Withdrawal/Redaction Sheet
(George Bush Library)

Doc. No. / Type	Subject/Title	Date	Restriction	Classification
01. Letter	Jinny Hixon to Andy Card, Re: Well-wishes for new position in White House; contains privacy information. (1 pp.)	05/01/88	(b)(6)	

Collection:

Record Group: Bush Presidential Records
Office: Chief of Staff, Office of the
Series: Card, Andrew H., Jr., Files
Subseries:
WHORM Cat.:
File Location: AHC General Correspondence 2/88-4/89 [2]

Pinksheet Number: RML16126
OA/ID Number: 04013-002b
Date Closed: 3/14/2025
FOIA/Sys Case #: 2025-0373-S
Re-review Case #:
P-2/P-5 Review Case #:

THE WHITE HOUSE

WASHINGTON

February 7, 1989

Dear Mr. Clark:

On behalf of the President, thank you for your letter of January 20, 1989, in which you set forth your proposals for balancing the federal budget and reforming the tax system.

Please know that while the President's schedule is very full, if time permits, I will bring your correspondence to his personal attention. The idea you present for the substitution of a land-value tax for the federal income tax sounds interesting. I will also forward a copy of your letter to the Department of the Treasury and appropriate White House officials for their review.

Again, we very much appreciate the time you have taken to share you concerns on this important subject.

With best wishes,

Sincerely,

Andrew H. Card, Jr.
Assistant to the President
and Deputy to the Chief of Staff

Mr. Lawrence D. Clark, Sr.
21 Emerson Road
Medfield, Massachusetts 02052

ID # _____

WHITE HOUSE
CORRESPONDENCE TRACKING WORKSHEET

☐ O - OUTGOING
☐ H - INTERNAL
XXX - INCOMING
Date Correspondence Received (YY/MM/DD) 89 / 01 / 31

Name of Correspondent: Lawrence D. Clark, Sr.

☐ **MI Mail Report** **User Codes: (A)** _____ **(B)** _____ **(C)** _____

Subject: Recommends the substitution of a land-value tax for the federal income tax. Has a written a similar letter to Mrs. Bush in the hopes that it will be brought to the President's attention.

ROUTE TO:		ACTION		DISPOSITION		
Office/Agency	(Staff Name)	Action Code	Tracking Date YY/MM/DD	Type of Response	Code	Completion Date YY/MM/DD
OCS CARD		ORIGINATOR	89/01/31			/ /
		Referral Note:				
			/ /			/ /
		Referral Note:				
			/ /			/ /
		Referral Note:				
			/ /			/ /
		Referral Note:				
			/ /			/ /
		Referral Note:				

ACTION CODES:
A - Appropriate Action
C - Comment/Recommendation
D - Draft Response
F - Furnish Fact Sheet to be used as Enclosure
I - Info Copy Only/No Action Necessary
R - Direct Reply w/Copy
S - For Signature
X - Interim Reply

DISPOSITION CODES:
A - Answered
B - Non-Special Referral
C - Completed
S - Suspended

FOR OUTGOING CORRESPONDENCE:
Type of Response = Initials of Signer
Code = "A"
Completion Date = Date of Outgoing

Comments: _____

Keep this worksheet attached to the original incoming letter.
Send all routing updates to Central Reference (Room 75, OEOB).
Always return completed correspondence record to Central Files.
Refer questions about the correspondence tracking system to Central Reference, ext. 2590.

5/81

LAWRENCE D. CLARK, SR.
21 EMERSON RD.
MEDFIELD, MASS. 02052

January 27, 1989

Mr. Andrew Card
White House Staff
1600 Pennsylvania Avenue, N.W.
Washington, D.C. 20500

Dear Mr. Card:

By way of identifying myself, I am a retiree from the Research Laboratories of the Eastman Kodak Company of Rochester, New York. In 1974, having lost my first wife, the mother of my three children, I married Gussie Cain, who was by that time a widow. I had known her through my sister before either Gussie or I were married the first time. You may remember who Gussie is. She was executive secretary to Senator Parker for about ten years. My older son, Mark, is a partner in the law firm of Foley, Hoag and Eliot of Boston.

I am trying to find a way to get a letter to the President of the United States which will actually be read by him. I am familiar with what usually happens to a letter written to the President by an ordinary citizen and I understand the difficulty of handling the volume of mail that comes in. However, having a letter referred to the appropriate department to be answered by an "expert" does neither the writer nor the President any good.

The enclosed letter has been sent to Mrs. Bush, with a letter of explanation to her, similar to what I am writing to you. I asked her to get the President to read it, if after reading it herself she thought it contained ideas which might be worth his consideration. I am sending it now to you with the same idea in mind.

My only reason for making this attempt is that I feel so strongly about the part land-value taxation could play in bringing about a balanced budget and setting the economy more firmly on its feet. The more I hear about the Bush pledge of no new taxes, the more I realize how improbable it is that I can accomplish anything this way. And yet, I must try.

As you will discover by reading the letter I have written to George Bush, the idea of land-value taxation as the best means of financing government is not a private indea of mine. I learned about Henry George and the Single Tax from my father as early as I could learn anything. I shall resist the temptation to write more to you about Henry George and his philosophy. I shall let my attempt to introduce the idea to the President be the means of introducing it to you. I hope you will think the President out to read it.

Very truly yours,

Lawrence D. Clark, Sr.

Lawrence D. Clark, Sr.

LAWRENCE D. CLARK, SR.
21 EMERSON RD.
MEDFIELD, MASS. 02052

January 20, 1989

President George Bush
1600 Pennsylvania Avenue, N.W.
Washington, D.C. 20500

Dear Mr. President:

Today I have watched with great satisfaction the television coverage of your inauguration as our 41st President. What you said to the nation was inspiring.

I am so bold as to make a try at getting a letter actually read by the President of the United States only because I feel so strongly that what I am about to write could make a big difference in solving the problems you have to face.

One of the biggest problems will be how to balance the budget and begin reducing the national debt without undoing the good that tax reduction has brought about.

The discussion about taxes seems to assume that there is nothing to be done but raise them or lower them or leave them the same. How about real tax reform? How about a complete change in the criterion for determining how much a person or a company owes society in the form of taxation?

Everyone seems to be worried about how high taxes are Very few seem to be worried about how badly the tax burden is distributed among taxpayers.

You have said, "Read my lips. No new taxes!" If you mean "I will not increase income taxes or sales taxes or any of the other taxes which place a burden on Labor and Capital and inhibit productivity.", you are one hundred percent right.

When Ronald Reagan was running for reelection he said he thought each taxpayer ought to receive a simple bill stating the amount owed. That sounds very much better than form 1040. But Mr. Reagan did not say what the bill was to be based on or how the amount was to be calculated.

When I get a bill from my automobile repair man there is no place on it where I am asked to fill in the amount of my salary for the year nor has the repair man obtained that information from my employer. What I owe the repair man is in no way related to how much I earn. The bill lists the parts used and the cost of each. It lists the man-hours of labor and the cost. I owe for what I have received, not for what I have produced.

The income tax is all wrong. It taxes productivity. It falls entirely on Capital and Labor. We need to tax privilege, not productivity.

A tax on the value of privately owned land (exclusive of the value of buildings and other manmade improvements on the land) is a tax on privilege. To own land is to be granted the right to possess and use a portion of that which is the common heritage of all. To own land is to be able to charge others for the use of that which God gave to all mankind equally. To tax land value is to charge for

privilege received. To tax land value is to collect for public use that which rightfully already belongs to all the people.

If you tax productivity, there will be less productivity. If you tax buildings, there will be fewer and poorer buildings built. If you tax land, there will still be just as much of it. In fact, if you tax land heavily enough you will stop land speculation and greatly increase the amount of land available for use.

More than a hundred years ago Henry George concluded that "The great cause of inequality in the distribution of wealth is inequality in the ownership of land..." The opposite had always been assumed. It was always thought that the ownership of much land was the result of being rich, not the cause of it.

In order to correct this cause of the maldistribution of wealth, Henry George did not recommend disturbing the system of private ownership of land. Instead, in his great best-selling book, "Progress and Poverty", published in 1879, he recommended collecting the annual rental value of all privately owned land as a tax and financing government entirely from that one tax. The Henry George tax proposal soon became known as the Single Tax and its followers as Single Taxers.

The best thing that could happen to America would be the substitution of a land-value tax for the federal income tax. The result would be much more than balancing the budget and reducing the national debt. Under the present system of taxation, the rich get richer and the poor get poorer. Even when the same number of persons remain above and below the poverty line, the disparity between rich and poor continues to increase. The catastrophic increase in the number of homeless persons is a manifestation of this fact. With land-value taxation, the rich would only get richer when they earned it. The poor would no longer be robbed of what they produce. Men and women would no longer have to seek jobs. The jobs would seek them.

To convince you that land-value taxation would turn the economy around and make it fly right is beyond the scope of this one letter. If I can only persuade you to look into the matter of land-value taxation because it might help with the budget, I will have had success.

This far-reaching reform cannot be expected to happen over night, of course. Nevertheless a leader who became convinced of the importance of this kind of tax reform could begin moving toward his ultimate goal immediately.

There are things that could be done to tap this vast land-rent fund for use in balancing the budget and reducing the debt without waiting for the big reform.

The capital gains tax could be reduced to zero on investments in productive enterprise but kept in full force on investments in land.

A surtax based on the value of the land owned by the taxpayer could be added to the federal income tax. It would

still be a part of the constitutionally-provided-for income tax. The total value of privately owned land in the United States, exclusive of the value of buildings or other improvements on the land, has been estimated to be somewhere between 3 and 4.7 trillion dollars. A surtax amounting to one percent of this land value would yield from 30 to 47 billion. Even if, to protect homeowners from an unfair burden, land on which taxpayers live were to be exempted from the surtax up to a specified area limit such as a quarter acre per home, the revenue would not be seriously reduced. This concession to homeowners would not be necessary if it were not for trying to combine land-value taxation with the still existing income tax and the local tax the homeowner must pay on his or her house.

Much government-owned land that is being leased for private use, particularly oil-bearing and mineral-bearing land, is surely not yielding to the government the full market rental value as it should. This must be corrected. The government is the custodian of this land for the people. Failure to collect full value for its use deprives the people of that which belongs to them. This could be a lucrative source of increased government revenue.

The place to get more information about the Henry George economic philosophy is The Robert Schalkenbach Foundation, 121 East 30th Street, New York, N.Y. 10016.

The real estate property tax as presently used by local governments for revenue is not a good tax because it taxes buildings and other improvements at the same rate as the land. A three percent tax on the value of a building which earns its owner six percent on his investment is the equivalent of a fifty percent income tax! Some progress has been made in some of the Pennsylvania cities towards reforming the property tax by establishing a two-rate system whereby land is taxed at several times the rate at which the buildings are taxed.

One of the main reasons this much needed remedy for our economic ills still waits in the wings is that it is better understood by the powerful beneficiaries of the present system whose gravy train would be derailed by implementation of the reform than by the vast majority of citizens who would benefit. This is the problem anyone faces who tries to promote this kind of tax reform. And yet the reward for success would be well worth the battle.

Very truly yours,

Lawrence D. Clark, Sr.

Lawrence D. Clark, Sr.

THE WHITE HOUSE

2/6/89

Nam –

Thank you for your letter. I am a big fan of yours and would love to see you on the National Science Board of the NSF. Your curriculum vitae is being forwarded for consideration.

Andy

NAM P. SUH
PROFESSOR OF MECHANICAL ENGINEERING

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
ROOM 35-237
CAMBRIDGE, MASSACHUSETTS 02139 617-253-2225

February 4, 1989

Mr. Andy Card
Deputy Chief of Staff
The White House
Washington, D.C. 20500

Dear Andy:

Thank you for your letter of December 27, 1988. I decided to write this letter to you, prompted by a form letter I just received from the Office of Presidential Personnel.

It has been about a year since I left my government service as Assistant Director of the National Science Foundation. I was honored to be asked to serve in the Reagan Administration and now feel that I have done my duty as a citizen.

Some of the recent events I have observed here at MIT and elsewhere indicate to me that we have much to do to strengthen our international competitiveness and posture for technological innovation, and advance the educational and research infrastructure. Many of our institutions are still working on the issues of the 50's and 60's. Even the best institutions are having difficulties in repriortizing their programs and modus operandi. I believe that we must change if we are to lead the world in the 21st century.

I would like to do my part in strengthening our national infrastructure for education, technology, and industry. When there is a vacancy, I would like to be considered for membership on the National Science Board of the National Science Foundation. My curriculum vitae and biographical sketch are enclosed.

Thank you for your help.

Sincerely,

Nam P. Suh
Professor of Mechanical Engineering

THE WHITE HOUSE

2/6/89

Norm –

Thank you for your letter and interest in hooking up with Jack Kemp. Your invitation is in the loop.

Andy

ENERGY audit
Energy Billing System

February 1, 1989

Mr. Andrew Card
Assistant to the President
and Deputy to the Chief
of Staff
The White House
Washington, D.C. 20500

Dear Andy:

According to the enclosed clipping from The Herald, Jack Kemp will be in the Boston area in February.

Our company's product is used to benefit residents of mixed income projects financed and supervised by H.U.D.

I believe that Secretary Kemp would find a visit to a complex where ENERGY AUDIT is installed of benefit as encouraging energy conservation is one of the policies which H.U.D. uses to increase the profit from the creation of low and moderate income housing stock.

Thank you for considering this request to be included in Secretary Kemp's itinerary.

Sincerely,

WINCOM CORPORATION

Norman Comins
Chairman of the Board

NC:er
Enclosures

WINCOM CORPORATION

Wincom Corporation, 6 Water Street, Waltham, MA 02154 (617) 647-9700

D. EDWARD WILSON, JR.

January 31, 1989

Dear Andy,

Congratulations on your appointment as Deputy Chief of Staff (do I have the title right? The Post + Times differ). Having enjoyed your good sense and humor during the first RR term in the OEOB, I was and am delighted with your selection.

With best regards,

Sincerely,

Ed Wilson

2/6/89
ATC
sent note
LS

F. Whitney Hatch
Director
Regulatory Matters

GTE Service Corporation
1850 M Street, N.W.
Suite 1200
Washington, D.C. 20036-5801
(202) 463-5292

Andrew Card
White House

Andy –

Welcome to D.C! Dad mentioned that you've now down here for a tour of duty & my wife's cousin – Chris Phillips – an ex Mass. State Senator – sighted you in the wings of Bush's press conference.

Let me know if you have a free moment for lunch. Better yet, if you have a free evening, Tizzy & I would like to get you over for an informal dinner. And I mean informal, because

it includes our 2½ month-old twins who haven't gotten the hang of going to bed at a reasonable hour.

Best —

Whitley Hunt

1/30/89 —

Home # 966-8870

THE WHITE HOUSE

January 27, 1989

Dear Mike:

Many thanks for your thoughtfulness in sending the nicely framed "Marching Orders" of President Bush.

Please know that I have it proudly displayed in my office. What a clever idea!

All the best,

Sincerely,

WHITE HOUSE
STAFF GIFT RECORD

Send completed Form and Gift to Gift Unit, ext. 7133

[DO NOT DETACH COPIES]

To be Completed by Staff Member

STAFF MEMBER	DONOR
NAME *(First, Middle, Last)*: Card, Andrew H.	NAME *(First, Middle, Last)*: Michael J. Bayer
TITLE: Assistant to the President and Deputy to the Chief of Staff	TITLE: Panhandle Eastern Corporation
GIFT INTENDED FOR *(mark ☒ in appropriate box)*: ☒ White House Staff Member (W) ☐ Other (O) *(e.g., family)*	ADDRESS *(Street, City, State, Zip & Country)*: 1025 Connecticut Avenue, N.W. Washington, D.C. 20036
RECEIVED BY *(mark ☒ in appropriate box)*: ☒ Mail Room (M) ☐ Presented Personally (P) ☐ Staff (S) ☐ Other (O) *(Specify)*	
DATE ACCEPTED AND CIRCUMSTANCES OF PRESENTATION: Week of January 23, 1989 Unsolicited -- arrived by mail.	ORGANIZATION/BUSINESS OF DONOR *(Specify)*: Natural Gas Pipeline
REASON FOR NOT RETURNING TO DONOR:	**DONOR CATEGORY** *(mark ☒ in appropriate box)*: X Personal Friend (F) ☐ General Public (P) ☐ Foreign Official (H) ☐ VIP (V)

DESCRIPTION OF GIFT: who volunteered in Bush Campaign

Framed "Marching Orders" of President Bush from remarks made on January 12, 1989.

REPORT PREPARED BY:	DATE:	ROOM NO.:	EXT.:
Linda Gambatesa	1-27-89	WW-1	2533

To be Completed by Gift Unit and Counsel

ID:	DATE:	GSA #:
CATEGORY CODE:	APPRAISED VALUE: $	ARCHIVE BOX #:

COUNSEL'S OFFICE DECISION: ☐ APPROVE ☐ DISAPPROVE

SIGNATURE:

DISPOSITION *(mark ☒ in appropriate box)*:

- ☐ Presidential Staff—Personal (PP)
- ☐ Returned to Sender, Commercial (RA)
- ☐ Returned to Sender, Other (RC)
- ☐ Returned to Sender, Over Minimal Value (RB)
- ☐ GSA Surplus, Turn Over to Government (GS)
- ☐ Presidential Staff—for official display/use (PS)
- ☐ Archives (AS)
- ☐ Destroyed (DS)
- ☐ Other (OH)

COMMENTS:

THE WHITE HOUSE

WASHINGTON

January 30, 1989

Dear Ms. Blair:

Thank you very much for all your efforts in coordinating Bell Atlantic's activities at the Inaugural Ball. I'm certain this required a great deal of work on your part.

We had a lovely evening and enjoyed the company. I only regret that I did not have the opportunity to meet you.

If I can do anything for you, please let me know.

With best wishes,

Sincerely,

Andy Card

Andrew H. Card, Jr.
Assistant to the President
and Deputy to the Chief of Staff

Ms. Trudi W. Blair, Executive Director
Federal Government & International Relations
Bell Atlantic
1710 Rhode Island Avenue, N.W.
11th Floor
Washington, D.C. 20036

Bell Atlantic

needs thank you

James

1710 Rhode Island Avenue, N.W.
11th Floor
Washington, D.C. 20036
TEL: (202) 392-6984
FAX: (202) 392-0933

Trudi W. Blair
Executive Director
Federal Government & International Relations

Mr. Card,

We are delighted that you will be able to join Bell Atlantic in their Suite Box.

Enclosed are two tickets.

Sincerely,

Trudi W. Blair.

THE WHITE HOUSE

WASHINGTON

January 30, 1989

Dear Mr. Collins:

Kathi and I would like to thank you for inviting us to join you in the Bell Atlantic box at the Inaugural Ball. It was a pleasure to meet Gail.

Your hospitality was gracious and helped to make the evening a memorable occasion.

If I can be of any assistance to you, please let me know.

With best wishes,

Sincerely,

Andrew H. Card, Jr.
Assistant to the President
and Deputy to the Chief of Staff

Mr. Greg Collins
Senior Vice President
Bell Atlantic
1310 N. Courthouse Road
11th Floor
Arlington, Virginia 22201

THE WHITE HOUSE

WASHINGTON

January 30, 1989

Dear Ray:

Kathi and I would like to thank you for inviting us to join you in Bell Atlantic's box at the Inaugural Ball. I enjoyed the chance to spend time with you and to meet you son, Paul.

Thanks for your generous hospitality and for helping to make the evening a most memorable occasion.

If I can be of any assistance to you, please do not hesitate to let me know.

Sincerely,

Andy Card

Andrew H. Card, Jr.
Assistant to the President
and Deputy to the Chief of Staff

Mr. Ray Smith, Chairman
Bell Atlantic
1310 N. Courthouse Road
11th Floor
Arlington, Virginia 22201

THE WHITE HOUSE 1/30/89

Mary —

Thank you for your note and congratulations. Yes, I'm living a dream!

Linda is keeping me on the right track. She is the superstar.

Keep in touch.

Andy

1/24/89

CHALLENGE TO ACHIEVE

Linda & Andy -

I'm so impressed!!!

Linda - where do you sit?

Wow, are you guys in the

big-league now.

Actually, I'm impressed

with myself that I know

you.

Congrats!! Enjoy the fun

of it all.

all my best -

Mary

The Washington Post

AN INDEPENDENT NEWSPAPER

Some Morning-After Business

The Farm Support Problem . . .

ONE OF THE WAYS that Ronald Reagan managed to hit the Gramm-Rudman deficit target for fiscal 1990 in his final budget was by proposing sizable cuts in support payments to farmers. It's a good idea, but needless to say the prevailing view in the Farm Belt and on the congressional agriculture committees is that it is not. The interesting question—one of many such in the budget—is whether George Bush will take on the farmers and endorse the cuts. If not, what will he propose in their place?

Farm support costs were already thought likely to decline in 1990. Basically these are the difference that the government makes up between market prices and so-called target prices guaranteed by law. Thanks to last summer's drought, supplies of most supported commodities are down and market prices up. The government is helped by that as well as by provisions in current law under which target prices, as part of an effort to wean farmers from the government, are already coming down a little.

The departed administration did not propose a particular plan for cutting costs further. Why go to such bother when leaving town? Instead it merely offered broad suggestions as to how the costs *might* be cut, then claimed the budget savings. In that sense the proposal was not much more than a plug: $1 billion to be saved, details to follow, except that someone else will be in office then. But the thing is not that hard to do. The cleanest way, the administration said, would be to reduce target prices further; an alternative would be to reduce the amount of a farmer's crop to which the supports apply. The administration also proposed reducing dairy supports and again urged Congress to retreat from the protectionist and costly (to consumers) sugar program.

President Bush avoided clear statements on farm policy in the campaign. He chided his opponent for advocating supply management, an advanced form of production controls, as the answer to the farm recession. The theory is that smaller supplies will raise farm prices and income without incurring large government costs. We think he was right in this, as well as in urging generally that farmers be made to rely more on the market; there is a limit to the role that government either wisely can or should play in agriculture. But how and how fast to pull back were left vague, and the matter is vastly complicated by the continuing effort to persuade the world's other agripowers, the European community especially, to reduce their involvement as well. The fear otherwise is that America just cedes markets.

The current farm programs do not expire until 1990. Were it not for the pressure of the deficit, there would be no need to reopen them this year, and many farm groups and legislators would prefer to leave them alone. But a nonelection year when markets are relatively strong and political pressures weak may be the perfect time to redesign them. The new president and Congress may have an opportunity in this complex field to do more than just reduce the deficit, and they should take it.

Cheers for Teachers . . .

