary to the view expressed in the HSEP, the economic impact of this policy is unknown and virtually unknowable. This is illustrated by TSCA, whose sections embraced by the HSEP require data to implement. At this time there is little (no) section 4 test data available to trigger a rule. Thus the burden imposed by the HSEP because of TSCA is unknown.

Questionable Legal Authority

There are substantial doubts that the Export Administration Act (EAA) in fact authorizes regulation of hazardous exports. We are aware of two opinions from the Justice Department on the old EAA and its 1979 revision which state that the foreign policy language is broad enough to encompass the proposed action. However, in one of these opinions the Justice Department enters a significant caveat about existing laws:

> "Certain statutes presently impose conditions on the export of hazardous substances (e.g., the Toxic Substances Control Act), requiring notice to the recipient nation of product risks. It may be that these statutes foreclose Presidential discretion to take some actions, for example, banning a product that a statute allows to be exported if notice is given." (Opinion dated April 11, 1980 from Leon Ulman to Esther Peterson.)

Morever, neither act has been used for the purpose of regulating the export of hazardous substances, and, indeed, the latest amendment was designed by Congress to reduce the amount of discretion of the Commerce Department and the President in withholding export licenses. The language of the statute appears rather to support the notion that the EAA is intended to be used as a punitive device, against countries like South Africa.

It has been noted by the Chairman and Ranking Minority Member of the House Commerce Committee that the provisions of their laws governing the exports of certain products, supersede the foreign policy controls provisions of section 6 of the Export Administration Act which the draft Executive Order seeks to invoke to ban exports of those products. Section 17 (a) of the Export Administration Act specifically indicates its lack of effect on such laws as follows:

> "Nothing contained in this Act shall be construed to modify, repeal, supersede, or otherwise affect the provisions of any other laws authorizing control over exports of any commodity".

The opinion of a private law firm is that the President does not have the authority to issue the Executive Order as proposed. However, if indeed such power is deemed to be within Presidential jurisdiction, this law firm's opinion is that the Executive Order would extend to foreign subsidiaries and affiliates of U. S. companies. This possibility has not been taken into account fully and must be subjected to full scrutiny before an Executive Order is issued.

Action Required: None. Information only.

CMA

EC - 9/8/80
BD - 9/9/80

Exhibit K

Formation of Task Group on United Nations' Report on Transnational Corporations

The United Nation's Centre on Transnational Corporation is preparing to write two reports on U.S. companies with investments in developing countries. The first is an overall report stressing the structure and characteristics of the TNC's. The second is to be a profile of five U.S. corporations: Celanese, Du Pont, Dow, Union Carbide, and Monsanto.

The outcome of these reports can be influential in how U.S. companies are treated in host countries. Experience with United Nation reports would indicate that negative reports are likely. U.S. investment in developing countries by any U.S. firm will be judged on the basis of the 5-company profile so that a number of CMA members will be affected by the reports.

The five companies to be profiled have asked that CMA provide staff support for the early, critical phase of contacts with the United Nation staff.

Time factors compel consideration of this issue at this meeting; however, necessary staffing regarding possible antitrust and other concerns cannot be completed until the week of September 1st. Supplementary information will be presented at Pebble Beach.

Action Required: Policy determination required.

CMA
EC-9/8/80