BY THE TIME his actual swearing-in rolled around, the man who sought an "education presidency" had honored students, teachers and the teaching profession with some graceful gestures and words.

On Wednesday, he told an audience of 238 teachers, flown in from around the country for a five-day "inauguration experience," which also included lunch with Education Secretary Lauro Cavazos and tickets to the swearing-in, that he was "awed by your work," and promised to "keep American attention and effort concentrated on further education reform and improvement." On Thursday at the D.C. Armory, he told 5,000 public high school students, many from area high schools, about the importance of education, and nudged the point home with a joke about the [illegible] historical dates—like

Does that make his gestures empty? Not in a week when symbolism was the language of the town and every muscle-twitch of a president-elect was hailed and broadcast. Though teachers suffer many indignities, from working conditions to pay scales to lack of intellectual satisfaction, one of their most serious vitamin deficiencies is in the realm of the symbolic. Many educators with extensive plans for substantive reform couple these with suggestions for simple recognition: former U.S. education commissioner Ernest Boyer, for example, wants to see the 50 state-teachers-of-the-year invited to a state dinner. Such things do help, and they don't cost.

But weapons that are powerful during inauguration week dwindle back to gestures when the ceremony is over: eked out too far, they revert to

THE WHITE HOUSE

1/30/89

Dear Judge O'Scannlain —

Thank you for your note & congratulations. I'm thrilled to be working on the Bush/Quayle team.

Keep in touch. Sincerely, Andy

UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

CHAMBERS OF
DIARMUID F. O'SCANNLAIN
UNITED STATES CIRCUIT JUDGE
THE PIONEER COURTHOUSE
PORTLAND, OREGON 97204-1396

January 26, 1989

The Honorable Andrew H. Card, Jr.
Deputy to the Chief of Staff
The White House
Washington D.C. 20500

Dear Andy:

Now that you are about to commence your new responsibilities, I simply wanted to extend my congratulations to you and best regards for continued success.

I enjoyed meeting you during my pre-judicial years and it is delightful to know that you have agreed to serve our new President.

Sincerely,

Diarmuid F. O'Scannlain
United States Circuit Judge

DFO:js

January 23, 1989

2/1/89
AC sent note.
LL

"The Drones"
Route 3 Box 500
Leesburg, Virginia 22075

Dear Andy,

Now that its official let me congratulate you on becoming an Assistant to the President. I know that you will be key to the Governor's success as Chief of Staff. You are living proof that, even in Washington, nice guys sometimes finish first.

If I ever can be of help, give me a yell.

All the best.

Jonathan

THE WHITE HOUSE

1/28/89

Bret—

Thank you for your note and for helping to make my opportunity possible. You are a friend and a superstar!

Keep in touch.

Andy

LAW OFFICES
JORDAN COYNE SAVITS & LOPATA
ONE CALVERT PLAZA
SUITE 1200
201 EAST BALTIMORE STREET
BALTIMORE, MARYLAND 21202
(301) 625-5080
TELECOPIER (301) 625-5093

JAMES F. JORDAN*
JOHN T. COYNE*‡
JOEL M. SAVITS*†
EDWARD J. LOPATA*†
PAUL D. KRAUSE‡*
DWIGHT D. MURRAY*
JOHN O. EASTON‡*
DAVID R. DURBIN*
BARRY R. PORETZ‡*
NELSON W. RUPP, JR.*†
PAUL W. GRIMM†
CAROL ANN PETREN*
CAROL THOMAS STONE*‡
JOHN TREMAIN MAY*
D. STEPHENSON SCHWINN*†

MICHAEL E. CANODE*‡
ROBERT R. SMITH*†
DAVID B. STRATTON*
RICHARD A. MEDEMA*
PHILIP A. GUZMAN*
JANICE G. MURPHY‡*
JOHN H. CARSTENS‡
EUGENE I. KANE, JR.†*
MICHAEL E. MYCKOWIAK*
MARY ANN SNOW*
JOSEPH TAUBER†
JAYSON L. SPIEGEL*†
JEAN M. LINMAN‡*
DENNIS P. O'CONNOR†
MARY ANN FENNER†*
LAUREN G. MEAD*†
GEORGE O. BARNWELL*
ROBIN FRUCHT COHN†
VICKI B. SHERMAN†
DAVID D. GILLISS†
GEOFFREY T. HERVEY†
TERRY L. LAZARON‡
JONATHAN E. FIRST†*
DEBORAH MURRELL WHELIHAN†
TERRI L. REICHERT†
THOMAS E. ZEHNLE‡
T. ANTHONY QUINN†
RENATE D. STALEY†

OF COUNSEL
DANIEL D. SMITH, P.C.‡*

WASHINGTON OFFICE
1030 FIFTEENTH STREET, N. W.
WASHINGTON, D. C. 20005
(202) 371-1800
TELECOPIER (202) 842-2587

MARYLAND OFFICE
33 WOOD LANE
ROCKVILLE, MARYLAND 20850
(301) 424-4161

VIRGINIA OFFICES
10486 ARMSTRONG STREET
FAIRFAX, VIRGINIA 22030
(703) 246-0900
105 LOUDOUN STREET, S. E.
LEESBURG, VIRGINIA 22075
(202) 478-1895
(703) 777-6084

*DC †MD ‡VA

January 24, 1989

The Honorable Andrew H. Card, Jr.
Deputy Chief of Staff
Executive Office of the President
The White House
1600 Pennsylvania Avenue, N.W.
Washington D.C. 20500

Dear Andy:

Congratulations! You deserved it after that year in New Hampshire and those many months on 15th Street.

I wanted to pass on my address and phone number, and I most certainly didn't want to add another phone message to your ever-growing pile. Hopefully, we will find the opportunity to talk soon. I trust Kathy and the kids are doing well. I ran into Tabetha at the Ball at the Armory and she looks as beautiful as ever, and is excited about school. I wish her much luck.

If I can ever be of service to you or the President, you know of my loyalty and willingness to help. I look forward to speaking with you soon.

Sincerely,

Bret S. Wacker

BSW/mlp

THE WHITE HOUSE

WASHINGTON

January 27, 1989

Dear David:

Thanks for your letter of January 23, 1989, in which you enclose a copy of an AARP advertisement and outline the activities of your communications department.

Please know that I have forwarded a copy of your letter and the ad to David Demarest, Assistant to the President for Communications, for his information.

I appreciate your offer to be of assistance. It was good to see you last week at the Massachusetts' party.

All the best.

Sincerely,

Andrew H. Card, Jr.
Assistant to the President
and Deputy to the Chief of Staff

Mr. David S. Gilroy
Manager, Support Services
Office of Communications
American Association of Retired Persons
1909 K Street, N.W.
Washington, D.C. 20049

AARP

January 23, 1989

The Honorable Andrew H. Card, Jr.
Assistant to the President and
Deputy to the Chief of Staff
The White House
Washington, D.C. 20500

Dear Andy:

Although we spoke briefly at both Joe Canzeri's Christmas party and at last week's Massachusetts party at the OAS Building, allow me to reintroduce myself as Elliot Richardson's press secretary on his 1984 senate campaign as well as a former colleague of Ann Kramer's on various projects in Massachusetts.

To update you on my current activities, I am attaching a copy of an ad that AARP ran on Inauguration Day in USA TODAY. Also attached is an article outlining some of the activities we are undertaking in our communications operations.

No doubt the interests of the Administration and AARP will overlap at times (the budget deficit, volunteerism, etc.) and if I can assist you in any way in my role here, please let me know. Despite occasional appearances to the contrary, there are some right thinking people at AARP.

With best wishes for great success in your new endeavor.

Sincerely,

David

David S. Gilroy
Manager, Support Services
Office of Communications

Attachments

STATE OF MAINE
HOUSE OF REPRESENTATIVES
SPEAKER'S OFFICE
AUGUSTA, MAINE 04333

JOHN L. MARTIN
SPEAKER

JC

January 18, 1989

Andy Card
President-Elect Transition Office
1825 Connecticut Avenue NW
5th Floor
Washington, D.C. 20270

Dear Mr. Card:

I would like to take this opportunity to thank you for meeting with me and the rest of the delegation from the National Conference of State Legislatures on January 9 in Washington. The meeting was very informative.

This is a very busy time for everyone, but it must be especially busy for your office. I wish you and the entire Bush Administration the best of luck.

Again, thank you for taking the time to meet with members of the NCSL. Please let me know if I can be of any assistance in the future.

With best wishes,

Sincerely,

John L. Martin
Speaker of the House
Vice President
National Conference of
State Legislatures

JLM/bp

OFFICE OF THE PRESIDENT-ELECT
WASHINGTON, D.C. 20270

January 19, 1989

Dear Bob:

Thanks for your very kind note of January 17th. It was very thoughtful of you.

Needless to say, I'm honored and thrilled to be a part of the Bush team and am looking forward to beginning in earnest after the Inauguration.

Please let me know when I can be of assistance to you. All the best and keep in touch.

Sincerely,

Andrew H. Card, Jr.

Mr. Robert K. Dawson
Vice President, Management
Cassidy and Associates, Inc.
Suite 1100, 655 Fifteenth Street, N.W.
Washington, D.C. 20005

CASSIDY AND ASSOCIATES, INC.

Metropolitan Square
Suite 1100, 655 Fifteenth Street, N.W.
Washington, D.C. 20005

(202) 347-0773
Telex: 756708
Telecopier: (202) 347-0785

Two Park Plaza, Suite 514
Boston, MA 02116
(617) 350-5088

Public Ledger Building, Suite 1030
Independence Square
Philadelphia, PA 19106
(215) 923-3203

January 17, 1989

Mr. Andrew Card
Deputy Chief of Staff-designee
The White House
Washington, D.C. 20500

Dear Andy:

I was delighted to learn that you have been selected to be the Deputy Chief of Staff in the new Administration.

Every best wish in this important position.

~~Sincerely,~~ Regards,

Robert K. Dawson
Vice President, Management

Andy,

The Vice President-elect has gotten a very good man!

[redacted]

THE WHITE HOUSE

1/23/89

Jack –

Thank you for your note of congratulations. I'm thrilled to have the opportunity to work with President Bush and Governor Sununu.

Keep in touch!

Andy

[redacted]

JOHN A. SVAHN

292 Oak Court • Severna Park • Maryland 21146

January 16, 1988

The Honorable Andrew Card
The White House
Washington DC 20500

Dear Andy,

This is just a note to congratulate you on your new position. I read in the paper that you have the job of keeping John out of trouble. That may be difficult - but he couldn't have picked a more savvy guy. Good Luck to you and the President as you begin this four years.

With Best Personal Regards,

JACK

State of South Carolina

Office of the Governor

CARROLL A. CAMPBELL, JR.
GOVERNOR

POST OFFICE BOX 11369
COLUMBIA 29211

May 19, 1988

Mr. Andrew H. Card, Jr.
Deputy Assistant to the President
Director of the Office of Intergovernmental Affairs
The White House
Washington, D.C. 20500

Dear Andy,

Thanks so much for your note. I'm delighted to learn of your appointment and look forward to working with you. Your help has always been deeply appreciated and I want you to know that I stand ready to be of service to you in any way that I can.

Again, many thanks for your kindness. Let me know if I can do anything at all for you.

Warm regards,

Sincerely,

Carroll A. Campbell, Jr.
Governor

CACjr:fa

ANDERSON, BENJAMIN, READ & HANEY, INC.

1020 19TH STREET, N. W., WASHINGTON, D. C. 20036 · (202) 659-5656 · TELEX: 4946020
310 W. WISCONSIN AVENUE, MILWAUKEE, WISCONSIN 53203 · (414) 271-7506

May 25, 1988

The Honorable Andrew Card
Deputy Assistant to the President
The White House
Washington, D.C. 20500

Dear Andy:

I just read of your new appointment.

After having made your escape, I'm not sure what possessed you to return but I certainly wish you every success! Seriously, I know that the Administration will again greatly benefit from your dedication and ability.

Best wishes.

Sincerely,

Richard H. Prendergast

Good Luck!

JOSEPH J. FAULISO
LIEUTENANT GOVERNOR

STATE OF CONNECTICUT
OFFICE OF THE LIEUTENANT GOVERNOR
HARTFORD

May 25, 1988

Andrew H. Card, Jr., Deputy Assistant
to the President
Director, Office of Intergovernmental Affairs
The White House
Washington, D.C.

Dear Mr. Card:

Please accept my congratulations on your appointment as Deputy Assistant to the President and Director of the Office of Intergovernmental Affairs.

I was pleased to receive the announcement of your appointment from Frank Donatelli. You have my best wishes for every success in your new position of responsibility.

Sincerely,

Joseph J. Fauliso
Lieutenant Governor

JJF/jrf

KELLY
SERVICES

BARBARA I. PARDUE
SENIOR DIRECTOR FOR PUBLIC AFFAIRS

December 19, 1988

Dear Andy,

Congratulations on your new postion; the new chief of staff couldn't have chosen better.

I'm very proud for you and hope that if I can ever be of help you'll call.

This is probably the first in 10,000 letters you've gotten that doesn't ask for a job or enclose a resume.

All the best to you for 1989--

Barbara

Barbara

999 WEST BIG BEAVER ROAD • TROY, MICHIGAN 48084-4782

STATE OF MAINE
OFFICE OF THE GOVERNOR
AUGUSTA, MAINE
04333

JOHN R. McKERNAN, JR.
GOVERNOR

May 25, 1988

Andrew Card, Jr.
Director of Intergovernmental Affairs
The White House
Washington, D.C. 20500

Dear Andy,

Congratulations on your recent appointment as Director of the Office of Intergovernmental Affairs. I look forward to working with you in your new capacity.

Best wishes,

Sincerely,

John R. McKernan, Jr.
Governor

JRM/mpm

State of Rhode Island and Providence Plantations
EXECUTIVE CHAMBER, PROVIDENCE

Edward D. DiPrete
Governor

May 16, 1988

Mr. Andrew Card
Deputy Assistant to the
President
The White House
Washington, DC

Dear Andy:

Thank you for your note alerting me to your return to the White House.

I want to commend you on the outstanding job you did for the Vice President. His overwhelming victory was due in no small measure to your hard work and dedication.

Again, thank you for bringing this news to my attention, and I look forward to working with you again in the future.

Warm regards.

Sincerely,

Ed DiPrete

Edward D. DiPrete
Governor

Comptroller of the Currency
Administrator of National Banks

Washington, D. C. 20219

May 23, 1988

not Andy
5/31/88
AHC

Hon. Andrew H. Card, Jr.
Deputy Assistant to the President
and Director of the Office of
Intergovernmental Affairs
The White House
Washington, D.C. 20500

Dear Andy:

Congratulations on your recent appointment. While the Vice President needs right-thinking advisors from Massachusetts, I am sure he can spare you for this important appointment.

With best wishes,

Sincerely,

Michael

J. Michael Shepherd
Senior Deputy Comptroller

The Senate of the State of New Hampshire
State House, Concord, 03301

WILLIAM S. BARTLETT, JR.
District 19
President of the Senate

May 24, 1988

Mr. Andrew H. Card, Jr.
Deputy Assistant to the President and
Director of the Office of Intergovernmental
Affairs
The White House
Washington, D.C. 20500

Dear Mr. Card:

I wish to extend my congratulations on your recent appointment as Deputy Assistant to the President and Director of the Office of Intergovernmental Affairs.

I am sure your new position will be challenging and rewarding. Your dedication and talent as a public servant have been great support for the President. I am sure this support will be carried forward in your new position.

Best of luck in this new endeavor.

Sincerely,

William S. Bartlett, Jr.
President of the Senate

WSB/wrg

Papa Gino's OF AMERICA, INC.
600 PROVIDENCE HIGHWAY, DEDHAM, MASSACHUSETTS 02026
(617) 461-1200 - 1205 (617) 461-1130 - 1133

May 24, 1988

Mr. Andrew Card
Deputy Assistant To The President
& Director Of Intergovernmental Affairs
The White House
Washington, D.C. 20500

Dear Andy:

I was so glad to hear about your new appointment at the White House. I'd like to extend my warm congratulations. I am sure you will still be involved in the campaign after the convention.

I hope to see you when you come to Boston.

Best regards,

Mike

Michael A. Valerio
Chairman Of The Board

MAV:sf

STATE OF DELAWARE
OFFICE OF THE GOVERNOR

MICHAEL N. CASTLE
GOVERNOR

May 19, 1988

Mr. Andy Card
The White House
1600 Pennsylvania Avenue
Washington, D.C.

Dear Andy:

I am delighted that you are reinstated in the White House. Your title as Deputy Assistant to the President and Director of the Office of Intergovernmental Affairs sounds very fancy. Just having a friendly person to talk to, however, is even more important. I look forward to working with you through the year.

Sincerely yours,

Michael N. Castle

MNC/cck

Withdrawal/Redaction Sheet
(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
01. Letter	Jinny Hixon to Andy Card, Re: Well-wishes for new position in White House; contains privacy information. (1 pp.)	05/01/88	(b)(6)	

Collection:

Record Group: Bush Presidential Records
Office: Chief of Staff, Office of the
Series: Card, Andrew H., Jr., Files
Subseries:
WHORM Cat.:
File Location: AHC General Correspondence 2/88-4/89 [2]

Date Closed:	3/14/2025	**OA/ID Number:**	04013-002b
FOIA/SYS Case #:	2025-0373-S	**Appeal Case #:**	
Re-review Case #:		**Appeal Disposition:**	
P-2/P-5 Review Case #:		**Disposition Date:**	
AR Case #:		**MR Case #:**	
AR Disposition:		**MR Disposition:**	
AR Disposition Date:		**MR Disposition Date:**	

RESTRICTION CODES

Freedom of Information Act (FOIA) - [5 U.S.C. 552(b)]

(b)(1) National security classified information
(b)(2) Release would disclose internal personnel rules and practices of an agency
(b)(3) Release would violate a Federal statute
(b)(4) Release would disclose trade secrets or confidential or financial information
(b)(6) Release would constitute a clearly unwarranted invasion of personal privacy
(b)(7) Release would disclose information compiled for law enforcement purposes
(b)(8) Release would disclose information concerning the regulation of financial institutions
(b)(9) Release would disclose geological or geophysical information concerning wells

Deed of Gift Restrictions

C(1) Closed by Executive Order 13526, governing access to national security information
C(2) Closed by statute or by the agency which originated the information
C(3) Closed in accordance with restrictions contained in donor's deed of gift [formerly listed as only C]
PRM. Removed as a personal record misfile

Presidential Records Act - [44 U.S.C. 2204(a)]

P-2 Relating to the appointment to Federal office [(a)(2) of the PRA]
P-5 Release would disclose confidential advice between the President and his advisors, or between such advisors [(a)(5) of the PRA]

Edward C. Swenson
6-816 Matthew Ave
Lady Lake
Florida 32659

not sent 5/9/88

april 18, 1988

Dear Andy Card,

Lost your address in Maryland. Could you please send it to me again.

We are now in a big Mobile Park in Florida. (Orange Blossom Gardens) and live here all year round. Have been here 1½ years now. We will have 3,000 homes soon, about 6,000 in 4 years.

Boy, do they own everything; but the Park owner can't own me. I fight for the people here

They manufacture their own homes here, have their own Cement Co. + trucks

They have closed circuit T.V. - use it to fight you. I do not understand, they advertise on it, and put on only what they want. - Park owned Newspaper is a closed issue.

After one of the Town meetings, I was taped the next day, but, because I was telling the truth in a vote, I never got on the T.V., as it was not in favor of the Park. I use this in my campaigning

The Park owners can't figure out how I won by 22 votes.

I have a one year term, as they have a new charter. No mayor now, just a Town Business manager and 5 commissioners.

They used Closed Circuit T.V. to put the mayor in. He was fighting them on certain things, and used closed circuit T.V. to get him out, In my opinion, bought him out of the Park.

I come up this Fall (Nov). and I will be in for 2 years, If I make it, but, I am a good campaigner

So glad your boss is doing so good.

I just can't believe Dukakus is doing so good, But, what the Hell do the Democrats have anyway.

50% of the people are easily led. There is a book out on Dukakus and Massachusetts, should have some good points about him.

Good Luck to you and your family
Hope to hear from you Ed Swenson


JEC

Jane Carpenter
545 W. Wellington #1N
Chicago, Ill. 60657

Dear Andy,

I just heard through the IGA grapevine that you are at the helm of that top-notch organization. Congratulations! I am almost sorry I left the team. I wish you only the best at your new position.

As for me, job searching in Chicago is my present occupation. Although I haven't secured a position yet, I am confident that there is something out there just for me.

Please say hello to Cathy and the IGA folks for me. They are all in the best of hands!

Sincerely,
Jane

note sent 5/9/88 Andy

David K. Chivers
Republican State Committeeman
Berkshire, Franklin, Hampden & Hampshire

April 19, 1988

Dear Andy,

Thank you for your consideration of my candidacy for Treasurer at the last State Committee meeting. For those who supported me with their vote, a special thanks. And congratulations to Larry Novak, our new Treasurer. I've known Larry for several years and know he will do an excellent job.

I just wanted to reiterate what I said at the meeting the other night. The Republican Party in this state has a great opportunity to make gains in the next few years. The arrogance of the Democratic leadership is making the voters realize its time to change the lawmakers, instead of having to continually change the law through referendums.

As a party, we have to demonstrate our ability to be the spokespeople for the views and ideas of those voters. We need to be both vigorous and visible in our communities and in the state as a whole.

Now that the races for committee posts are behind us, let's all make a special effort to unite behind our elected leaders. I look forward to working with you in the coming years as we all work together to bring about a Republican Revival in Massachusetts.

Very truly yours,

David

David K. Chivers

1990?!

note sent 5/9/88 AHC

491 North Street, Dalton, Mass. 01226

Governor's Residence

February 19, 1988

Mr. Andrew Card
Senior Assistant
George Bush for President
733 15th Street, NW
Washington, DC 20005

Dear Andy:

I would like to personally congratulate you and your staff for the tremendous work you did in assisting the Vice President in his recent victory during the New Hampshire primary.

Obviously, this was a great victory that will give Vice President Bush the momentum he needs to capture the nomination.

Again, congratulations and best of luck as the campaign moves along.

Warm regards.

Sincerely,

Ed DiPrete

Edward D. DiPrete
Governor

FERRAIUOLI, AXTMAYER & HERTELL
ATTORNEYS AND COUNSELORS AT LAW
SUITE 1420
BANCO POPULAR CENTER
HATO REY, PUERTO RICO 00918
(809) 759-8000

BLAS R. FERRAIUOLI
JOSE A. AXTMAYER *
HANS H. HERTELL
GREGORY T. USERA **
FRANCISCO A. BESOSA **

DANILO M. EBOLI
JORGE F. FREYRE ***

* ALSO ADMITTED IN NEW YORK
** ALSO ADMITTED IN THE DISTRICT OF COLUMBIA
*** ALSO ADMITTED IN FLORIDA

P. O. BOX 5345
PUERTA DE TIERRA STA.
SAN JUAN, P.R. 00906

TELECOPIER (809) 765-8097

April 25, 1988

Mr. Andrew Card
Deputy Assistant to the President
and Director For Intergovernmental
Affairs
The White House
Washington, DC 20500

Dear Andy:

On behalf of my wife Marie and myself I wish to congratulate you on your new appointment at the White House!

I am sure that under your leadership and experience, when George Bush becomes President, the transition process of the new administration will be flawlessly executed.

It certainly has been a great privilege to be part of the Vice President's campaign team, as small as it may have been, and of course, to be your friend.

With every good wish for your family and your continued success in the years of the Bush administration, which shall be years of progress and enlightenment for America, I remain

Very truly yours,

/Hans

Hans H. Hertell

~~Confidential~~

CHESTER A. ZAGASKI
40 BOXWOOD LANE
DUXBURY, MASSACHUSETTS 02332

Mr. Andrew Card
via Mrs. James Brodie

15 April 1988

Andy—

This material is being sent to you via a trusted friend. It will serve to introduce a series of complex policy issues attending the liability and insurance crisis with the special interest of pollution liability and insurance.

Please find time to read this material. The plain folder report is my invited response on a private report of an MIT analysis on these issues. I have long been involved on these matters — since 1981 (and somewhat 1979), as reinsurance executive (Swiss Re), underwriting manager for London based Commercial Union, and later as a broker/consultant w/ my own firm. (The final report adopted my conclusions to large measure.)

To make a very long and involved story short: As a member of Mass. DEQE Pollution Liability Work Group, I develop an independent solution sponsored by Senator Golden and Rep. Smedio (Pollution Liability F.U.D.) — a pooled facility for pollution insurance. As the lone Republican, I worked with many of the Democratic leaders and earned a citation from the Mass. Legislature. I was also asked to testify before U.S. Congressional Hearings on the Superfund issues (reauthorization bill) which I did. (I helped write the part on contractor indemnification for cleanup of waste sites). I also worked w/ Reps Hayes / ZIE Commission / SSBANE (Lew Shattuck) and DIM. You may remember Mike Ventresca and Bill McCarthy — I earned their endorsement prior to their untimely deaths. (Mike was just named Joe Kennedy's campaign manager.) (Bill had just written in the Globe how critical the issues were.)

not sent 5/9/88 ARK

I just taught a class of staffs on these matters and will soon be published by a leading journal.

Please review and look at the Dukakis response and my insights — this should be a legitimate primary campaign issue. I see that no answers exist nor is any party or group taking a good look at the facts. We need a federal pollution insurance pool along w/some other refinements. The credit is rich and receipts. The commercial interests have their heads in the sand over this and still get heavy claims which they expect are excluded.

There is much more to discuss, but I certainly think the Bush campaign should leap at this. (I am signed up as a Bush steering committee member.) Businesses are in jeopardy and there are no safeguards for human health, victims compensation and the protection of the environment.

You know, you me and Lee Thomas at EPA are all Carolina '71 grads. Maybe we may all contribute some effective solutions in a unified way while getting Mr. Bush elected.

Kindly let me hear from you — either directly or through Mrs. Brodie.

Thank you

#

P.S. The last time I wrote you I later received nominations for the US Republican Senatorial Inner Circle

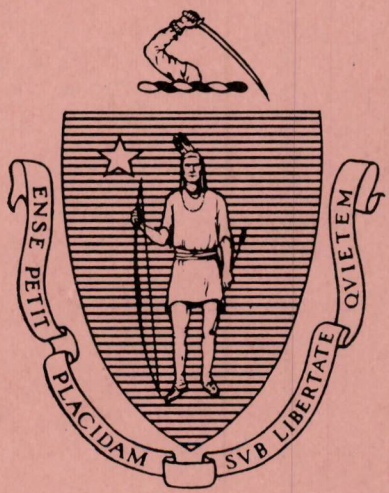
REPORT TO

The Special Legislative Commission on Liability for Releases of Oil and Hazardous Materials

As presented by

The Massachusetts Institute of Technology

THE ROLE OF CHANGES IN STATUTORY/TORT LAW AND LIABILITY INSURANCE IN PREVENTING AND COMPENSATING DAMAGES FROM FUTURE RELEASES OF HAZARDOUS WASTE



Senator William Golden
Senate Chairman

Representative Robert Emmet Hayes
House Chairman

Circa 10/87.

Center for Technology, Policy, and Industrial Development
Massachusetts Institute of Technology
Cambridge, Massachusetts 02139

THE ROLE OF CHANGES IN STATUTORY/TORT LAW AND LIABILITY INSURANCE IN PREVENTING AND COMPENSATING DAMAGES FROM FUTURE RELEASES OF HAZARDOUS WASTE

FINAL REPORT
To The Special Legislative Commission
on Liability for Releases of
Oil and Hazardous Materials

October 1987

Nicholas A. Ashford
Sharon Moran
Robert F. Stone

With Contributions from
Gordon Bloom and Daniel Nyhart

The research underlying this report was supported by the Special Legislative Committee on Liability for Releases of Oil and Hazardous Materials, the Commonwealth of Massachusetts. Any opinions, findings, conclusions, or recommendations expressed herein are those of the authors and do not necessarily reflect the views of the above-named Commission or The Massachusetts Institute of Technology.

MEMBERS OF SPECIAL COMMISSION ON LIABILITY FOR RELEASES OF OIL AND HAZARDOUS MATERIALS

Representative Robert Emmet Hayes, House Chairman

Senator William Golden, Senate Chairman

Representative Charles Decas

Representative Edward LeLacheur

Representative Joseph Mackey

Representative Mary Jane McKenna

Representative W. Paul White

Senator Frederick Berry

Senator Nicholas Costello

Lee Breckenridge, Environmental Committee, Attorney General's Office
(designee of Attorney General Francis X. Bellotti)

* Harry Fatkin, Industry Representative

* Louise Hamilton, Public at Large

* Charles Humpstone, Esq., Public at Large

* Gretchen Latowsky, Public at Large

* Sanford Lewis, Esq., Environmental/Public Interest Representative
(Resignation effective 12/17/86)

* G. Montgomery Lovejoy, III, Associated Industries of Massachusetts
(Member from January, 1986 to Present)

* Gregor McGregor, Esq., Attorney Member, McGregor, Shea and Doliner
(Resignation effective 4/1/87)

* Dr. Richard Monson, Public Health Representative
(Resignation effective 1/8/87)

Willard Pope, General Counsel, Department of Environmental Quality Engineering
(Designee of Commissioner Russell Sylva)

Robert Quinn, Department of Public Health
(Designee of Commissioner Bailus Walker)

Stephen Roop, Executive Office of Environmental Affairs
(Designee of Secretary James Hoyte)

* Michael Ventresca, Associated Industries of Massachusetts
(Member until December 29, 1985)

(* Connotes Appointee of Governor Michael Dukakis)

INTRODUCTION

THIS REPORT WAS PREPARED BY THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY AND COMMISSIONED BY THE MASSACHUSETTS SPECIAL LEGISLATIVE COMMISSION ON LIABILITY FOR RELEASES OF OIL AND HAZARDOUS MATERIALS. IT REPRESENTS THE WORK OF MIT'S CENTER FOR TECHNOLOGY, POLICY AND INDUSTRIAL DEVELOPMENT AND IS HEREBY SUBMITTED TO THE SPECIAL COMMISSION FOR ITS REVIEW AND CONSIDERATION.

The Massachusetts Special Legislative Commission on Liability for Releases of Oil and Hazardous Materials was established by the Massachusetts General Court pursuant to Section 13 of Chapter 7 of the Acts and Resolves of 1983. The Commission's purpose is to investigate the adequacy of existing legal remedies to compensate persons injured as a result of releases of oil and hazardous materials into the environment, and to recommend any needed reforms.

The Commission's twenty-one members were chosen from government, industry, environmental groups, and the public at large, and include legislators, attorneys, scientists, and other knowledgeable individuals.

In September 1984, the Commission released its First Interim Report containing its proposed recommendations for tort reform. Over the following ten months, in 1984 and 1985, the Commission reviewed literature and interviewed expert witnesses in the fields of law, epidemiology, government regulation, and insurance. In addition, during the seven public hearings held across the Commonwealth, it heard testimony from persons who believe they were exposed to hazardous materials.

During the course of those public hearings, it became clear that tort reform would address only the long-term needs of persons exposed to oil and hazardous materials. The Commission, therefore, considered proposing the establishment of a program to meet the short-term needs of victims of exposure. Consequently, in April 1985, the Commission released an interim report addressing this problem, which recommended establishing an Emergency Relief Program designed to provide for the urgent, temporary needs of exposed persons, including relocation, medical care, and lost wages related to exposure.

In early 1986, the Commission began to review all the information it had received and held bi-weekly meetings to review each of the proposed provisions of the First Interim Report in light of that information. The Fourth Interim Report reflected the Commission's recommendations on the various issues it determined were relevant to its mandate.

In June, 1986, the Massachusetts Institute of Technology was contracted by the Special Commission under a research proposal entitled "The Role of Changes in Statutory/Tort Law and Liability Insurance in Preventing and Compensating Damage from Future Releases of Hazardous Waste" to be performed under the direction of Professor Nicholas Ashford of MIT's Center for Technology, Policy and Industrial Development. The first objective of the research was to examine the relationship of recent trends in tort law for injury, loss or harm to the Commonwealth and any other entity or person from the release and threatened release of hazardous waste and materials to the implementation of effective governmental programs to prevent future releases and to ensure fair compensation to affected parties from actual releases. The second objective of the research was to identify existing and new options for governmental and private actions to provide adequate assurances to prevent and minimize future releases of and hazardous wastes and materials and to fairly compensate the Commonwealth, or any other person for injury, loss or harm from any such releases.

TABLE OF CONTENTS

EXECUTIVE SUMMARY

This report presents the findings of a study performed for the Special Legislative Commission on Liability for Releases of Oil and Hazardous Materials, the Commonwealth of Massachusetts. The purpose of the research was to investigate the role of changes in statutory/tort law and liability insurance in preventing and compensating damages from future releases of hazardous waste. The investigation relied on existing literature and reports. No statistically significant survey of views or information was intended. The recommendations emerging from this research are based on the analysis of a variety of policy options, using existing data and studies of the key participants in the compensation/liability system.

Balancing System Objectives

The three goals of the hazardous waste compensation/liability system are (1) to compensate victims of hazardous waste exposure; (2) to deter future releases of hazardous substances and thereby prevent related injuries from occurring; and (3) to punish and remove the "bad actors," (i.e., those who pollute maliciously, recklessly, or in an otherwise reprehensible manner). Policy disputes concerning the functioning of the system might best be viewed as a struggle to achieve and to balance these goals.

It is clear that the goals of compensating victims exposed to toxic substances and preventing future damage from that exposure are in conflict for both practical and theoretical reasons. From a practical perspective, the design and staffing of compensation programs require different resources than programs whose goal is prevention. Competition for finances and human resources requires trade-offs to be made between the compensation and prevention goals. Far more serious, however, are the conflicts which have their origin in the kinds of behavioral change that one would expect from programs aimed at these two goals. Compensation based either directly on insurance, or on compensation through the tort system backed up by insurance, necessarily embodies the concept of "risk pooling" or "risk spreading." It has long been recognized that there is a "moral hazard" associated with insurance which is characterized by the fact that the party causing the damage does not bear the full costs of his actions, and, therefore, may take insufficient precautions to prevent future harm. Merit-rating in insurance provides a weak incentive for accident deterrence and is probably of minimum effect in chronic disease. Traditionally, we justify the diminution of incentives by creating a system which is certain to compensate the victims even when the damage is caused by someone with no resources to compensate. We acknowledge, however, that the prevention goal is compromised.

The "insurance crisis" reported to exist at this time presents more difficult compromises between the compensation and the prevention goals in the area of hazardous waste. On the one hand, if private parties are no longer willing to handle or treat hazardous wastes, we may have compromised the public health. On the other hand, one suggested cure to the crisis has taken the form of limiting the awards in tort suits. This "capping" of court awards will not only increase the moral hazard, viewed in the traditional sense, but it will also decrease what may be desirable risk-averse actions on the part of the private sector to reduce the production of hazardous waste or to treat and transport it with great care, since it is large court awards that firms especially seek to avoid. The trade-offs involved in this difficult public policy question have significant ethical as well as practical consequences. The solutions to the "insurance liability crisis" must address the problem of balance among the goals of compensation, deterrence, and punishment and recognize the technical, legal, and ethical dimensions of these problems.

Finally, whatever balance is struck, the system should be designed to function in a cost-effective way by minimizing transaction costs, uncertainty, and delay.

Recommendations

The interaction of the various institutional actors important for the delivery of pollution insurance is complex and highly interdependent, and each party's actions will play a major role in the successes or failures of the system. The recommendations emerging from this research are interim ones and are designed to be implemented immediately, yet not exclude other actions when indicated. Ideally, these measures will foster greater responsiveness on the part of all parties. Monitoring the effects of these interim measures can then reveal whether the system shows signs of improving and will provide guidance for future action.

Recommendations are suggested for (1) the insurance industry, (2) the federal government, (3) state licensing authorities and insurance regulators, and (4) the tort system. None of these recommendations represent sweeping changes, but rather a coordination of significant, though incremental, improvements. Finally, we offer a preliminary new proposal, which does suggest more far-reaching changes and is introduced here to stimulate discussion. This proposal, however, presupposes the adoption of the recommendations in the prior four sections and builds upon them.

Our recommendations are conditioned by some fundamental assumptions and conclusions. First, the insurance industry has become increasingly concerned with financial management as opposed to risk management, thereby handicapping its performance in

the latter. Second, the better part of the uncertainty in the area of pollution insurance delivery stems from things unknown but not unknowable. Improving the knowledge base concerning environmental risk will eliminate a major source of insurance industry pessimism and encourage investment in the insurance market. Finally, the past problems in this area have cast an inordinately large shadow on the future, undermining innovative approaches and compelling misguided solutions such as restrictive "tort reform."

The Insurance Industry

The insurance industry can develop its role in the market in the following ways:

- Develop and improve risk assessment and risk management expertise. It is not necessary that the insurers actually employ risk assessors on their staffs, but it is essential that risk assessments be fully utilized.
- "Rationalize" the market — develop classifications for the insured based on the risks actually posed by their activities, and set premiums to the risk posed. Use all relevant criteria, such as type of activity (generation, storage, etc.), the substances used, and the probability of harm. Tie pricing to the threat and magnitude of harm, drawing on experience to date, as well as projections of experts.
- Require the insured to conduct environmental audits as a condition of coverage, compelling them to become directly involved in their own risk management.
- Identify and eliminate poor and unpredictable risks, fostering the evolution of the regulated community and, in particular, the waste management sector.
- Explore new policy types, contract options, and organizational structures for delivering pollution liability insurance.

The Federal Government

- The federal government should direct research into the nature and magnitude of health effects associated with hazardous waste activities that could result in compensable events.
- The government should undertake and disseminate an assessment and evaluation of technological solutions to address the hazardous waste problem in order to allow more realistic assessments of future health risks based on likely technological controls.
- Federal (and state) regulatory authorities should regulate environmental and occupational health matters more vigorously in order to lessen the probabilities (uncertainties) of toxic substance exposures. A lax regulatory effort without enforcement encourages careless waste containment, handling, and treatment.
- Federal (and state) governments should regulate environmental and occupational health matters more deliberately and strategically in order to provide incentives to encourage the optimal *kind* of technological response to the laws. "Band-aid" solutions ought to be discouraged in favor of stimulating the development and adoption of technologies which are superior at preventing, containing, and mitigating the exposure to toxic substances resulting from industrial production.

State Licensing Authorities and Insurance Regulators

The effective operation of both the environmental liability insurance industry and the hazardous waste industry, which it serves, requires the active participation of state government. Two state regulatory authorities are required, one to monitor the environmental insurance market and the other to license activities involving hazardous materials. In our recommendations, we specify the regulatory entities as the Massachusetts Licensing Authority and the Massachusetts Pollution Insurance Commission, but that is purely for expository convenience. Precisely how the licensing function is accomplished, from an organizational or administrative perspective, is not crucial to our recommendations, so long as the function is performed.

- The Massachusetts Licensing Authority (MLA) — operating within the Commonwealth's Department of Environmental Quality Engineering (DEQE) — should provide permits to engage in activities involving hazardous materials.

Firms receiving a permit from the MLA are not automatically authorized to undertake the specific activity defined by the permit; such authorization is contingent upon the availability of environmental liability insurance in amounts sufficient to satisfy Massachusetts requirements. The availability of such insurance, and at what price, falls within the purview of the Massachusetts Pollution Insurance Commission (MPIC).

- Poor risks should be seen from a technical perspective, rather than from a purely financial one. There are three reasons why a firm could be regarded as a poor actuarial risk: 1) an insurance contract was liberally construed retroactively, 2) a compensable event(s) occurred in the past, and 3) the insured was a poor risk manager. The first reason should not be a justification for not insuring *future* risks under revised contract language. Past compensable events should be distinguished by determining whether better risk management could have prevented the event. The third criterion, technical responsibility for past *or* anticipated compensable events, should be the focus of determining insurability.

- For firms denied insurance by a specific insurer or insurers, the Insurance Commission should establish an effective appeal mechanism to ensure the insurers' actions were justified.

If the MPIC determines that the firms and their activities constitute a reasonable risk, it may first offer other insurers the opportunity to provide insurance within the price guidelines established by the Insurance Commission. If no insurer will undertake the risk, then the Insurance Commission may require the firms undertaking a similar activity to pool risks and self-insure according to conditions created by the Commission. Alternatively, the Commission may establish a Joint Underwriting Authority (JUA) for the firms and activities improperly denied insurance; the JUA will consist of all insurers writing liability insurance in the Commonwealth, who will participate in the expenses, profits, and losses of the JUA in proportion to their share of gross premiums in the Commonwealth.

We should note that these actions by the Insurance Commission are in no way incompatible with specific directives by the Commonwealth to promote the environmental liability insurance market. These would include self-insurance initiatives, insured risk management incentives, and state reinsurance facilities.

The Tort System

While the insurance industry (and regulated chemical handlers) have called for widespread and sweeping tort reform, we find no rational basis offered or economic justification for these recommendations in the literature or position papers we examined. The tort system seems to be the most significant mechanism to keep risk aversion in the market. However, several characteristics of injuries caused by exposure to toxic materials have undermined the intended functioning of the tort system in resolving damage claims related to such injuries. To remedy the defects caused by these characteristics of hazardous waste injury, we recommend that the following modification of tort rules be incorporated into Massachusetts law:

- Because those victims of hazardous waste exposure generally cannot take any reasonable precautions to avoid such exposure, *strict liability* should be imposed on the hazardous waste management industry, which generally can reduce the risk of toxic release.
- In those cases in which hazardous waste handlers jointly create technically-indivisible hazardous waste or the conjoint waste makes it impossible to determine which handler caused the injury, the contributing hazardous waste handlers should be *jointly and severally liable* to pay for the resulting injury damages.
- Because of the long latency period between exposure and manifestation of many chronic toxic waste diseases, the commencement date for the statute of limitations should be the date of discovery, when the plaintiff knew, or reasonably should have known, that the personal injury was caused or contributed to by the hazardous substance concerned. This *discovery rule* has already been imposed on Massachusetts by the "State Procedural Reform" provision of the Superfund Amendments and Reauthorization Act of 1986.
- Again because of the long latency period between exposure and manifestation of many chronic toxic waste diseases, exposed parties should be permitted to recover health screening and health monitoring expenses from liable polluters even though no disease has yet been manifest. Furthermore, if found liable, the defendant should be required to establish a mechanism to ensure recovery by the plaintiff of the losses he incurs as a result of any exposure-related disease that subsequently becomes manifest.
- Because diseases caused by toxic materials generally can have multiple etiologies, the "probable cause" test should be replaced by a "substantial factor" test.
- Because hazardous materials incidents may result in mass exposure, class actions should be permitted and encouraged where common issues predominate. In mass exposure cases involving both common and diverse issues, split trials should be permitted and encouraged, comprised of a class action proceeding on the common issues and individual proceedings to address the diverse issues.

The following tort rules are also recommended, in this case not because of any special characteristics of hazardous waste injuries, but because they contribute to satisfying the objectives of the compensation/liability system:

- Oppose the Capping of Awards

There is no question that the hazardous waste compensation/liability system is beleaguered throughout by enormous levels of uncertainty. Placing caps on allowable damage awards or on certain damage categories, especially pain and suffering, can reduce system uncertainty. In particular, by limiting the financial exposure of insurers, such caps can help stimulate the environmental liability insurance market, promoting the availability of liability insurance to hazardous waste handlers at more affordable rates.

While acknowledging this benefit of award caps, we must strongly recommend *against* their enactment. Restricting damage awards, by insufficiently compensating exposure victims and inadequately deterring polluters, will seriously compromise the attainment of the

compensation and deterrence objectives of the system. Reducing system uncertainty and uncertainty in the environmental liability insurance market can be achieved by far less costly means: (1) by insurers introducing policies which contain per injury deductibles and indemnity limits and total policy indemnity limits; (2) by insurers improving their risk assessment and risk management performance; and (3) by the state permitting more flexible insurance arrangements and by introducing public or quasi-public insurance mechanisms, if deemed necessary.

- Impose retroactive liability

Retroactive liability is fair, in comparison to the alternatives. The costs of hazardous waste injuries are borne by those parties who contributed to the toxic release and who profited from the activity which created the hazardous waste. Furthermore, these are also generally the parties able to prevent such releases in the future.

- Permit punitive damages

We recommend a statutory revision of Massachusetts common law to permit punitive damages in tort actions arising out of the release of hazardous substances which was caused by the *outrageous* behavior of the defendant. Such punitive damages are intended to reflect the egregiousness of the defendant's conduct, and to punish and deter such conduct beyond the obligation to pay compensatory damages.

We recommend a "clear and convincing" standard of evidence to establish that the defendant's actions were morally reprehensible; in order to avoid confusing and perhaps prejudicing the jury with different types and standards of evidence, we further recommend a bifurcated trial when punitive damages are involved. Finally, because punitive damages are intended as punishment, we recommend that they not be insurable or retroactively applied.

A Preliminary Proposal

Considering the limitations of the existing tort system and historical failings of the Workers' Compensation systems, it is clear that a design of a new system, possibly containing useful conventions and features of both, may be worthy of examination. The new system, applicable to victims' compensation (and possibly to workers' compensation), is offered for consideration.

The system must, of course, address the three goals of compensation, deterrence, and punishment. Specifically, the new system must offer significant improvements in the following ways:

- avoid nuisance or superfluous suits,
- increase accountability for pollution-caused health damage,
- reduce transaction and administrative costs,
- reduce delays of payments for interim measures important to the victims, such as medical surveillance and rehabilitation,
- offer timely and speedy payments for damages,
- reduce uncertainties in both awards and insurance premiums, and
- allow flexibility to accommodate parties of different interests (e.g., through maintaining an elective process in which both the claimant-victim and the insured-defendant can participate).

This might best be achieved by creating a dual and integrated scheduled compensation and tort system, backed up by state agencies which address both the permitting of hazardous substance handling and appeals on the issue of their insurability in the state. The four components of the system: (1) a victims' compensation system, (2) the state tort system, (3) the Massachusetts Licensing Authority, and (4) the Massachusetts Pollution Insurance Commission, will comprise a united system sharing a common data base for health effects information, technological control options, and insurance experience.

The scheme picture in Figure 4.1 indicates the interaction between the victims' compensation system and the tort system. On the discovery of exposure to toxic substances, a potential victim may apply to an administrative system for interim measures of support for medical surveillance and rehabilitation. The funds to support these payouts could come from a combination of feed-stock taxes, waste-end taxes, and insurance premiums for victims' compensation.

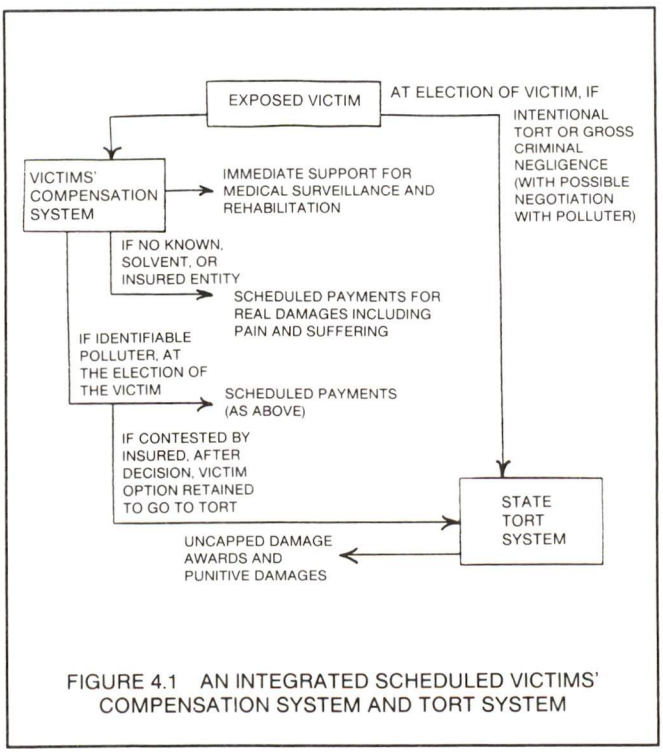


FIGURE 4.1 AN INTEGRATED SCHEDULED VICTIMS' COMPENSATION SYSTEM AND TORT SYSTEM

In the event that no known, solvent, or insured entity can be discovered who might have been responsible for the exposure, the victim will be paid out of the administrative system which will, in addition to the interim measures discussed above, also pay according to a scheduled payout for actual damages, psychic harm, and other objectively verifiable elements of pain and suffering. These payouts would be funded from a combination of feed-stock taxes and waste-end taxes. Immediate payment for the victim, with subrogation of the Fund against first-party insurance payments, could be a part of this scheme.

In the event that a putative insured/defendant is identifiable, the victim can at his election proceed either through the victims' compensation system (where victims' compensation insurance will pay the scheduled real damages and pain and suffering) or through the tort system as follows. If the victim can demonstrate intentional tort, gross and/or wanton disregard for public safety, or criminal intent, then the victim can proceed through the tort system as he presently can. Possible negotiation mechanisms could be established between the victim and insured/defendant to settle disputes more quickly.

If the victim chooses to elect the administrative route (either because there is strict liability/ordinary negligence — or because he would find it too difficult to prove intent or wanton disregard, etc.), payments would proceed according to a schedule discussed before. However, should the insured choose to contest the administrative claim, after its resolution the victim would be free to file a subsequent claim in tort, with possible offset of the administrative remedy.

Two main differences between the payouts offered in the administrative system and the tort system are: 1) a scheduled versus possibly open-ended damage award, and 2) the existence of punitive damages in the tort system. In the administrative system it may be possible to create a multi-tiered schedule of awards. For example, where, to the satisfaction of the administrative trier-of-fact, the damage is more likely than not to have been caused by the alleged polluter, full payment for real and demonstrably objective evaluation of damages would be allowed.[1] On the other hand, for proof of a lesser nature, if the damage is shown to have been caused by the polluter by contributing a substantial factor toward the damage, full payment for out-of-pocket expenses would be provided but a proportionality rule could be applied to other items.[2]

[1] The establishment of rebuttable presumptions where, after a *prima facie* showing, the burden shifts to the putative polluter could be part of this scheme.

[2] Alternative formulations are possible. For example, the proportionality rule could be applied to all damages in "substantial factor" cases or to all but out-of-pocket expenses in all cases. Another plausible variation is to pay in full according to the scheduled damages, but to offset the award by additional compensation from collateral sources in amounts up to the damages *not* provided by the proportionality rule.

The advantages of this proposal are that it offers a way to shuttle putative victims between an administrative system and a tort system in a self-correcting way which depends on both the magnitude of the scheduled payments and the behavior of the parties themselves. If the scheduled payments are too small, victims will continue to go to the tort system for relief. If the scheduled payments are too large, the putative insured/defendants will themselves seek equity in the courts, by contesting the administrative award. This scheme allows the parties and the state (through the establishment of the schedules) to participate in the outcome. The insurance companies participate in the plan by offering two different lines of insurance: 1) victims' compensation insurance to be paid through the victims' compensation insurance route, and 2) personal liability insurance available at a different premium and under different conditions. Finally, the state, through two different functions, will get the bad actors out of the chemical handling business: 1) they will issue permits for handling (through the Massachusetts Licensing Authority), and 2) they will act as arbiters of the insurance companies' decisions to deny coverage to potentially bad risks (through the Massachusetts Pollution Insurance Commission).

SCHEMATIC DIAGRAM OF THE REPORT

I. INTRODUCTION

- Background and Overview
- Research Approach and Methodology
- Purposes of a Compensation/Liability System

II. ELEMENTS OF UNCERTAINTY

- Scientific and Technical Uncertainty
- The Legal System
- Pollution Liability Insurance
- Chemical Handlers

III. OPTIONS

- Scientific and Technical Research
- Research on the Behavior of the Compensation/Liability System
- Influence Insurance Industry Behavior
- Foster Role of Chemical Handlers
- Changes in the Tort System
- Develop Compensatory Programs for Victims

IV. RECOMMENDATIONS

- The Insurance Industry
- The Federal Government
- State Licensing Authorities and Insurance Regulators
- The Tort System
- A Preliminary New Proposal
- Cooperation Among Parties

I. INTRODUCTION AND PURPOSE OF THE RESEARCH

A. BACKGROUND AND OVERVIEW OF THE REPORT

The research underlying this report was conducted in response to a Request for Proposal by the Special Legislative Commission on Liability for Releases of Oil and Hazardous Materials, the Commonwealth of Massachusetts. Its purpose was to investigate the role of changes in statutory/tort law and liability insurance in preventing and compensating damages from future releases of hazardous waste.

This report presents our research findings and is organized as follows. After a brief discussion of methodology, this section concludes with a discussion of the purposes of a compensation/liability system. Section II identifies the sources of uncertainty in the system. Section III discusses the mechanisms and merits of options to reduce undesirable uncertainty and to help meet the objectives of the system. Section IV contains our recommendations for improving the system and for re-establishing the market for liability insurance. An executive summary of major findings and recommendations is also provided.

B. RESEARCH APPROACH AND METHODOLOGY

The research concentrated on an extensive review of reports and studies of the key actors/groups/policy analysts concerned with the liability system and with insurance availability. No original data collection of court awards, insurance settlements, or economic performance of the insurance industry was intended or performed, and although we made some incidental contacts with the insurers and chemical handlers, no systematic surveying was intended or accomplished.

The research sought to determine whether:

- the facts, conclusions, and policy recommendations of the reports and studies were supported by the available evidence;
- the facts, conclusions, and policy recommendations of the reports and studies were contradicted by the available evidence;
- there were additional areas of study needed to clarify key conclusions and policy issues.

The review focused on the releases of hazardous materials but included, where appropriate, the related areas of environmental exposure, toxic torts, and products liability. The analysis was undertaken in terms of both prevention and compensation of damage from releases of hazardous waste.

The research identified key assumptions underlying a variety of policy recommendations in the reports and studies mentioned above and took into account the role of uncertainty in the success of tort and insurance remedies. The research identified where uncertainties could be narrowed through both research and legislative clarification.

Finally, policy options and recommendations were analyzed, and a new proposal was offered to stimulate discussion and further research.

C. THE PURPOSES OF A COMPENSATION/LIABILITY SYSTEM

The three goals of a compensation/liability system are (1) the compensation of victims, (2) the deterrence of future harms, and (3) the punishment of transgressors. Other researchers considering this issue have chosen somewhat different goals, but this may be more a semantic than substantive distinction. The National Science Foundation 1983 Report implicitly identifies compensation as the primary goal of any system, but considers deterrence as well when reviewing the merits of the specific compensation systems.[1] Pfenningstorf explicitly identifies compensation as the primary goal and deterrence secondary; punishment is mentioned only briefly, in the contexts of deterrence and of damage awards.[2] The Grad Report evaluates existing and potential methods of compensation, touching briefly on deterrence.[3] The Keystone Report also emphasizes compensation, but mentions deterrence.[4] We consider punishment separately from deterrence because it serves a distinctly different role, specifically, retribution for an intentional harm.

Policies and techniques for actually accomplishing these goals will be covered in later parts of this report. In this section, we provide a discussion of the purposes of a compensation/liability system. This discussion should facilitate the subsequent consideration of the uncertainties in the system, and policy options for reducing those uncertainties and satisfying system objectives.

1. The Compensation of Victims

a. The Social Basis

Reviews of victim compensation have noted that, while the legal system may generally be the proper forum for resolving redress of harms caused by exposure to toxic substances, it is not currently coping with the challenge posed by environmentally-induced diseases due to a host of legal and technical difficulties.[5] Even in cases of fairly certain causation, no easy legal remedy is available. Because both initial access to the court and subsequent proof problems pose substantial barriers to recovery under traditional tort law, it is difficult to take stock of just how many legitimate, yet uncompensated, victims exist.

---

[1] National Science Foundation (1983).

[2] Pfenningstorf (1985).

[3] United States Government, Senate Committee on Environment and Public Works (1982).

[4] Keystone Center (1985).

[5] For example, see United States Government, Senate Committee on Environment and Public Works (1982), pp. 25-117.

The view that no victims of exposure to hazardous substances should bear the physical, psychic, and economic burdens of chemical externalities to which they were involuntarily exposed is fairly uncontroversial.[6] While many Americans benefit from the fruits of our industrial society, some bear a disproportionately large share of the burden. Although we cannot make the victims "whole" again, it would seem to be a great breach of social justice simply to call them "unlucky," and make no provisions for relieving their undue hardship.

Public support for control of hazardous substances is strong and growing stronger. In October, Congress passed the Superfund amendments (SARA), strengthening the country's commitment to cleaning up existing waste sites; California and Massachusetts voters responded similarly on referendum questions. A poll of Massachusetts voters conducted by MASSPIRG revealed that people are even willing to pay higher taxes to clean up waste in a timely and efficient manner. Those who argue the view that Americans are not particularly concerned with hazardous substance risks, however, neglect important issues of information and choice: how can people be said to be making an informed choice when fundamental information about the effects of toxic substances is not only unavailable but nonexistent?[7]

Some would argue that the government's role in our society is to develop and enforce laws designed to foster sound economic behavior, while a broader (usually considered more "liberal") conception of the government holds it as the guardian of physical and economic well-being of its citizens. The broader conception holds that in addition to fostering sound economic behavior, it should also provide assurance that no individual's basic needs will go unmet. This "welfare state" philosophy is embodied by Social Security, Medicaid, and welfare programs. Legislators at local, state, and federal levels are constantly defining and redefining the boundaries of this broader concept of governmental responsibility.

In the narrow view, victims should receive compensation because they have been harmed by someone. If the responsible party cannot be identified, then the victim simply suffers. This view is criticized as being cruel, and as creating false economies based on externalized costs, thereby causing the harmful activities to appear more profitable than they truly are. The broader view of governmental responsibility holds that victims should be compensated simply because they are victims. This view is criticized as a naive conception of human nature, which fosters a society with diminished autonomy and individual responsibility. These two different views are reflected in the tension between a fault-based and a compensatory system for compensation of victims, and are recurring themes throughout this Report. For example, once society has deemed it inappropriate that any victim of hazardous substance exposure go uncompensated, the question of the source of the compensatory funds soon emerges, which raises this tension. In cases where the transgressor is clearly identifiable, the answer is obvious: the injurer should pay. Such a resolution would meet compensatory goals quite fairly. But as the situation becomes more complex (multiple parties, insolvent parties, uncertain causation, retroactive liability, etc.), the need to compensate will come under closer scrutiny. In order to unravel these issues, we must examine the nature of the harm and the compensation.

b. The Definition of the Victim

Exactly who are the compensable victims of hazardous substance exposure? The easy cases are those presently experiencing specific and unique symptoms, and having a clear record of exposure. But there are still many difficult distinctions to be made. For example, should a party that has documented exposure but no symptoms of harm to date be entitled to compensation? Are there latent victims, or semi-victims? Should their level of compensation be a function of harm manifested to date (i.e., should such a party be entitled to medical monitoring only, until some actual symptoms appear)? Should those harmed by past exposures to hazardous substances be treated any differently in designing compensation/liability remedies than those harmed by releases which will take place in the future? Should harms incurred in the workplace be handled separately? All of these questions rise into greater relief when we consider the uncertainty present in the system, and the possible methods for resolution. Ultimately, many of these issues relate to the goals of the system and the balance among them.

c. The Definition of Compensation and the Difficulty in Measuring Full Compensation

What is compensation? It is, at the very least, payment for the health care costs sustained in the monitoring and treatment of hazardous substance injuries. Compensation can extend to legal expenses, lost wages, relocation expenses, payments for death and permanent disabilities, and to pain and suffering. Added to these could be the present fear of contracting or exacerbating disease in the future.

Medical costs provide the major motivation behind the attention to victim compensation programs in the state and national governments of the United States; few countries with national health care plans have scrutinized such programs with anything like the attention they have received here. (Although most Americans subscribe to pre-paid health plans through their workplaces, not all do, and these plans rarely cover all medical costs.) A victim's health care costs begin either with documented exposure (whereupon medical monitoring would logically follow), or with actual evidence of harm. Psychic or emotional distress,

[6] See U.S. Government, Senate Committee on Environment and Public Works (1982).

[7] See, for example, Wildavsky and Douglas, 1982.

necessitating mental health care, could exist separately from any physical or bodily harm.

In addition to the more objective considerations of the definition of compensation, there is also that used by the legal system. As knowledge of disease causation develops, the legal system's definitions of a compensable injury may change. Legal judgments turn on liability, and causation is critical to establishing liability. Forcing highly probabilistic epidemiological findings into the binary constructions of the legal system means erring on one side or the other: one party will bear the burden of proof while the other will enjoy the presumption of innocence. Once such decision rules are in place, it is not too difficult to separate the compensable from the uncompensable. However, erring on the side of compensation for the victims will diminish the importance of the causation issue; a less rigorous demonstration of exposure to a hazardous substance will suffice. Shall the extent of compensation be a function of causation? To what extent must the causation be demonstrable? Insofar as causation is unknown, is compensation then denied? Our current system errs on the side of providing inadequate compensation for victims. In a case where an exposure is known to increase the incidence of a particular disease, a victim might still receive no compensation whatsoever: unless the incidence of the disease is increased to more than twice the background level of the disease, no single case could be deemed to "more likely than not" have been caused by the exposure.

2. Deterrence of Future Injury

In addition to compensation, a central goal in addressing the needs of (especially potential) toxic victims is the deterrence of future injuries. Some authors reviewing victim compensation have merged the goals of deterrence and punishment,[8] since punishment always serves a deterrent function and is logically subsumed in that goal. We will consider punishment separately because, being above and beyond straight compensation, it is a form of retribution serving to condemn outrageous behavior[9] and to maintain the integrity of the legal and administrative system in the public eye.

Deterrence could be realized either within the compensation system itself or in a more general set of environmental control policies, or both. Clearly, the entire constellation of environmental regulations that has been developed over the past 20 years strives to discourage release of hazardous substances into the environment, in some cases providing civil and criminal penalties to be assessed against guilty parties. Such a system serves as a deterrent only to the extent that the regulated community is voluntarily law-abiding, or believes enforcement to pose a serious threat. Since release into the environment must occur before victim exposure can take place, environmental regulations provide a first line of defense against personal injuries.[10]

To the extent that the tort system serves the needs of toxic victims by redressing harms (the extent of which many argue is incomplete),[11] the tort system has some deterrent effect. But because the difficulties in filing actions and proving causation prevent most victims from obtaining redress for their injuries, the victims, their health insurers, and society in general are all bearing the costs of injuries that occurred not as a result of the victim's own conduct, but as a result of someone else's. Because the transgressors have the superior ability to control these injuries, efficiency demands that the responsibility (both financial and legal) to do so also lies with them. Otherwise, these costs remain external to those manufacturing or using hazardous substances, thereby enshrining a false economy by making products appear less costly than they actually are. In order to be fully deterrent, a fair and efficient victim compensation system must direct these costs to the parties whose activity gives rise to the injury.

Legal responsibility is an important element in compelling deterrence.[12] It is easy to imagine that if chemical handlers are subject to a strict liability standard, rather than just a negligence standard, their level of care will rise. It is also conceivable, however, that the economic consequences of such liability are so onerous that handlers would concentrate not on the challenging task of fine-tuning their practice, but on the construction of insulated business entities, possibly withdrawing from any such activity at all. Like strict liability, joint and several liability is intended to increase the standard of care, but could also produce the opposite effect.

Even internalizing all known costs of injury from exposure to hazardous substances (including transaction costs) will not completely eliminate the problem as a public policy issue in the future. Internalizing costs may well attain an "economically efficient" level of activity within the industry, but any argument supporting this policy (so familiar from environmental economics generally) must closely scrutinize the quality of the "cost" being considered.[13] For harms that are

[8] See for example, Pfenningstorf (1985).

[9] Society is becoming increasingly aware of not only the diseases stemming from hazardous substances but the egregious corporate actions that have caused the problem, in some cases. Indeed, the asbestos industry has received much publicity for its "outrageous conduct." See Brodeur (1985).

[10] While not the focus of this Report, occupational regulations which prevent workplace exposure provide a similar first line of defense against personal injuries.

[11] See, for example, National Science Foundation (1983); United States Government, Senate Committee on Environmental and Public Works (1982); and Trauberman (1983).

[12] The authors are not unmindful of Coase's argument that liability is not important in a fully-informed market, operating with zero transaction costs. We hope that even Coase would not apply his theorem to this problem. See Coase (1960) and Section III, Note 37, *infra.*

[13] See Ashford, *et.al.* (1982).

difficult to monetize, such as human health impairment and death, the "market value" is, by definition, a highly subjective quantity.[14] Therefore, due to the subjectivity of quantifying and monetizing these harms, even complete internalization of market-derived costs will not necessarily carry the full deterrence value that public policy makers choose to impose on the transgressing parties.

3. Punishment

Punishment is a burden imposed on wrongdoers to reflect society's condemnation of their outrageous conduct. The justification for punishing a wrongdoer is usually provided in the concept of retribution: it is morally fitting that a wrongdoer suffer for egregious behavior, irrespective of the consequences of the punishment.[15] In this sense, the objective of punishment can be distinguished from deterrence, even though punishment invariably contains some deterrent effects (if one assumes, reasonably, that punishment is inflicted on the wrongdoer and not on innocent parties). Punishment as retribution is valuable in itself since, in giving wrongdoers their "just deserts," society reconfirms its moral standards.[16]

An essential feature of retribution is that the punishment be in proportion to the moral gravity of the wrongdoing.[17] What is not certain is whether the punishment should reflect the seriousness of the offender's conduct or the seriousness of the harm caused by the offender. The prevailing opinion is probably that it is the blameworthiness of the offender's *conduct,* rather than the consequent harm, which determines the level of punishment. The moral gravity of the conduct is represented by the harm risked, not by the harm done. The same conduct risks the same harm — it is only by chance that the expected harm does not occur each time; hence equally guilty conduct requires an equal degree of punishment.[18]

There are, however, at least two possible reasons that the harm resulting from the offender's actions should influence the level of punishment inflicted. First, as a practical matter, determining the moral gravity of the wrongdoer's behavior may be a difficult task, depending, as it does, on establishing the wrongdoer's intentions. However, more egregious conduct tends to be positively correlated with more serious harm; that is one reason the conduct is deemed to be morally reprehensible — the large, unwarranted, and unnecessary risk of harm to which members of society are thereby exposed. The gravity of the harm caused by the offender might therefore serve as an indicator — a type of proxy — for the moral gravity of the offender's conduct and, for this reason, be taken into account when fixing the level of punishment. Second, the more serious the harm, the greater the resentment felt by the victim. In order to substitute for, and place a limitation on, desires for revenge, society imposes punishment to reflect both the offender's conduct and the harm such conduct causes.[19] It is probably for this latter reason that the severity of certain conduct is established by law according to the resultant harm. For example, murder is a separate and more severly-punished crime than attempted murder, and vehicular homicide is considered to be a more serious crime than driving while intoxicated, even though the offenders' conduct may be identical.[20]

The use of the law to impose punishment raises several questions of policy and procedure. Who is empowered to punish? Can corporations be punished? Can or should the burden of the punishment be compensated through insurance?

Although punishment is usually associated with criminal law and compensation with civil law, civil penalties can be imposed for punitive purposes.[21] However, if a nominally civil penalty is deemed to be a substantively criminal punishment, then the defendant may be entitled to all criminal procedural protections.[22]

The issue of corporate punishment is a controversial one. According to retributive theory, punishment can be imposed on persons who, as moral agents, have acted wrongfully and therefore deserve to be punished. The underlying concept of the moral agent demands *mens rea,* a mind intent on harm. Some legal theorists argue that a corporation, an abstract entity, is incapable of *mens rea,* of distinguishing right from wrong,

---

[14] See "Valuing Human Disease, Injury and Death" in Ashford, *et.al.* (1982).

[15] See Posner (1983), Chapter 8.

[16] Hyman Gross, however, suggests that retribution reinforces society's moral standards and in doing so prevents an erosion of the community's respect for law. Hence, according to this interpretation, retribution is justified by deterrence objectives. See Gross (1979), pp. 400-409.

[17] This retributive view is founded in the *lex talionis* of early Roman law and in the "eye for an eye" precept in the Old Testament, which holds that the punishment inflicted upon the offender must *equal* the moral gravity of his wrongdoing. More recent retributivists reject *lex talionis* on the ground that the terms of the equation are incommensurable. However, it is clear that retribution implies some positive relationship between the culpability of the offender's conduct and the severity of the punishment. See Posner (1983), pp. 207-208, and Wheeler (1983), pp. 310-311.

[18] See Hart (1968), pp. 128-135, and Gross (1979), pp. 423-436. We should also note that the identical issue arises when considering the objective of deterrence. What society wishes to deter is the (expected) harm resulting from the offender's conduct, but by forcing the offender to "internalize" the costs he imposes on others, tort law usually substitutes actual harm for expected harm.

[19] Hyman Gross rejects this justification, arguing that society has superior methods for dealing with private vengeance. In particular, acts of private vengeance and retaliation can be, and are, made punishable as crimes. Hence, he concludes, there is no need to introduce public vengeance as a surrogate for private vengeance. See Gross (1979), pp. 391-394.

[20] These moral distinctions by harm done, however, merely reflect current social and legal custom and do not address the normative issue of whether the severity of harm *should* affect the degree of punishment inflicted.

[21] See Note (1966).

[22] See Wheeler (1983).

just are infants and the insane.[23] Similarly, the argument continues, retribution does not permit punishing the entire corporation for the actions of one or a handful of its employees and that such an instrumentalist approach would be tantamount to punishing someone for another's wrongful conduct. On the other hand, modern jurists have consistently imputed to the corporation the mental condition of its agents as a way of satisfying *mens rea.* Furthermore, the corporation is in the best position to control the behavior of its own employees and is the beneficiary of the employee's wrongdoing. If corporations can be punished, criminally punished, for price fixing and securities violations, then they should certainly qualify for civil punishment for irresponsible acts involving toxic wastes.[24]

The question of the validity of liability insurance for punitive fines also rests on the fact that one person — or an insurance company — cannot be punished for another person's wrongdoing. Shifting punishment to an insurer would undermine the purpose of the punishment. Analogously, insurance against criminal fines or penalties would be void as violative of public policy.[25]

4. Balance Among Goals

The struggle to balance the goals of compensation, deterrence, and punishment is exemplified in many systems which seek to address victims' needs while still preserving some preventative effect.

Consider, for instance, the case of occupational injuries. In the common law of tort, employers could be held responsible for injuries, but this responsibility could be defeated or offset by contributory negligence of the worker. This doctrine acknowledged shared worker and employer responsibility for accidents. With the creation of Workers' Compensation, a risk-pooling mechanism was established to assure all injured workers payment of health care costs and some benefits following an accident, with the rebuttable presumption being that the injury arose "out of and in the course of employment." The benefits are paid from a fund financed by employers, with payments in some measure commensurate with the employers' accident rates (merit rating). A tort suit could be filed only if this administrative compensation system did not recognize a certain type of injury, or if the employer intentionally injured the worker. In this way, the option for punishment of egregious behavior is preserved.

Some critics of Workers' Compensation argue that the level of benefits provided workers (typically 80% of past wage level) is too low to prevent families from experiencing severe financial hardship following a wage-earner's injury. This hardship is not something that they should bear, it is argued, but should instead be the responsibility of the party with the resources to prevent it: the employer. Others argue that the level of compensation is appropriate, reflecting a minimal but non-negligible role played by the worker in preventing his or her own injuries. Any higher compensation level, it is argued, would remove the payment's deterrent effect, possibly encouraging lazy and fraudulent individuals to exaggerate or even stage injuries.[26]

The system has sought to resolve these tensions by providing some reliable compensation for health care and lost wages while still maintaining an incentive for prevention, both to the worker (who receives diminished wages in addition to his/her harm), and to the employer, whose insurance rates will rise, or if grossly negligent, could be liable under tort law. Thus, workers' compensation attempts to resolve the need to meet both compensatory and deterrence goals simultaneously, while still maintaining an option for punishment.

What have we learned about the balancing of goals in the Workers' Compensation system that might be helpful in environmental compensation? It is clear that the goals of compensating victims exposed to toxic substances and of preventing future damage from that exposure are in conflict for both practical and theoretical reasons.[27] From a practical perspective, the design and staffing of compensation programs require different resources than programs whose goal is prevention. Competition for finances and human resources requires trade-offs to be made between the compensation and prevention goals. Far more serious, however, are the conflicts which have their origin in the kinds of behavioral change that one would expect from programs aimed at these two goals. Compensation based either directly on insurance, or on compensation through the tort system backed up by insurance, necessarily embodies the concept of "risk pooling" or "risk spreading." It has long been recognized that there is a "moral hazard" associated with insurance which is characterized by the fact that the party causing the damage does not bear the full costs of his actions, and, therefore, does not take sufficient precaution to prevent future harm.[28] Merit-rating provides a weak incentive for accident deterrence and is probably of minimum effect in chronic disease.[29] Traditionally, we justify the diminution of incentives by creating a system which is certain to compensate the victims even when the damage is caused by someone with no resources to compensate. We acknowledge, however, that the prevention goal is compromised.

The difficulty in obtaining pollution liability insurance reported to exist at this time is presenting still more difficult compromises between the compensation and the prevention goals in the area of hazardous waste. On the one hand, if private parties are no longer willing to handle or treat hazardous wastes, we may have compromised the public health. On the other hand, one suggested cure to the crisis has taken the form of

[23] See Wheeler (1984), page 598.

[24] See Coffee (1981), and Cook (1984), page 620.

[25] See Schwartz (1983), pp. 136-137.

[26] See Ashford (1976).

[27] See Ashford (1976).

[28] See Heimer (1985).

[29] See Ashford (1976).

limiting the awards in tort suits. This "capping" of court awards will not only increase the moral hazard, viewed in the traditional sense, but it may also decrease what may be desirable risk-averse actions on the part of the private sector to reduce the production of hazardous waste or to treat and transport it with great care, since it is large court awards that firms especially seek to avoid.[30] The trade-offs involved in this difficult public policy question have significant ethical as well as practical consequences. The solutions to the "insurance liability crisis" must address the problem of balance among the goals of compensation, deterrence, and punishment and recognize the technical, legal, and ethical dimensions of these problems. In sum, a system in balance will not only meet all of the goals identified herein but will do it economically, efficiently, and rapidly.

[30] See the Conference Board (1986). Also note that capping appears to be one of the private sector's most popular responses to liability despite the survey result that "most liability cases are settled out of court, and for relatively modest sums," page 16.

II. ELEMENTS OF UNCERTAINTY

Even after the goals of a compensatory system have been articulated and issues of balance among goals and efficiency of the system have been addressed, policy design and/or improvement can be formidable. Uncertainties plague the existing system at all levels, from the most technical to the highly administrative. Uncertainty may stem from three general areas:

- The human health effects of hazardous substances and their role in disease causation (biological science uncertainties), and the extent of and potential for harm from various activities employing hazardous substances (exposure uncertainties);
- The legal treatment and interpretation of harm arising from hazardous substances (legal uncertainties);
- The practices of hazardous substances insurers; and
- The practices of chemical handlers.

This section reviews what is known in each area, what is uncertain, and what remains to be clarified through study. Although the effects of uncertainties on the incentives of the relevant parties may be touched upon in this section, full discussion of the ways to minimize the uncertainties will be reserved for Section III.

A. SCIENTIFIC AND TECHNICAL UNCERTAINTY

Scientific and technical uncertainty exists in three areas. The first concerns the *human health effects* resulting from exposure to hazardous substances (the biochemical mechanisms, the methods for health evaluation, and difficulties in assessing the magnitude of the problem). The second concerns the *sources of exposure* to hazardous substances (the types of facilities, activities, or releases that pose a threat to health, and the route by which the chemicals enter the body). The third concerns the *effectiveness of both existing and new technologies* for controlling exposures and releases of toxic substances. These uncertainties will be reviewed below.

1. The Human Health Effects

Many of the policy issues concerning the administrative and legal treatment of harms resulting from exposure to hazardous substances reflect underlying scientific uncertainties concerning the human health effects caused by those exposures. Medical science has not developed a full understanding of the health effects of hazardous substances,[1] and this is likely to remain the case in the foreseeable future. As a result, it is difficult to quantify the health significance of exposure or injury across the population. These scientific uncertainties complicate policymaking. Since the consequences of exposure and the causes of disease are poorly understood, responsibility and liability are difficult to determine, yielding both theoretical as well as practical impediments to apportionment of legal responsibility.

Toxicology and epidemiology are both developing sciences. Direct testing of substances on human subjects raises obvious ethical questions. The available tools for studying the human health effects of chemical substances are still evolving, and the results are approximate at best. Animal tests to assess toxicity provide some guidance concerning human health effects but rest on assumptions of physiological similarity between species, and may not be very precise for low dose, subclinical, teratogenic, synergistic, or chronic effects.[2]

Toxicological studies often suggest widely different conclusions concerning a particular substance. Consider, for example, the scientific uncertainty surrounding the toxicity of herbicide 2,4,5-T. Some studies have shown it to cause cellular abnormalities, chromosonal aberrations, genetic mutations, fetal abnormalities, and tumors while other studies have revealed no such effects.[3] The resolution of results that appear to conflict

[1] Doull, Klassen, and Amdur (1980), page 9.

[2] National Science Foundation (1983), page 193.

[3] National Science Foundation (1983), pp. 194-198.

often turns on close scrutiny of the assumptions underlying the specific experimental design.

In addition to the more methodological issues, such as the control population chosen and the statistical approach used, specific aspects of a study including animal species used, dosage levels, route of administration, and purity of reagents can all be invoked to explain variation among studies. Because of suspicion that a side product[4] generated during the synthesis of 2,4,5-T may be responsible for the toxic effects observed in the aforementioned studies, research on both the side product itself and its synergistic effects is now in progress.[5] Apparently conflicting results have thus provided direction for additional research, but in the meantime, uncertainties remain.

Epidemiology is the study of the incidence of disease in populations. To date it has provided the major source for the primary identification of hazardous substance effects on humans.[6] Epidemiology is useful in identifying correlations and forming hypotheses, but cannot elucidate mechanisms. The practice of epidemiology is becoming more standardized. The debate about the significance of epidemiological studies has been fueled by members of the tobacco and lead industries, who are motivated by the associations of their products with lung cancer and neuropsychological impairment, respectively. These criticisms have been "a powerful goad to epidemiologists," and "this debate has fostered the development of a set of reasonably well standardized criteria for examining data pertaining to cause and effect."[7]

The implications that are drawn from both toxicological data and epidemiological findings turn on the hypotheses about human physiology. Due to fundamental uncertainties concerning physiological phenomena, such as the workings of the immune system and the regulation of cell growth, scientists are often prompted to rely on assumptions about physiological processes when considering the effects of a particular substance. Some of the major issues in hazardous substance effects, such as the debate over the position or shape of dose-response curves, reflect the many uncertainties in these areas.

The medical techniques used to evaluate people exposed to hazardous substances are often not specific enough to identify chemically-induced diseases as such with any certainty. As discussed above, this stems partially from the highly complex, multifactorial nature of disease causation. It is difficult to say conclusively that an effect from an exposure has not and will not occur, since effects may be latent or subclinical. However, it is sometimes possible to identify an injury as clearly resulting from exposure to a particular substance: a chemical residue could be present in the patient's body, as in the case of heavy metal poisoning, or a unique physiological response might be present, as with a certain and rare form of liver cancer in vinyl chloride handlers.[8] But generally, the observed responses to substance exposures are not specific or unique, and many diseases that are suspected of being associated with hazardous substances exposure may also arise with no such exposure.

The proper techniques for monitoring those who have been exposed to hazardous substances are typically determined by the substance in question.[9] General classes of compounds such as heavy metals and aromatic amines are associated with standard medical diagnostic procedures. New techniques developed in the past decade, such as genetic monitoring and immune system evaluations, may be useful in tracking the exposed for evidence of injury.[10]

Despite the fact that they cannot be absolutely conclusive, health assessments and monitoring can be valuable to those who have been exposed. Knowing that no problem is extant can be a great relief, even granted the caveats that typically accompany such a pronouncement. If a problem is found, subsequent action can be considered. In some cases, there are therapies or procedures that can mitigate the effects of exposure (e.g., chelation in the case of heavy metals). Other diseases, such as some forms of cancer, may be less severe when diagnosed early and treated. However, in many cases, there is no standard medical response to the exposure or injury beyond continued monitoring. Although a wait-and-see diagnosis is neither conclusive nor very encouraging, it still may have utility to the potential victim.

Most studies on toxic victim compensation attempting to assess the magnitude of the current problem have succeeded only in showing just how difficult it is to obtain relevant information. The authors typically consult governmental data bases, medical records, the trial bar, chemical industry and insurance company files, and have repeatedly discovered minimal data on injuries resulting from toxic substance exposures.[11] Nonetheless, no one concludes that victims simply do not exist; instead, researchers have noted the ways that such injuries could be escaping their notice. For example, privacy concerns may inhibit institutions from releasing such data, even in the aggregate. In addition,

[4] Known as TCDD or 2,3,7,8-tetrachlorodibenzo-p-dioxin.

[5] National Science Foundation, p. 198.

[6] National Science Foundation, p. 194.

[7] National Legal Center for the Public Interest (1984), pp. 59-60, statement of Dr. Phillip Landrigan, Director, Division of Surveillance, Hazard Evaluation and Field Studies of NIOSH.

[8] Doull, Klassen, and Amdur (1980), page 221.

[9] For an extensive review of the science, see Ashford, Spadafor, and Caldart (1984).

[10] A recent California Worker's Compensation claim successfully alleged 90% disability as a result of immunological damage due to chemical exposure in the workplace. Personal communication with Amanda Hawes, plaintiff's counsel, May 26, 1987.

[11] See Commonwealth of Massachusetts, Pollution Liability Work Group — 21C Hazardous Waste Advisory Committee (1986), Commonwealth of Massachusetts, Fourth Interim Report of 21(e) Group (1986), and United States Government, Senate Committee on Environment and Public Works (1982).

the bleak prospects for recovery by toxic victims under existing tort law may engender a self-selection process that contributes to the dearth of potential claimants to be found in the legal system. Most importantly, due to the difficulty in determining whether a particular symptom does in fact arise from a substance exposure, hospitals and physicians do not routinely keep records concerning symptoms arising from hazardous material exposure.

The difficulty in counting the number of toxic substance victims thus stems from two causes: fundamental scientific uncertainty as to exactly who is indeed a toxic substance victim, and the lack of available data bases that can be relied upon to reflect definitively the number of toxic victims. Some relief may be forthcoming under provisions of SARA: the role of the Center for Disease Control's Agency for Toxic Substances and Disease Registry has been expanded to include both disease and exposure registries, and Title III will make information about storage and release of hazardous substances in a community more fully documented and available.[12]

2. The Sources of Exposure to Hazardous Substances

Through what pathways does injury from exposure to hazardous substances occur? The connection between a chemical and an injury starts with its release from an area of relative isolation from human contact and into one of exposure. The substance must then enter into the body through one of three ways: orally, through contaminated drinking water or food; inhalation of airborne substances; and transdermally, through skin contact. Just how the substance enters into the human environment in the first instance, providing it the opportunity to then progress through one of those paths, is a highly complex question.

With no survey data on the numbers and types of exposure experienced by the potential toxic victims, it is impossible to make any generalizations about the ways in which most victims have been exposed, or may be exposed in the future. However, based on cases noted to date, we can identify some possible routes. Since becoming a Superfund-listed waste site requires some existing or threatened human exposure, those living near Superfund sites can be assumed to be at some appreciable risk of injury through airborne emissions, contaminated water supply, or some other route. But beyond identified Superfund sites, we have a very foggy picture of just what types of facilities, operations, and releases pose real dangers to the public health. Research in this area is needed. For example, do we see correlations between the seriousness of the threat of injury and various aspects of the facility or release? These aspects include: known or unknown responsible party; public or privately managed facility; active or inactive site; hazardous waste or hazardous substance; and hazardous waste generator, or hazardous waste treater, storer, or disposer. Because correlations of injuries with these aspects or characteristics would assist us in assessing where the threats do and do not lie, and what their relative magnitudes are, we would be better able to assess just what types of risks pose serious, insurable and uninsurable risks. Without further research, it is difficult to make risk estimates with much certainty.

3. Technological Controls

Hazardous substance releases can be mitigated through a variety of technological controls. Many of these technologies involve "end-of-pipe" treatment of a waste stream or an already contaminated resource like groundwater. There is uncertainty as to the range of applicability and effectiveness of many of these approaches, both as they currently exist and as future solutions following further development. Similarly, waste reduction and waste minimization approaches can minimize human exposure to hazardous substances, but the extent of their promise is not well known. Research into such innovative technologies could reduce these uncertainties.[13] But in addition to the existing levels of uncertainty, the uncertainty *perceived* by chemical handlers and their insurers concerning what can be controlled may be greater than that the uncertainty which actually exists. Information sharing concerning technological control options could reduce these excessive uncertainties.

4. Conclusion

The scientific and technical uncertainties concerning the health effects and the sources of exposure to hazardous substances may be said to lie at the base of the policy design issues concerning the prevention of and compensation for such personal injuries. Many of these most fundamental scientific uncertainties concerning disease causation simply do not promise to be resolved within the foreseeable future. However, some of these uncertainties, particularly those concerning the sources of exposure and control technologies, can be resolved by more concerted efforts at data collection and analysis.

The present system for preventing and addressing hazardous substance injuries has many shortcomings that arise from scientific uncertainties, but delaying any sort of meaningful plan to assist victims pending fuller understanding of toxicicology would be to willingly agree to subject them to preventable injury. In sum, the fundamental and difficult-to-resolve scientific uncertainties should not be confused with the more easily addressed technical uncertainties.

---

[12] It is not the charge of the Commission or this Report to consider compensation and liability for workplace exposures, although we acknowledge that addressing workplace and environmental exposures involves many of the same issues. Nonetheless, we note that increased reporting of occupational exposures is required under the Toxic Substances Control Act and may soon be supplemented by the High Risk Occupational Disease Notification Act, currently a bill under consideration by the 100th Congress (H.R. 162).

[13] See Hirschhorn and Oldenburg (1987), pp. 532-533.

B. THE LEGAL SYSTEM

The legal treatment of harm arising from human exposure to hazardous substances has been a major source of uncertainty for all parties involved in the liability or compensation system. In order to make informed decisions, the firms in the hazardous waste management industry, environmental liability insurers, and persons exposed to hazardous materials all need to know: 1) the rules of law (both statutory and common) which pertain to the prevention of and compensation for damages resulting from toxic substance exposure; 2) how those rules will be interpreted by the courts; and 3) to what extent those rules will be enforced by regulatory agencies. Yet, fundamental issues in each of these areas remain unresolved, thereby exacerbating the degree of system uncertainty and making it more difficult for the relevant parties to act in their own, and in society's, best interests.

Perhaps the major source of legal uncertainty is statutory in nature. To date, there is no federal legislation which establishes a special tort (or administrative) system to provide compensation and determine liability for human exposure to hazardous materials. Although CERCLA provisions create a federal cause of action for *property* damage and clean-up costs incurred as a result of the release of hazardous substances, Superfund does not do so for recovery of personal injury damages.

Instead, each state, as well as the federal government, provides various legal means which potentially relate to toxic waste exposure (including common law remedies, state-created private causes of action for personal injury from hazardous material,[14] and special statutes covering oil spills and other narrowly-defined sources of exposure). Substantial uncertainty exists as to which statutes the court in question will apply to issues of liability, causation, procedure, and damage remedies, and how it will interpret those statutes.

The lack of a federal cause of action for recovery of personal injury damages from toxic waste exposure and the diversity in state approaches have probably not contributed to uncertainty concerning *regulatory enforcement.* The reason is that the responsibilities of environmental regulatory agencies are generally limited to (preventing) the release of hazardous materials and natural resource damage, and property clean-up.[15] Existing CERCLA legislation already addresses these matters.

Of course, *how* these and other environmental statutes are *enforced* will influence the level of system uncertainty. For example, stringent enforcement in general will reduce the number of personal injuries from toxic waste exposure, thus reducing insurer (and probably the toxic waste management industry's) uncertainty. Enforcement of financial responsibility and recordkeeping provisions will help reduce victim uncertainty about receiving compensation for a hazardous waste injury. However, as suggested above, it seems likely that most legal uncertainties arise, not from the regulatory enforcement arena, but from statutory developments and their interpretation by the courts in the areas of liability, causation, procedural rules, and injury damage remedies. An additional source of uncertainty is the court's determination of insurer's duties based on interpretation of the defendant's insurance policy.

The relationship between certainty in legal remedies and deterrence is a complex one. Legally certain, but not particularly onerous damage remedies — such as in the Price Anderson Act for nuclear reactor accidents[16] — may not provide as much deterrence as an uncertain legal remedy in the courts which *could* be large. Joint and several liability, opposed by potential defendants as potentially unfair and overly-compensatory, promotes deterrence precisely because its application is uncertain. However, in other areas, legal uncertainty can make rational behavior on the part of those potentially liable difficult, if not impossible, to define. For policy design purposes, therefore, uncertainty ought to be deliberately considered, and planned or eliminated on rational grounds.

1. Liability Standards

The central issue here concerns whether defendants in toxic waste exposure cases will be subject to strict liability, joint and several liability, and retroactive liability, as has been the case in toxic waste property damage suits under CERCLA.[17]

a. Strict Liability

Strict liability may be imposed for injuries from toxic waste exposure even without a specific statutory cause of action. Firms in the hazardous waste management industry may be held strictly liable by the courts because their activities are deemed to be "ultra-hazardous" or because these firms are best (or exclusively) able to prevent the toxic releases which cause injury. Alternatively, the liability standard applied by the court may be negligence, based on a failure by

[14] Four states have introduced legislation authorizing private causes of action for personal injury from exposure to hazardous wastes. North Dakota's and Rhode Island's statutes are based on a negligence *per se* approach while Alaska's and North Carolina's impose strict liability. See United States Government, Senate Committee on Environment and Public Works (1982), pp. 79-83. (In addition, several state versions of CERCLA-type statutes have been established, but these do not generally address personal injury.)

[15] However, injury-related provisions do exist. For example, the Superfund Amendments and Reauthorization Act of 1986 establishes the Agency for Toxic Substances and Disease Registry, within the Public Health Service, to develop information about human exposure to toxic materials and subsequent disease.

[16] The Price Anderson Act assures a source of legal recovery for victims of nuclear reactor accidents by indemnifying the operators of nuclear plants. However, the absolute limit of liability for all claims per nuclear incident is $560,000,000. Thus, for a moderate-sized incident involving 10,000 claims, the legal remedy would be limited to $56,000 per claim. In the case of a massive exposure involving 1,000,000 claims, the average award could not exceed $560. See 42 U.S.C. 2210-25 (Suppl. IV 1980).

[17] Strict, joint and several, and retroactive liability are not specifically stated in the relevant CERCLA statutes, although that has consistently been their interpretation by the courts.

the defendant to take due care. Other possible common law causes of action include nuisance and trespass. Nuisance is unreasonable and substantial interference with the plaintiff's use and enjoyment of property or health. Trespass is a physical invasion and interference with the plaintiff's exclusive right to possession of their person and property.[18]

Note that the source of uncertainty here is which liability standard will apply. Strict liability itself does not contribute to system uncertainty; on the contrary, it may reduce it since the issue of determining negligence or nuisance or trespass no longer arises.[19]

b. **Joint and Several Liability**

In the absence of specific federal or state legislation, it is unclear what criteria the courts will apply to establish joint and several liability for multiple hazardous waste defendants. A court may liberally impose "alternative liability" if each of the multiple defendants provided harmful substances that might have caused the plaintiff's injury, even though it is impossible to determine which defendant actually caused the injury.[20] Conversely, a court may reject joint and several liability out of hand or require more stringent conditions for its application, such as concert of action among the defendants or a reasonable and fair way of apportioning the harm caused by each defendant.

The imposition of joint and several liability by the courts, of itself, will tend to increase system uncertainty. Firms in the hazardous waste management industry *could* incur liability because of the actions and financial condition of other firms over which they have no control.[21] In addition, the apportionment of damages among the joint defendants is likely to be an uncertain process of interpretation and negotiation by the courts. As discussed earlier, here the *possibility* of joint and several liability may be justified on deterrence grounds.

c. **Retroactive Liability**

Retroactive liability is imposed on a defendant when the defendant's actions precede enactment of the rules of law used to determine liability. The possibility of creating retroactive liability, through federal or state legislation, generates substantial uncertainty. Hazardous waste management firms and their insurers cannot ascertain the level of financial risk to which they are already exposed; nor can hazardous waste generators and handlers take actions today or plan future actions with confidence, since they do not know against which liability rules they will be held accountable.[22] Insurers, however, can write future contracts to eliminate retroactive liability. Retroactive liability then creates uncertainty for past actions under current policies only. Note, furthermore, that retroactive liability, *once in place,* creates uncertainty only insofar as the liability rules themselves, being retroactively applied, create uncertainty.

2. **Causation**

Under tort law, causation refers to the requirement to demonstrate a causal relationship between the defendant's acts and the plaintiff's injury. In a hazardous substance injury case, the chain of events between the defendant's act and the plaintiff's injury is likely to include legally proving the source, release, pathway, exposure, and connection to the resulting injury. Causation is also a necessary element in administrative compensation systems, although the level of proof can vary from demands as strict as tort to lax requirements of entitlement, such as under the Black Lung Benefits Act.[23]

Some of the uncertainty involved in establishing legal causation reflects the limited state of scientific knowledge in these areas as well as the multi-causal nature of many toxics-related injuries; but, some system uncertainty from causation stems from doubts about which rules of law (or standards of proof) will be applied (or newly created) to establish causation and how these rules will be interpreted by the courts. Traditionally the burden of proof has been on the plaintiff to establish by a preponderance of the evidence (i.e., more likely than not) that the defendant's actions were "the probable cause" of the plaintiff's

[18] Trespass may be rejected by the courts because trespass, in theory, requires a *tangible* physical invasion, while many toxic substances are microscopic and therefore possibly "intangible." For this reason, plaintiff's attorneys will typically sue for both trespass and continuing nuisance. See McKenna, Conner, and Cuneo (1987), page 1157.

[19] Some analysts (e.g., National Association of Insurance Commissioners (1986)) have argued that strict liability increases their uncertainty because they can no longer distinguish between responsible and irresponsible insurees. That is not accurate. While both responsible and irresponsible firms, under a strict liability standard, would have to compensate victims whose injuries were caused by exposure to their hazardous waste, the responsible firms would, in general, have fewer releases of toxic waste and therefore fewer injuries from exposure to their waste. The insurers, of course, have to take on the task of scrutinizing their insured.

[20] This situation is exemplified in the case of diethyl stilbesterol (DES), in which the plaintiffs were unable to identify which of several manufacturers produced the DES consumed by their deceased mothers. (Here, the court fashioned a market share apportionment of liability as a more equitable solution than alternative liability.) See *Sindall v. Abbott Laboratories,* 26 Cal. 3d 588, 609-13 P. 2d 924, 935-38, 163 Cal. Rptr. 132, 143-46 (1980), cert. denied, 449 U.S. 912 (1980).

[21] Note, however, that a firm may itself move to eliminate the possibility of joint and several liability by incorporating all handling of its hazardous waste under its exclusive corporate control. This could be accomplished by vertical integration (e.g., the transporter and disposer become part of the generator corporation) or by substituting on-site waste disposal for the transportation of its waste to a jointly-serviced off-site facility.

[22] However, to some extent, the imposition of retroactive liability is a one-time phenomenon for the hazardous waste management industry. For example, the tort standard appears to have stabilized at strict, and joint and several liability, and it is unlikely to change. On the other hand, causational and evidentiary rules are still potentially subject to revision and retroactive application. See National Association of Insurance Commissioners (1986), Chapter III, for a review of recent, occasionally inconsistent, court decisions concerning liability.

[23] 30 U.S.C. 901-41, 951, 958 (Suppl IV 1980).

injury. However, because of the special characteristics of toxic waste injuries, the legislature or the courts may replace "probable cause" with "substantial cause," employ a statistical proportionality rule[24] rather than a preponderance rule, or shift the burden of proof to the defendant through the use of rebuttable presumptions.

3. Procedural Rules

The legislation and interpretation of procedural rules is another source of legal uncertainty. For example, the courts have been inconsistent in their admissibility of scientific evidence, such as animal studies and toxicological and epidemiological tests. Another procedural issue concerns the statute of limitations when there is a long latency period between exposure to toxic materials and manifestation of the resultant disease. Finally, there are procedural questions concerning the establishment and treatment of class actions where there are multiple plaintiffs from a common toxic waste exposure.

4. Damage Remedies

An important contributor to legal uncertainty is the range of damage remedies available to a successful plaintiff in a toxic waste injury suit. In addition to traditional out-of-pocket expenses, the courts may permit the plaintiff to recover: 1) consequential damages incurred (prior to manifestation of injury) to limit exposure to the release of hazardous materials (e.g., the cost of obtaining an alternative water supply, if the plaintiff's water supply has been polluted by the defendant); 2) compensation for health screening, health monitoring, and similar expenses (prior to manifestation of injury) to limit future increased health risks from exposure; 3) compensation for pain and suffering associated with the toxic waste injury; and 4) punitive damages.

System uncertainty due to damage remedies may be substantially reduced if the courts provide guidelines or impose absolute monetary limits for (or exclude from compensation) certain of these damage categories, particularly subjective (and often highly unpredictable) ones such as pain and suffering and punitive damages.

5. Insurer Duties

An additional source of system uncertainty is the insurer's duty to defend and indemnify, based on the court's interpretation of the polluter's insurance contract. One point of contention is whether the phrase "sudden and accidental" in the pollution exclusion in many comprehensive general liability (CGL) policies applies to the release of toxic wastes. Another is whether insurance coverage is triggered by exposure to the hazardous waste or by manifestation of the plaintiff's injury. A third is the meaning of "per occurrence" limits of liability coverage. Does each chemical dumped constitute an occurrence or is the release of hazardous materials a single occurrence?

6. Conclusion

In this section, we have discussed the principal elements of uncertainty traceable to the legal system. In later sections, we will address the options for reducing these uncertainties. Again, the reader is reminded that uncertainties can provide deterrence. Thus, the advisability of their reduction must reflect a conscious policy choice between increased certainty of compensation and decreased deterrence for future harm.

C. POLLUTION LIABILITY INSURANCE

In 1984, chemical handlers were encountering serious difficulties in obtaining liability insurance.[25] By 1985, the number of insurers offering coverage declined significantly, and the cost of coverage increased while policy limits declined. Because many chemical handlers are required under RCRA (and often state law as well) to show financial responsibility for any bodily injury or property damage resulting from their operations, this unavailability threatened their continued legal operation.[26] Hence the term "crisis." In order to better understand the crisis, it is useful to trace the historical development of the pollution insurance market and the evolution of its major policies.

1. Pollution Insurance Policy Types

"Pollution insurance" has traditionally referred to two different policy types: comprehensive general liability (CGL) and environmental impairment liability (EIL) policies.[27] CGL policies compensate both policyholders and third parties for a broad range of liabilities and harms and have been carried by businesses as a matter of course for decades. With the awakening of environmental consciousness in the early 1970s, and the occurrence of some significant and costly releases of hazardous substances, insurers began to limit CGL coverage pollution incidents, which had previously been covered along with more familiar forms of harm.

---

[24] A proportionality rule would recognize that causation of injury in a toxic tort case can generally only be considered on a statistical basis, not as an "all or nothing" determination. According to a proportionality rule, the plaintiff would only be entitled to recover from the defendant that percentage of his damages which the defendant caused (or the probability that his damages were caused by the defendant). For example, if exposure to the defendant's toxic waste increased the likelihood of contracting a certain form of cancer by fifty percent, then an exposed victim who subsequently contracts this form of cancer can recover one-third of his injury damages from the defendant. (A fifty percent increase corresponds to a one-third probability of causation.) See Rosenberg (1984), pp. 881-887.

[25] This is not to imply that there were no supply problems prior to that time, but simply that they were not as significant. See 50 Federal Register 33902, August 21, 1985.

[26] Other techniques for fulfilling financial responsibility requirements, such as self insurance, surety bonds, and guarantees, exist but are not as likely to be available to small businesses as is commercial insurance.

[27] This acronym is used with increasing frequency to refer to "commercial" general liability insurance, which stresses the now more limited form of these policies. See United States Government, General Accounting Office (1986).

Oil spills were excluded completely (and have since grown into a separate line of insurance) and compensable pollution damage was restricted to occurrences considered "sudden and accidental."

At that time, insurers believed that "sudden and accidental" events could be easily identified, were independent of each other, had a rather limited indemnity, and were predictable, based on more familiar risks. In contrast, the excluded "gradual" events (such as groundwater contamination), were considered specialty risks because they could be so expensive to remedy, could remain undetected for long periods of time, could be highly linked (i.e., multiple claims could arise from a single source of contamination), and were unfamiliar, both from a technical perspective of predicting their frequency and magnitude, and from a legal perspective of assessing potential court awards for damage suits.

"Environmental impairment liability" or "gradual pollution" insurance was created specifically to cover third party damages from non-sudden pollution events, basically in response to their exclusion from CGL policies in the early '70s.[28] At that time, only a few companies offered such coverage, but with the advent of RCRA's financial responsibility requirements in 1981, and an increasing public awareness of toxic hazards, the market for EIL-type policies grew.[29]

In the past year, the standard CGL policy has been revised in ways which limit its coverage significantly. Concerning pollution liability, the new CGL form excludes coverage of nearly all damage caused by hazardous substances. This limitation stems from insurers' belief that the original pollution exclusion clause has been interpreted too broadly. Although this revision sounds very rigid, the new policies can include endorsements that allow the insured to buy back many forms of coverage initially excluded, some of which address situations with such a high degree of specification that they have been termed "laser endorsements." Another major change is the introduction of maximum aggregate dollar amounts on all coverages, permitting insurers greater ability to assess the maximum possible claim on a policy. Finally, CGL policies may now be written on a claims-made basis, whereas until 1986 virtually all were written on an occurrence-basis. With a claims-made policy, the triggering event is unambiguous: the date of the filing of a claim. But with an occurrence-based policy, the triggering event is the phenomenon that gives rise to the claim. Concerning hazardous substance injury and damage, the definition of the event can be complicated by latency periods, difficulty in detection, cofactors, etc.

It is too soon to tell exactly what difference use of this form will make, but in a recent study of CGL policy innovations, the GAO has noted that the bounding of financial risk exposure for insurers means that increased responsibility for risks will rest with the insureds. Between the pollution exclusion, the aggregate limits, and the claims-made basis, insureds must be attentive to the coverage they are actually receiving, or the public interest will suffer. The GAO report concludes "... if (the insureds) do not maintain coverage at adequate levels or fail to purchase tail coverage when there is a break in the continuity of claims-made coverage, claimants could be without a source of recovery."[30] This is an important concern requiring continued regulatory attention.

2. History of the Crisis

As noted above, pollution insurance first became difficult to obtain in approximately 1984. In 1985, the EPA responded by broadening the options for filling financial responsibility requirements, and many state governments subsequently loosened their own previously more-stringent requirements. Massachusetts responded by initiating an insolvency fund,[31] designed to provide a source of compensation for anyone injured by a release from a non-insured treatment, storage and disposal facility, thereby avoiding the immediate closure of those facilities unable to obtain insurance. The EPA solicited information on the extent and causes of the crisis in August of 1985,[32] but received virtually no useful data.[33] Instead, respondents offered only their opinions as to the source of the problem; although interesting and useful, their reflections could not substitute for facts concerning the dimensions of the problem. A survey conducted in the summer of 1986 by the New Jersey Department of Insurance illuminated the extent of concern about the issue: the unavailability of insurance for pollution damages was considered to be a "very serious problem" by 28 of the 37 responding states.[34]

While easing regulatory requirements for coverage may allow some facilities to continue legal operation, it does not address the needs of all chemical handlers. For example, it will not necessarily help those too small to self-insure, or those who simply want to purchase the policies for the coverage they offer, regulatory requirements aside. It does nothing to address the loss of an important tool for the prevention and cleanup of environmental pollution. Most importantly, if not carefully done, the easing of regulatory requirements can undermine the goals of the program by diminishing the certainty of recovery, or dropping the minimum necessary coverage below realistic levels. Since the SARA has suggested that cleanups will be more costly now than in the past, these minimum levels should be carefully monitored.

[28] AIRAC (1985b), page 4.

[29] AIRAC (1985b), page 4.

[30] United States Government, General Accounting Office (1986), page 24.

[31] Titled "An Act Establishing the Massachusetts Hazardous Waste Insolvency Fund," Chapter 10 of The Acts of 1986, dated March 31, 1986.

[32] 50 Federal Register 33902, August 21, 1985.

[33] Environmental Protection Agency, File of 148 Comments.

[34] New Jersey Department of Insurance, Survey on Environmental Liability Insurance (1986).

It appears that by late 1986, some accommodations to the unavailability of insurance had been made and the problem appeared to have eased a bit: it was no longer a regular topic in journals, and regulatory attention to it had diminished somewhat. The accommodations have included: facilities simply going uninsured, using non-insurance alternatives to fulfill financial responsibility requirements, and participating in risk-sharing pool or other non-commercial alternatives. As described in Section III.C., these alternatives have acted as substitutes for commercially-supplied insurance. Nonetheless, interest in efforts to engage the insurance industry itself as a stable presence in the market has not diminished.[35]

3. Reasons Offered to Explain the Crisis in Pollution Insurance

Many reasons have been offered to explain why the market for pollution insurance has encountered such difficulties. They include the problematic liability standards imposed on hazardous waste injuries and damages, the general financial status of the insurance industry, the extreme complexity of underwriting the line, and the unavailability of reinsurance. We will consider them in turn below.

The insurance industry considers the liability standards applicable to injury and damage from hazardous waste to be a major factor in state of the market, and possibly an impediment to the insurability of these risks.[36] Joint and several, and strict liability have been roundly criticized by the industry, on the grounds of being both inherently inequitable and unpredictably applied. Their equity, or lack thereof, is not at issue here;[37] the assertion of unpredictability is understandable, and seems valid, up to a point. Because the original CERCLA statute (1980) was somewhat ambiguous concerning these liability standards, it was the task of the courts to interpret Congressional intent and shape the applicable standard. By 1985, with the decision in *New York v. Shore Realty,* strict liability was clearly understood to be the standard.[38]

As one might expect, a change in the legal standard applied to an activity will cause tension for all parties involved, particularly the insurers, whose "occurrence based" policies were now being interpreted differently than initially expected. The fact that no "grandfathering" was permitted to accommodate activities commenced prior to the change has caused many observers to call this "retroactive" imposition of strict liability inequitable. As Kunreuther notes, "CERCLA has made parties retroactively liable for cleaning up hazardous waste sites, even when they had followed the best available technology at the time."[39]

However, Kunreuther asserts that the law therefore "requires the insurer to provide coverage against liabilities yet to be discovered," as if the *prospective* application of strict liability were a particularly ominous situation. While the initial imposition of the strict standard clearly caused problems for insurers, and probably accounted for some unpredictability within the market, any policy written since then does not carry such uncertainties: strict liability is indeed the standard. Risks subject to strict liability standards are not, as one might infer from industry statements, inherently uninsurable.[40] Clearly, however, insuring such risks is more demanding of underwriting services than those subject to conventional liability standards.

As with strict liability, joint and several liability was never explicitly specified in the originating statute but, instead, was articulated by courts in subsequent litigation. By 1983, with the decision in *U.S. v. Chem-Dyne,*[41] joint and several liability was established as the standard that *may* (not must) be applied in hazardous waste cleanups under the statute. The rationale is that in a typical site, the wastes are comingled, the harm is indivisible, and there is no reasonable basis for apportionment. In response to defendant's assertions that cleanup liability should be apportioned based on the relative volumes of waste that each generator contributed to a site, the court in *U.S. v. South Carolina Recycling* stated that "such arbitrary or theoretical means of cost apportionment do not diminish the indivisibility of the underlying harm, and are matters more appropriately considered in an action for contribution among responsible parties."[42] The court thus reserves the right to impose the entire cost of cleanup on any liable party.

The potential inequity of this aspect of CERCLA has been widely noted by insurers, but few have provided any evidence of any such extreme applications. Instead, it appears that joint and several liability actually serves to foster group settlements because each party fears that, should the case indeed end up in court or in a forced settlement, they may fare far worse.[43] Nonetheless, joint and several liability poses rate-setting difficulties for insurers: in order to determine what premium to charge a customer whose waste will be disposed of collectively, the insurer must consider not only the risk posed by the customer but that posed by fellow contributors to the group disposal facility (and their coverage and net worth as well.)[44] However, this problem is specific to one particular type of hazardous waste disposal facility and would not arise in other pollution insurance contexts.

Concerning the protestations about CERCLA liability

---

[35] The GAO (as directed by SARA) and the State of New Jersey have recently commenced studies on pollution insurance.

[36] See, for example, Environmental Protection Agency, File of 148 Comments.

[37] See Section II.B, *supra,* on uncertainty in the legal system.

[38] *New York v. Shore Realty,* 759 F.2d 1032, 1042.

[39] Kunreuther (January/February, 1987), page 19.

[40] Prosser (1971), page 560.

[41] *United States v. Chem-Dyne,* 572 F. Supp. 802, 808.

[42] *United States v. South Carolina Recycling & Disposal Inc.,* 20 ERC 1753, 1757.

[43] This has been implied by numerous authors: see, for example, Katzman (1986).

[44] Kunreuther (1987), page 20.

provisions, it has been alleged that some interested parties (including insurers) were "posturing," (i.e., making the problem of insuring for damages from hazardous substances appear more ominous than they actually believed them to be, in the hopes of affecting the liability provisions of CERCLA during its reauthorization process).[45]

The insurance industry has asserted that the courts have reinterpreted and misconstrued contract language in their policies, sometimes interpreting critical terms in such a broad fashion as to render them meaningless. For example, in one of the Jackson Township cases, each of the 97 wells contaminated by the release was ruled to constitute an "occurrence," making the insurer liable for 97 times its anticipated financial risk.[46] Concerning the pollution exclusion clause of a CGL policy, the term "accidental" was found not to exclude coverage for intentional acts of pollution even if the adverse outcome was *unexpected.*[47] Expectations and intentions held by corporate entities concerning the effects of discharge of a hazardous substance will obviously be somewhat difficult to assess. Other cases have expanded coverage to damage neither sudden nor accidental, contributing to what industry calls the erosion of the pollution exclusion clause. Cases concerning releases of substances underground pose special problems: given the uncertainties concerning groundwater contamination, identifying the time of release and rate of movement of a substance in order to evaluate its "suddenness" is virtually impossible.

However, Douglas Gladstone of Risk Science International, argues that in most of the cases typically cited as providing inappropriately expansive coverage, the facts do indeed support the insured's contention of a sudden and accidental release.[48] The blame lies with the insurance companies, he asserts, who should not unreasonably withhold coverage where it was due. By pushing the issue in many of these cases, he continues, the insurers have forced the courts to decide coverage issues, ultimately "muddying up" their contracts.

Financial factors affecting the entire insurance industry have also been invoked to explain the "crisis." The insurance industry is known to be cyclical and was in a downturn during the early '80s: interest rates were high, and the insurers were interested in maximizing premium intake. The market was highly competitive, and while premiums may not have even covered payouts, the investment income compensated for the lack of sufficient underwriting income. The pit of the cycle occurred in 1984, according to AIRAC,[49] when the property-casualty companies incurred losses of $1.18 for every $1 they collected in premiums. These losses compelled insurers to utilize their surpluses, which, in turn, decreased their willingness to write policies, in order to prevent the surplus ratio from sinking any further. "An industry faced with problems in stretching its available capital to cover the growth of its existing business is likely to be cautious about taking on risky new ventures, particularly those plagued with as much uncertainty as the gradual pollution hazard involves," concludes the AIRAC report.[50]

Some industry representatives have suggested that the industry's financial situation arises in large part as a result of unexpected losses actually sustained in the unpredictable tort system. Both vast legal expenses and overly-generous awards are cited in the efforts at "tort reform," which typically include a call for caps on awards, elimination of joint and several liability, and the elimination of punitive damages. Consumer groups such as the National Insurance Consumer Organization have responded that the impact of tort law reforms on insurance prices is minimal; in areas where tort reforms have been enacted, such as Florida and Ontario, Canada, no favorable impact on insurance rates was observed.[51]

The pollution insurance market is not simple to service: expensive, elaborate risk assessments must be conducted and interpreted in order to set premiums, and minimal actuarial data are available to support underwriting. The importance of conducting good risk assessments cannot be overemphasized: those insurers that have stayed in the market place "heavy emphasis on risk assessment and adhere to strict underwriting criteria."[52] A leading risk management professional, Charles P. Priesing, said the insurance industry's inability to assess environmental risk led it to its losing position.[53] Kunreuther has suggested that the rush for premiums in the early '80s may have taken place at the expense of sound risk assessments.[54] In the meantime, rate-setting cannot proceed in the standard way of relying on actuarial data: studies on injury and damage from pollution conducted in the late '70s remarked on the absence of data on policies written and payments made, and even today, nearly ten years later, the dearth of data remains. The AIRAC report states that, in the EIL line, "relatively little coverage has been sold to date and few claims have reached final dispositon . . . (and) the risk factors have been changing so rapidly that the limited past experience does not provide a sound basis for evaluating future loss potential."[55] In sum, the crisis might be accentuated by some insurers having entered the market without being fully aware of the challenge it would provide them.

---

[45] This view was articulated by Sanford Lewis, Esquire, in EPA, File of 148 Comments.

[46] *Township of Jackson v. Theodore R. Beekman v. American Home Assurance Company.*

[47] *Township of Jackson v. Theodore R. Beekman v. American Home Assurance Company.*

[48] See Sterling (1986), page 265.

[49] The All-Industry Research Advisory Council is a non-profit research organization funded by the insurance industry.

[50] AIRAC (1985b), pp. 5-6.

[51] See National Insurance Consumer Organization literature.

[52] AIRAC (1985b), page 9.

[53] See HYPERCEPT literature.

[54] See Kunreuther (1986), page 9.

[55] AIRAC (1985b), page 7.

The unavailability of reinsurance has been cited as undermining the development of the market. As the insurer's insurance, reinsurance is a vital way the industry protects itself from the harms of the large loss (or series of losses) that pollution hazards could entail. It is a truly international business: over half of all American reinsurance risk goes overseas, and we, in turn, handle much of the coverage written in other countries. Like the American insurance industry generally, the world reinsurance market has sustained significant losses in recent years, causing it to pull away from markets perceived as uncertain, which includes the American liability market generally, and pollution liability in particular. When a major London-based pool stopped accepting reinsurance for gradual pollution in 1984, numerous other reinsurers followed suit within the year, with the primary insurers soon doing similarly. The AIRAC report notes that reinsurers are concerned about their pollution exposure under old contracts, adverse judicial interpretations, the vast cost of Superfund site cleanup, and the potential for third-party damage and injury claims.[56] It has also been asserted that the social perception of the chemical waste problem contributes to the reinsurers reticence to participate in the line.[57]

In order to assess the extent and severity of the various types of insurance issues, one needs to examine the experience of the insurers to date. Not much is known about the volume of pollution liability claims filed or the facts surrounding their settlement; the most authoritative study to date was published in 1986 by the All-Industry Research Advisory Council.[58] The researchers acknowledged that the market had already started to shrink by the time they began their research, but felt that a description of the market, even if in a state of change, could still prove useful in the future.

AIRAC solicited information from 48 experienced insurers, on both sudden and non-sudden events, covered by either CGL, pollution liability, or environmental impairment liability policies. They were highly cautious about the significance of their data: "relatively few pollution claims have been closed so far, and the open claims are too early in their development for reserve amounts to be credible."[59] They received information from 13 insurers about a total of 1,546 pollution claims filed and 112 closed during 1984. Because the statistical plan for CGL policies does not include separate codes for pollution claims, the results may be somewhat understated. Also limiting is the fact that claim terminology is not standard in this area, making inter-insurer comparison difficult.

The survey revealed a number of useful facts that can help direct future inquiries. Nearly 80% of all claims filed were for property or environmental damage, with the balance representing physical injury and mental or emotional distress. Private disposal facilities and industrial landfills were the site of nearly 60% of all claims filed, and generators were the defendants in more than half of all claims. No data on claims actually paid was reported; nor was there any information on profits and losses, the methods of claims adjustment, the number of claims litigated, or the extent of inter-insurer disputes. Most importantly, information on the types of facilities, chemical substances employed, and environmental or personal damage resulting was not very specific. Future surveys may be able to illuminate these questions.

4. Conclusion

The crisis in the pollution insurance market has been attributed to a range of different factors from major economic trends to basic underwriting practices. Some of the uncertainty concerning issues such as applicable liability standards or contract interpretations has either resolved itself or is in the process of being resolved. The courts continue to be a source of uncertainty. However, through the creation of new policy forms and insurance delivery entities, the industry is responding creatively to the challenges it has encountered, despite some initial setbacks or false starts. The information available so far concerning experience in this line does not appear to support the assertion that pollution liability is completely and inherently uninsurable. Nonetheless, pollution insurance will continue to be an area of uncertainty for insurers, compared to other lines of insurance, simply because it is a fairly new line and does not have much actuarial data behind it. It remains to be seen whether the risk-limiting now being done by the insurers can be responded to in kind by savvy insureds, and most importantly, by the regulators responsible for assuring that the new policy provisions and insurance delivery entities fulfill the financial responsibility requirements.

D. THE PRACTICES OF CHEMICAL HANDLERS

Over the past fifteen years, there has been growing awareness of the potential hazards associated with chemical handling. Whether directly involved in hazardous waste handling, or simply using hazardous substances in connection with other operations, firms handling chemicals have become more sensitive to their toxic qualities. Although it is difficult to say precisely *which* factors have affected the behavior of chemical handlers or to identify just *how* they have acted, it is possible to review some major influences on their decisionmaking. Accidents at Seveso and Bhopal have prompted a number of trade associations, labor organizations, and development groups to issue guidelines concerning the operation of these facilities.[60] In addition, federal and state governments, in the United

[56] AIRAC (1985b), page 6.
[57] 50 Federal Register 33902; August 21, 1985.
[58] AIRAC (1985a).
[59] AIRAC (1985a), page 6.

[60] Organizations issuing guidelines include the American Institute of Chemical Engineers, The World Bank, The International Labour Office, and the Chemical Manufacturers Association. See Chowdhury (1985).

States and elsewhere, have issued a number of statutes and regulations designed to control releases of and exposure to hazardous substances. Together these factors appear to have fostered a more prevention-oriented approach to pollution control than has been the case in the past.

Since 1980, two major changes in environmental law have affected chemical handlers: the imposition of financial responsibility requirements and the liability provisions of CERCLA. The need to fulfill financial responsibility requirements usually induces the regulated firms to take a closer look at their risk management procedures. If they are purchasing pollution insurance from a commercial supplier, risk management procedures are almost certain to be required by the supplier; if they are self-insuring, it is a good business practice in order to avoid losses that they alone will bear. One risk management consultant has observed increasing reliance on environmental auditing by self-insurers for this very reason.[61] The difficulty in fulfilling financial responsibility requirements was alleged to be causing RCRA-permitted facilities to close, but the EPA's request for information on this topic revealed nothing to support that contention.[62]

In addition to financial responsibility requirements, the liability provisions under CERCLA are also important to chemical handlers. Although vaguely drafted, both the judicial interpretation to date and (most recently) SARA have clarified important aspects of the Superfund Act. A number of these liability provisions can serve to compel prevention and cleanup of chemical releases. Joint and several liability holds that in cases where there is no rational basis for apportionment of the damage, any party to a transaction resulting in a release of hazardous substances can be assessed for the entire cost of cleanup. All handlers therefore have an incentive to scrutinize the care and solvency of all members of the chain of waste handlers, from the generator to the disposer of the waste. This is most relevant for cases involving waste disposal sites used by multiple generators, and could compel generators to engage in practices to minimize their potential liability, such as employing only licensed, solvent, modern disposal facilities, reducing the volume of wates generated,[63] utilizing only "final" waste treatment techniques such as incineration or solidification,[64] avoiding any co-mingling of the wastes of those with others, possibly by employing on-site treatment.[65] In the cleanup of hazardous waste sites, joint and several liability can compel the responsible parties to work toward a settlement; the fear of an enforcement action by the authorities against individual waste handlers has been given as a factor compelling participation in the cooperative settlements like those fostered by Clean Sites.[66] Similarly, lack of enforcement and regulatory clarity has been alleged to be partly responsible for chemical handlers dragging their heels in purchasing required insurance.[67]

Liability under CERCLA has been construed as strict, and hazardous substance handling has been considered an abnormally dangerous activity, eliminating the defenses of "due care" and the "absence of fault." In order to avoid liability for an accident, chemical handlers might then be expected to do as much as is financially possible to prevent a release, increasing the preventative actions undertaken within the limits of their abilities as profit-making businesses. This interpretation of how chemical handlers would respond to strict liability is one of the reasons the policy was developed in the first place, and this liability has been cited by commentors as a major factor motivating increased attention to waste management.[68] Alternatively, the chemical handlers could conclude that since they are completely liable in the case of an accident and will get no credit from the authorities for due care, they need only attempt chemical control to the extent that it is certain to prevent a release. Insurance industry critics have criticized strict liability on this basis, holding that it " . . . penalize(s) necessary industries conducted in a reasonable manner just as heavily as marginally useful, irresponsibly conducted activities; careful conduct would become irrelevant."[69]

The perception that even practices which are legal today could cause a problem for which the chemical handler might be held liable in the future may compel greater scrutiny of operations from an objective perspective. Rather than simply evaluating whether a practice is properly permitted and legal, chemical handlers might become more concerned with its potential for inflicting any sort of harm. Note that this same form of concern is compelled by strict liability. In

---

[61] Miller and Gladstone, 1986, page 17.

[62] Environmental Protection Agency, File of 148 Comments (1985).

[63] In a recent report, the Office of Technology Assessment noted its distinction between two related terms: "waste reduction" refers to the reduction of hazardous wastes *generated,* while "waste minimization" is a broader and more inclusive term which could include recycling and waste treatments such as incineration. It appears that the former approach, by decreasing the total amount of handling, management, and transportation, would also be more likely to decrease the risks and liabilities posed by waste handling. See Office of Technology Assessment (June 1987).

[64] Charles Humpstone has asserted that waste generators' " . . . materials-process-product decisions are already being changed by manufacturers' changing awareness of their liability . . . " See Humpstone (undated).

[65] Mr. John Morrison, Chief Underwriting Officer of the Insurance Company of North America, recently noted that many industries are now interested in on-site treatment, possibly for this very reason. Society of Risk Analysis Meeting, November 11, 1986.

[66] Comments of Professor Martin T. Katzman, Society of Risk Analysis Meeting, November 11, 1986.

[67] AIRAC (1985b), page 5.

[68] One commentor has noted, "An important premise of a risk assessment is that the regulatory compliance alone is an insufficient indicator of the potential for pollution liabilities because impairment is just as likely to result from areas that fall outside environmental regulations." See Miller and Gladstone (1986).

[69] Testimony of the American Insurance Association, titled "Preliminary Proposal on Proposed Hazardous Substance Victim Compensation Legislation," page 49. Presented to the Congressional Subcommittee on Commerce, Transportation, and Tourism, June 29, 1983.

addition, because property owners have been held liable for cleanup of hazardous wastes emanating from their land, despite the fact that a previous owner was responsible for the initial deposition or release of the waste, attention is now focused on "starting with a clean slate" for all parties in real estate transactions."[70]

It is difficult to document the increased concern about and attention to chemical management in economic or quantitative terms because the practice involves not just the activity of a single business sector but, instead, the concerted action of a number of professional groups, particularly business executives, lawyers, and engineers. Counting the number of violations or injuries reported, or volume of waste generated, will not accurately measure the extent of preventative actions undertaken. Factors such as applicable regulations, waste definitions, and level of enforcement change frequently, confounding any meaningful analysis.

Despite the difficulties posed by any such analysis, evidence of increasing attention to chemical risk management is visible, incidentally, in both the growing number of publications concerned with it and in the activities of the relevant professional societies. For example, the following newsletters, journals, and magazines have all appeared within the past six year: *Risk Analysis, Environmental Analyst, Environmental Audit, Risk Management,* and *Environmental Forum.* Even as of 1986, such publications are continuing to emerge (e.g., *Toxics Law Reporter,* published by the company that publishes *Environmental Reporter*). Professional societies such as the American Chemical Society and the American Bar Association almost always include at least one session on chemical management issues at their major meetings. Environmental auditing, a practice which seeks to assess compliance with relevant regulations and evaluate the environmental impact of operations generally, is yet another example of the form that chemical management activities can take. The term has been used to describe a wide range of activities from routine internal reviews to extensive, probing investigations by independent, external, interdisciplinary teams.[71]

Still, many important questions remain unanswered: exactly what kinds of changes are chemical handlers making in order to fulfill regulatory requirements, avoid liability, or act economically? How and to what extent have they used insurance to help manage their risks? Will the GAO's study on pollution liability insurance illuminate some of these issues, particularly concerning the data insurers generally consider confidential? In the meantime, it remains difficult to know exactly what factors influence chemical handlers and how they have affected decisionmaking to date. Until this topic is more thoroughly studied, we must continue to rely on informed speculation.

[70] While SARA has expanded the "innocent landowner" protections, concerns remain because no one knows all previous uses, or wants to be saddled with such odious liability. See Hayes and MacKerron (1987).

[71] Cutler (1984).

III. OPTIONS FOR MINIMIZING UNDESIRABLE UNCERTAINTY AND FULFILLING THE PURPOSES OF A COMPENSATION/LIABILITY SYSTEM

A. SCIENTIFIC AND TECHNICAL RESEARCH

As stated in Section II.A, numerous scientific and technical uncertainties concerning both the health effects of exposure to hazardous substances and the methods for mitigating them challenge the management of the problem. Continued research is required to diminish these uncertainties.

Research could be conducted by government (at the federal or state level), universities, the private sector, or possibly some cooperative organization. To date, all have been involved in some manner in addressing these issues. Universities conducting such research include the Massachusetts Institute of Technology, through the Hazardous Stubstance Management Program, and Tufts University, through the Center for Environmental Management. Many other researchers are investigating less applied aspects of these issues. On the federal level, the Center for Disease Control has done some health effects monitoring, and SARA has recently amplified the Center's role and budget, now requiring its Agency for Toxic Substances and Disease Registries (ASTDR) to maintain registries of both exposures *and* health effects associated with hazardous waste disposal. A Congressional Research Service reporting six case studies of compensation for toxic substances pollution demonstrated the need for governmental participation in scientific and technical research on these issues:

> The case studies also indicate the plaintiffs in toxic pollution suits may have substantial difficulty in proving that a particular exposure to a pollutant was the cause in fact of an injury. The case studies reinforce the notion that such problems of proof can be significant barriers to recovery, both in current litigation and in litigation that may arise upon the manifestation of any latent health effects. In Texas, for example, the private suits were able to proceed, in large part, only when the state and local governments gathered the complex, technical data establishing that high levels of lead in the blood of El Paso residents were caused by ASARCO's smelter emissions rather than motor vehicle emissions. The private plaintiffs in El Paso were generally poor and probably could not have afforded such tests; much less would they be able to prove injury from smelter emissions after a twenty or thirty year latency period when witnesses have died or disappeared and the plaintiffs have been exposed to other, confounding and environmental hazards.[1]

The Massachusetts Special Commission Report proposal for the creation of a state Environmental Health Center attempts to address aspects of the sort of technical uncertainty identified above.[2] By providing an interdisciplinary team of medical professionals, the Center would be able to screen and treat those exposed, gather data for clinical profiles, and evaluate the data for associations between releases and health effects.

The government is unique in that it will always be called upon as a last resort by those in need of scientific and technical assistance to resolve an issue concerning hazardous substance injury. Unfortunately, providing such assistance, and generating what may sometimes be fundamental scientific information about a substance's health effects, can be very expensive and provide a great burden to taxpayers. For this reason, we support governmental cooperation with private enterprise on research, with the caveat that government would closely monitor research conducted by the industry in question (or contracted thereto).[3] Government could thereby fulfill its role while having the research supported by the parties that gave rise to its need. A model for such a research center might be the Health Effects Institute, a non-profit research group supported by funds from both the EPA and automobile manufacturers that is concerned with health effects arising from automobile emissions.[4]

Similarly, the insurance industry could also support such research: the Insurance Institute for Highway Safety, a small research organization funded by the industry, investigates and disseminates information on reducing losses from automobile accidents. Their work demonstrating the efficacy of a single, central, high-mounted brake light in reducing the frequency of rear end crashes has resulted in a federal regulation requiring these lights on all cars.[5] The insurance industry recently acknowledged that:

> Members of the AIRAC Hazardous Substances and Insurance Committee indicate that the need for special expertise and for high quality risk assessment procedures has proved to be even more important than many insurers initially realized.[6]

We encourage all affected parties—the government, the insurers, and the regulated community—to consider the establishment of such an organization to address hazardous substance injury reduction.

---

[1] U.S. Government, Senate Committee on Environment and Public Works (1980), pp. 517-518.

[2] Commonwealth of Massachusetts (December 16, 1986), page 78.

[3] The monitoring would provide confidence in the data generated, and serve to minimize the possibility of a scandal such as that surrounding the private laboratory, Industrial Bio-Test Laboratories, concerning the legitimacy of toxicity data from pre-market review tests of chemical products.

[4] Health Effects Institute Annual Report (1986).

[5] O'Neill (1987).

[6] AIRAC (1985b), page 9.

In sum, options for reducing scientific and technological uncertainty should draw upon the resources of both private and public sectors. Each has its own contributions to make. Cooperative endeavors in related matters have sound precedence, and because the benefits incurred from cooperative research are likely to outweigh the burdens of communication and coordination, the Legislature should investigate these options.

B. RESEARCH ON THE BEHAVIOR OF THE COMPENSATION/LIABILITY SYSTEM

A better understanding of the functioning of the hazardous substance compensation/liability system may prove to be a valuable starting point for improving the system. Research on the current performance of the system and on the sensitivity of interested parties within the system to alternative tort, administrative, and insurance conditions can help pinpoint shortcomings in the system and suggest potential remedies.

The limited availability of information about the operation of the hazardous substance compensation/liability system is well recognized. As the Governor's Task Force on Liability Issues concluded, "There is little credible data on which to evaluate the legal system."[7] The kinds of data needed include information about: (1) the percentage of persons injured as a result of hazardous waste exposure who file tort suits; (2) the magnitude and composition (e.g., punitive damages, pain and suffering, medical expenses) of jury awards and out-of-court settlements paid by hazardous waste handlers; and the magnitude of the hazardous waste management industry's litigation and attorneys' expenses.[8] Related insurance data are needed on (1) the number, magnitude, and form of environmental liability insurance policies, as well as on the income derived therefrom; (2) insurer payments made to date both for damage awards and out-of-court settlements; and (3) the magnitude of insurer attorneys' fees in settling cases, including those arising from their duty to defend the insured.[9] In addition, information needs to be developed concerning non-tort compensation received by victims of hazardous waste exposure, including payouts from self-insurance, workers' compensation, and other settlements.

Although the aforementioned historical data will contribute to our knowledge about the hazardous substance compensation/liability system, several factors may restrict the usefulness of that information. First, the long latency period between exposure to hazardous materials and the resulting manifestation of disease (compounded by subsequent delays in the tort process) in many cases means that the existing data on victim suits and compensation will be incomplete, probably seriously so. Second, some tort and insurance studies may not be sufficiently disaggregated to isolate hazardous-substance relevant data; therefore, the resulting estimates are likely to be unrepresentative. Third, and perhaps most important, the hazardous substance compensation/liability system has been in flux. New statutes, evolving interpretations of the law by the courts, and a shift in the victims' tendencies to seek tort remedies have all contributed to the rapid obsolescence of data pertaining to the system.

Because of the dynamic nature of the hazardous substance compensation/liability system, the most valuable area of research is likely to be in predicting the behavioral responses of the major actors in the system to potential system changes and thereby in determining which changes will best achieve the objectives of the system. Possible issues for special investigation might include:

- The impact of various modifications to tort damage remedies (such as capping awards or permitting punitive damages) on (1) the probability of injured persons exposed to hazardous materials filing suit; (2) the payout in out-of-court settlements and jury awards; (3) insurance rates and availability; and (4) the performance of the hazardous waste management industry.
- The effect of new state insurance arrangements on insurance rates and availability and on the safety record of hazardous waste handlers.
- The influence of administrative compensation options on total system costs and on the percentage of payouts received by injured parties.

Research on these topics will probably require (1) special data-gathering studies and analysis and (2) the careful extrapolation of findings from similar tort or administrative environments to the hazardous substance compensation/liability system.

C. INFLUENCE INSURANCE INDUSTRY BEHAVIOR

Government has created a number of regulatory programs that rely on insurers to provide an essential element of their plan. When the market fails to supply it (or when it is unaffordable), the government is forced to address the unavailability, either by redesigning the regulatory framework or by intervening in the market to affect the supply. For the government to address a market failure, through either approach, it must have some concept of how the market failure arose; otherwise, the remedy could be unsuccessful and even might exacerbate the problem. But as revealed in Section II.C of this report, not much is known about current industry practices concerning the insurance of pollution liability.[10]

[7] See Commonwealth of Massachusetts (1987), Executive Summary, page 3.

[8] Preliminary work in these areas have been reported in various Rand Corporation publications. See Rand Corporation (August 1986).

[9] Some research of this type has been performed by the All-Industry Research Advisory Council (AIRAC). See AIRAC (1985 a, b, and c).

[10] A major study on this topic has been initiated by the GAO as directed by Section 208 of the Superfund Amendments and Reauthorization Act of 1986. (This investigation could conceivably provide a catalyst for the development of common practices in policy writing and premium setting, but it is too early to tell.)

While there is no substitute for knowledge about industry practices, it is helpful to consider the relative strengths of using an insurance approach, as opposed to direct regulation alone, in fostering safe chemical management practices. As noted elsewhere, insurers are interested in more than just direct assessments of potential severity of accidents: because they are businesses, insurers have additional concerns that are not relevant to regulators. For example, premiums may be based not just on the probability of accidents occurring but on the likelihood and timing of a payout, or on the volume or desirability of the client's business. In order to maintain the deterrent effects of insurance, it may be appropriate for the government to foster insurer use of sound risk management procedures.

1. Foster Sound Risk Management Techniques

In his "Promoting Safety Through Insurance," Ferreira argues that when the phenomenon seeking to be controlled is highly complex, insurance may be a more successful approach than regulation alone; concerning the case of automobile crashworthiness, he states, " . . . the insurance approach offers the only practical prospect of fine-tuning design incentives to reflect appropriate safety and repair cost options."[11] In general, the potential for insurance to be a successful technique for controlling safety problems is determined by: the straightforward nature of the claims settlement process, the placement of accident costs on those able to directly reduce risks, and the employment of objective risk assessment in the underwriting process. He concludes that, in many cases, "improved risk assessment can be translated into safety improvement, but, for institutional or data analysis reasons, progress is likely to be slow without federal or state government help."[12] When applied to the case of pollution insurance, the assertions made in Ferreira's article support the use of insurance as a complement to chemical management regulations, and, more importantly, suggest that governmental involvement in the development of risk assessment methodology and data sharing may be necessary to speed the development of pollution insurance as a viable line.

Massachusetts has a precedent for such an action in the 1977 review of automobile insurance rates. In response to public and legislative concern, the Insurance Commissioner's Office sponsored a major study of the rate setting procedures of local underwriters, resulting in a redrafting of Commission rate-setting regulations. In the case of automobile insurance, the study revealed that industry sometimes employed traditional procedures which had never been subjected to any rational evaluation, resulting in inappropriate and unfair prices.[13] It is possible that a similar type of study would serve to "rationalize" pollution insurance, remedying any industry stasis and lack of innovation, and encouraging insurers to have a prospective view of the field, rather than being inhibited by the errors of the past.

In pollution insurance, the "push" would be towards broader and more consistent use of risk assessment. The recurring theme in the work of virtually all reviewers of pollution insurance is the need for greater utilization of technical data in policy writing, and many have noted that despite the uncertainties in the market, the industry can do far more in the way of risk assessment than has been the case traditionally. Without full description of all potentially-relevant aspects of the operations being insured, developing an actuarial data base on which to set rates is impossible. This is not to say that risk assessment is not currently being employed; in fact, there is growing evidence of greater use of risk assessment by insurers. For example, the Pollution Liability Insurance Association, a re-insurance entity, requires vigorous engineering evaluations of all facilities in order to be considered for coverage. Similarly, the HYPERCEPT pool, a risk retention group (a group self-insurance mechanism) scheduled to begin operation shortly, specifies that all potential members must complete a rigorous initial assessment as well as participate in risk management on an ongoing basis. The development of standardized definitions and procedures for risk assessment by insurers would facilitate inter-insurer data-sharing and more rapid development of a reliable actuarial data base.

2. Monitor Regulations That Inhibit Innovation

Governmental regulations can serve to inhibit the industry, and it is important that the government not inadvertently stifle innovation in such a troubled market. This is a subject for concern for state and federal government alike, since both are effectively involved in insurance regulation.[14] Although the McCarran-Ferguson Act exempts the insurance business from federal anti-trust law and directs the states to regulate it, the Act also specifies that federal legislation expressly stating the intention to override state regulation may do so.[15]

Two recent federal Acts have eased state regulatory requirements somewhat, thus fostering the emergence of new forms of insurance and risk spreading entities in the area of pollution liability insurance: the Liability Risk Retention Act of 1986 and SARA. Most state laws are restrictive as to who may or may not sell insurance, but in 1981 following a product liability insurance "crisis," Congress passed the Risk Retention Act, which preempted restrictive state laws and permitted organizations having difficulty obtaining commercial insurance to pursue other options. The other options include risk retention groups, which are self-insurance

[11] Ferreira (1982), page 285.
[12] Ferreira (1982), page 288.
[13] See Kennedy School of Government (1982).
[14] The report of the Massachusetts Governor's Task Force on Liability Issues covers some of these issues. See Commonwealth of Massachusetts (1987).
[15] Congress has recently heard testimony on the repeal of the McCarran-Ferguson Act, which would permit federal regulation of the insurance industry. *Business Week,* February 23, 1987.

pools that permit businesses with similar risks to share the costs of losses. Under the Act, a group need meet the licensing requirements of the chartering state only, and then, in a departure from the usual case, may do business in other states without dealing with many additional requirements. Each member pays into the group a proportionate part of the total predicted costs. They are wholly-owned by the insureds, and usually rely on consultants for management services. With the passage of the Liability Risk Retention Act of 1986, the 1981 Act was effectively expanded to serve all types of business liability. A miniature version of the Risk Retention Act, specifically addressing pollution insurance, was included in SARA (Sec 210) but the subsequently-enacted, broader, and more clearly defined Liability Risk Retention Act appears to supersede it.

One possible problem with the utility of these groups for pollution liability insurance is that individual state financial responsibility laws may specify that insurance be provided by carriers licensed in the state.[16] However, if deemed desirable, this condition would not be too difficult to remedy. Additionally, although it may appear as though only the home state has authority over these groups, non-chartering states still retain significant control in the area of consumer protection and assurance of financial viability, and there is some question as to just how much control they maintain. In the past, some state insurance commissioners have objected to captives on the grounds that their reserves would be small compared to those of commercial insurers. Those advocating these groups counter that different consumer protection standards apply here because policies are not sold to the public at large but instead are provided only for members.[17]

Risk retention groups for environmental impairment liability insurance are now in the start-up stages. One example is the group EPIC, which plans to provide both sudden and non-sudden coverage, initially at limits of $3 million per occurrence and $6 million aggregate, and eventually at $5 and $10 million, respectively. Only third parties will be covered, and any location on the National Priority List is excluded. All potential participants must be reviewed by an EPIC-approved environmental risk assessment firm and have satisfied EPIC's underwriting standards. It will become operational once it has raised its $30 million of capital through the sale of shares to insureds. The advisory team organizing EPIC includes consultants experienced in this line: Alexander & Alexander is providing policy design and program support consulting; Shand Morahan will perform underwriting services; and Environmental Strategies Corporation is handling the risk assessments.[18]

Another group called NACC is planning a similar type of organization, but with higher policy limits — probably in the $50 million range. NACC also anticipates employing experienced consultants in the operation of their group: Johnson & Higgins will handle management and administration; International Technology Corporation will perform site assessments; and Clement Insurance Services, Inc. will provide underwriting support.[19]

The HYPERCEPT (from "Highly Protected Environmental Risk Concept") pool is also in the planning stages. As a member-owned mutual insurance company, it appears fairly similar in structure to the risk retention groups. It is intended to provide pollution insurance to meet RCRA (and possibly some state) requirements to small and medium sized firms with annual sales averaging in the $10 to $100 million per annum range. It is unique in its strong emphasis on rigorous risk assessment and management, which may reflect the fact that the pool is being organized by a technically-trained risk manager who has worked in the chemical industry for decades.[20]

3. Participation in the Pollution Liability Insurance Market

The government also has the option of actually participating in the market in some fashion, but EPA has stated that it wants to use the least intrusive means possible for the delivery of this insurance. Of course, this doesn't necessarily mean that the environmental management agencies in all states will feel similarly, or will choose the same point at which to intervene.

The Pollution Liability Work Group of the Massachusetts DEQE's Hazardous Waste Advisory Committee addressed possible market interventions in their Final Report.[21] Two options considered by the Group require no regulatory or legislative intervention: a market assistance plan and a group captive. In the market assistance plan, the state insurance commissioner simply appoints a committee of insurance company representatives who review applications for coverage from potential insureds who have been unsuccessful in obtaining coverage themselves and assist them in securing policies. The Committee's investigation revealed that insurers were not interested in participating, reporting both that they were unable to secure reinsurance and generally not interested in the line.

A group captive, the other no-intervention option considered, is a voluntary organization providing insurance only to member-owners. These groups are typically financed partly with initial capital contributions, are best suited to homogeneous membership with modest losses, and rely on extensive reinsurance to meet any catastrophic losses. For those reasons,

[16] See CMR 30.909.

[17] Commonwealth of Massachusetts, Pollution Liability Work Group 21C Hazardous Waste Advisory Committee (1986), page 13.

[18] See EPIC literature.

[19] See NACC literature.

[20] See HYPERCEPT literature.

[21] See Commonwealth of Massachusetts, Pollution Liability Work Group 21C Hazardous Waste Advisory Committee (April 1986) (the 21C Report).

they were considered an unlikely remedy for the problem facing the small, diverse community of DEQE permit holders. Nonetheless, the Report anticipated further study.

Joint Underwriting Authorities (JUAs) usually require all insurance companies licensed to write a particular class of insurance to accept parties otherwise unable to obtain insurance. In some ways, JUAs resemble mandatory market assistance programs. The obvious questions: what prevents the uninsured parties from obtaining insurance in the first place, and should we assume that all who want insurance are in some way entitled to it? Some existing JUAs (e.g., Massachusetts automobile operators insurance) rely on a licensing process to make the first approximation of eligibility; beyond that, an annual rate-setting administrative hearing conducted before the state insurance commissioner sets the premiums to be paid by each class of insured. The insurance industry within the state objected to this idea on the grounds of the unavailability of reinsurance, and the unfairness of the retrospective basis of rate-setting, which prevents their anticipation of judicial trends. Their objection was emphatic, and included a promise to litigate should the state create a JUA. One Pollution Liability Work Group member was equally emphatic in his support of a JUA, pointing out that the insurers do indeed retain the option of not writing the relevant class of insurance if they are not willing to participate, and asserting that the insurers would support the JUA if they examined it closely and saw that it was an opportunity to "provide a socially responsible insurance program with the down sides limited by statute." He stated that his conversations with insurance industry executives have revealed that their objection to JUAs is not uniform or monolithic.[22]

A mandatory risk retention group would compel all permit holders to join. This requirement has the same problems as a JUA in that the licensing process must closely examine just what minimum standard it will force a permittee to meet, since that risk will subsequently be covered, by definition. Additionally, as a hybrid public-private entity, it has competing goals. Consider a case where the group does better than expected. Would the group then lower premiums, as a captive organized for member needs, or would it increase the group's reserves, like a state-owned insurance entity eager to decrease the exposure of the taxpayers who support it? Furthermore, such a group would inhibit the reemergence of private pollution liability insurance; if it developed regardless, the state might then find itself in competition with the private market. The apprehensiveness about the public-private tension led the group to recommend the alternative of a state-owned and operated insurance facility.

A state owned company would function like a private insurance facility, contracting with insurance professionals for administrative and management services. Although it might, during lean times, require participation of permittees, it would avoid the problems this might entail through its willingness to curtail operations when the insurance cycle takes a more favorable turn. A state reinsurance group is advantageous in that it is less intrusive into the market than is an insurance company and does not require the same level of staffing. The 21C report counters the potential objection to the notion of state intervention into a traditionally private domain by acknowledging that governments are already engaged in supplying insurance and reinsurance where markets have failed. Concerning the potential for catastrophic losses to bankrupt the state-owned insurer, the report notes that the state would be responsible for remedial actions in any catastrophic event bankrupting an insurer, whether public or private.

As of April 1987, companion bills S. 685 and H. 2558 to create such an insurance and reinsurance facility were under consideration at the State House. Primary coverage would be provided by a form of risk retention group which would write insurance at actuarially sound rates, and a reinsurance corporation would cover up to 100% of the risk assumed by voluntary primary coverage entities.[23]

4. Conclusion

Further study is necessary in order to choose the best alternative to influence insurance industry behavior. In the meantime, government must act to address the unavailability and unaffordability of pollution insurance. The concerns of insurers are too great for a market assistance program, which seems to be appropriate when the problems in insurance delivery affect only a small portion of the relevant community. A state-owned insurance and reinsurance company seems to be a good option with sound precedents. By providing insurance directly when the market does not, the state can possibly serve as a catalyst to stimulate commercial interest in the line. For example, nuclear power plants were once insured solely by the federal government but are now partially covered by commercial insurers; Florida sinkholes were once insurable only under a pool set up by the State of Florida but, after some years with no losses, are now covered by commercial casualty and property insurance. Whether such a program would work similarly in the line of pollution insurance is partialiy a function of the data accumulated: if covering the liability is revealed to be less onerous than originally feared by the insurers, they will most certainly enter the market, but if the program shows losses, they may be put off indefinitely. Because this option generates additional data on losses, promotes the development of premiums tied to risk posed, does not inhibit the growth of a private market, utilizes the experience of the commercial insurers in this line to date, and will be adequately capitalized to provide fairly certain compensation, we agree that a state-owned insurance and reinsurance company is a viable solution to this problem.

[22] Zagaski, Chester A. (March 27, 1986), page 15.

[23] Associated Industries of Massachusetts (April 10, 1987).

Whether the insurance is supplied by the private market, a state-owned insurance company, or some combination thereof, it is essential that the Commissioner of Insurance and the DEQE together review and closely monitor the insurers' practices concerning pollution liability insurance. Only by cooperating can these two regulatory overseers verify that the innovative features of policies now being written (such as claims-made basis, the new pollution exclusion, and buy-backs) truly fulfill the objectives of financial responsibility requirements applicable to hazardous waste handlers.

D. FOSTER ROLE FOR CHEMICAL HANDLERS

As described in Section II.D, there is great uncertainty concerning the behavior of chemical handlers. In general, it appears that they are responsive to economic, legal, and regulatory incentives, which we addressed elsewhere in the Report (see Section II.D).

Some interesting and progressive projects have also been initiated by the trade associations. For example, the Chemical Manufacturers Association established a 24-hour emergency communications system to provide information on hazardous materials to emergency personnel, and recently developed the Community Awareness and Emergency Response ("CAER") project, which helps local communities develop emergency preparedness programs for disaster response (both natural and man-made.)[24]

In addition, many chemical handling facilities independently developed their own response plans following the Bhopal disaster.[25] Plant level planning will soon be compelled by SARA's Title III, the "Emergency Planning and Community Right-to-Know Act of 1986." Regulated facilities will be required to develop emergency response plans and disclose chemical hazard information to workers and the public.

While the balance of this Report suggests that chemical handlers are, in general, more "reactive" than "proactive" concerning activities that provide greater control of hazardous substances, we have seen that industry initiatives can play an important role in the evolution of the regulatory framework for hazardous substance management. Any actions undertaken by legal or regulatory authorities to address the problem of toxic substance injuries should acknowledge the potential for continued leadership on the part of chemical handlers and their trade associations.

E. CHANGES IN THE TORT SYSTEM

A variety of changes in legal rules have been proposed to fulfill the objectives of the toxic waste compensation/liability system. Many of these potential changes have been grouped together, at various times, under the rubric of "tort reform." For example, some legal scholars have suggested, as tort reform, liberalizing certain liability standards to address the special characteristics of injuries from exposure to toxic substances.[26] Other legal scholars, as well as representatives from the environmental liability insurance industry, have recommended, as tort reform, imposing restrictions on awards to successful plaintiffs in order to reduce the uncertainty in the toxic waste compensation/liability system.[27] As a result, "tort reform" has become an imprecise, value-laden, and politicized term which, for that reason, we shall avoid using in this report.

In this section, we shall consider options for changes in the tort system which might improve the control of hazardous waste. Most of these options clearly involve modification of the existing tort system, but a few would merely codify what has heretofore been the (prevailing) interpretation of Massachusetts law.[28] While each option is separately analyzed, we will organize the discussion around (1) the special attributes of toxic waste injuries that have created legal difficulties and (2) the goals of the toxic tort system. Individual options will be considered in terms of these criteria.

1. Options Indicated by Special Characteristics of Hazardous Waste Injuries

As detailed in Section II.B, the characteristics of hazardous waste injuries can impede their resolution within the tort system as it traditionally operates. However, changes in the tort system may be introduced to accommodate these special characteristics of hazardous waste injuries and thereby promote the objectives of the compensation/liability system.

To review, injuries from exposure to hazardous substances are different in at least five important ways from injuries in other tort suits typically before the courts. First, in most cases, the injury is "caused" exclusively by the actions of the polluter; it is unlikely that the victim could take any reasonable precautions to reduce or eliminate the risk of exposure to the toxic waste. Second, in some cases, the hazardous wastes of several polluters may conjoin to form a "chemical soup" so as to preclude identification of the polluter whose waste the victim has been exposed to. Third, many chronic toxic waste injuries have long latency periods — often fifteen years or more — between exposure and the manifestation of the disease. This time lag may seriously reduce the likelihood of identifying the polluter and of recovering damages, once identified. Fourth, most diseases from exposure to toxic substances can only rarely be uniquely identified as such: the diseases are often "ordinary diseases of life."

[24] Zoll (1986).

[25] Chowdhury (1986).

[26] See, for instance, Trauberman (1983) and *The Journal of Legal Studies; Critical Issues in Tort Law Reform: A Search for Principles,* Vol. 14:3 (December 1985).

[27] See, for example, Wheeler (1983a) and *Report of the Tort Policy Working Group on the Causes, Extent and Policy Implications of the Current Crisis in Insurance Availability and Affordability* (1986).

[28] For example, a strict liability standard would resolve the uncertain application of Massachusetts law to assess liability in personal injury cases involving exposure to toxic substances.

Other substances or factors, working separately or in combination with the toxic material, are capable of causing the same disease; hence, there is no "marker" to distinguish the source of the disease for a particular victim.[29] Fifth, individuals suffering from toxic waste injuries frequently are not isolated cases; rather, they share a common source of exposure.

a. **Strict Liability**

The standard used by courts in deciding tort cases in this country has been shifting away from negligence and toward strict liability. Diverse strands of judicial thinking have contributed to this development, including recognition that the manufacturer is usually best able to reduce product-related and production-related accidents; that the manufacturer can spread accident risk through liability insurance, whose expense can be distributed among the public as a cost of doing business;[30] that societal expectations of safety may preempt the negligence standard of due care; and that activities which are inherently dangerous (ultra-hazardous) require a strict liability rule to protect defenseless potential victims.[31] These historical trends apply, with greater or lesser force, to hazardous waste liability. For example, hazardous waste activities may be deemed "ultra-hazardous" by the courts, and therefore, be subject to a strict liability standard.[32]

Even in the absence of these judicial developments, however, one characteristic of hazardous waste injuries — that only actions taken by the polluter (and not by the victim) can prevent injury-causing exposure — provides an overwhelming justification for applying a strict liability standard to toxic tort cases. That justification is an economic one.[33] Before proceeding, we should emphasize the long and distinguished role that economic reasoning has played in the construction of tort principles. For instance, Judge Learned Hand's classic formulation of the negligence standard — if the loss caused by the accident, multiplied by its probability of occurring, exceeds the defendant's cost of preventing the accident, then the defendant is guilty of negligence — is an economic test.[34] More recently, a number of economic studies of the tort system have supported the hypothesis that liability rules can be explained as efforts to promote an efficient allocation of resources to accident prevention.[35]

In examining environmental tort law from an economic perspective, we want to distinguish clearly between two different measures of economic efficiency. These are the level of care and the level of activity. The level of care here concerns the procedures used to generate, transport, treat, and dispose of hazardous wastes; for our purposes, the level of activity is the level of production involving hazardous substances and can be estimated by the volume of hazardous waste produced. The efficient level of care can be defined as that which yields the socially-minimum sum of accident avoidance costs and expected accident costs for *a given level of activity.* The efficient level of activity is that which yields the socially-maximum benefit (net of production and accident prevention costs) minus expected accident losses for *a given level of care.* A liability standard must be evaluated in terms of both measures of economic efficiency.[36]

Now it is well known that, *in the absence of transactions costs,* liability rules have no effect on the efficiency of resource allocation; fully-informed economic agents will always negotiate to mutual advantage to achieve the social optimum.[37] This fact is academic, however, in matters involving hazardous waste. Hazardous waste and other types of pollution are prominent examples of "externality";[38] but the existence of an externality is merely indicative of underlying transactions costs, which interfere with economic bargaining toward an efficient economic outcome.[39] With private negotiation precluded, the court must decide which party to a hazardous waste accident should bear its costs. The tort rule applied by the court will, in turn, affect the incentives of potential injurers and victims to avoid accidents. By analyzing each party's reaction to alternative liability rules, it is possible to determine which rules produce an efficient allocation of resources to accident prevention.

It can be shown that a negligence rule (as well as a strict liability rule with contributory negligence)

---

[29] Note, however, that the science of biological markers — discovering chemically-specific damage at the molecular level of DNA — is undergoing intense development.

[30] This is the rationale for strict liability introduced in the famous *Escola v. Coca-Cola Co.* case. Its flaw is readily apparent when one considers the liability insurance market. The availability of insurance is neither guaranteed nor unlimited; the reason is because of potential problems in risk-diversification, adverse selection, and moral hazard. Liability rules affect the magnitude of these problems. See Epstein (1985).

[31] The evolution of these judicial concepts is explored in Priest (1985) and Owen (1985).

[32] However, Massachusetts courts, in recent rulings, have not found the storage or use of toxic chemicals to be ultra-hazardous. See Commonwealth of Massachusetts (December 16, 1986), page 44.

[33] The discussion which follows is an economic efficiency justification for strict liability. Most political demands for strict liability are based on equity considerations. See Note 44, *infra.*

[34] *United States v. Carroll Towing Co.,* 159 F.2d 169 (2d Cir. 1947).

[35] See, for example, Brown (1973), Calabresi (1970), Landes and Posner (1980, 1984, 1985), Posner (1982, 1977), and Shavell (1980a, 1982).

[36] This apparently obvious point was not appreciated in the "economics-of-the-law" literature until recently. Shavell (1980a) first derives this result using a mathematical model, although Posner (1977), Chapter 6, contains an informal analysis of the issue.

[37] This is the substance of the Coase Theorem. See Coase (1960).

[38] An externality is present whenever one party's utility or production function includes real (that is, non-monetary) variables, whose values are chosen by other parties without regard to the first party's welfare. See Baumol and Oates (1985), pp. 16-18.

[39] See Dahlman (1979), p. 142.

produces an efficient level of care.[40] So does a strict liability rule when, as in the case of hazardous wastes, potential victims cannot effectively take precautions to reduce the likelihood of accident. However, when we consider the level of activity, only a strict liability rule is efficient.[41] With a negligence rule, by comparison, potential injurers — exercising due care — will not be motivated to consider the effect of increasing their level of activity on expected accident losses (borne by the victim). They will thus be led to choose too high a level of production — and create a socially-excessive amount of hazardous waste — because their total costs of production will not have been "internalized."[42] These efficiency losses from a negligence rule are likely to be quite substantial. One of the most effective means of reducing hazardous waste damage is by substituting *hazardous substance* management for *hazardous waste* management so as to reduce the amount of toxic waste generated and deposited into an environmental medium. Hazardous substance management options include — in addition to reduced levels of end-product production — input substitution, product reformulation, production process redesign, production process modernization, improved operation and maintenance practices, and hazardous waste reuse and recycling.[43] But to encourage these practices, hazardous waste generators must be provided the proper incentives, through internalization of all the social costs of their activities. A negligence rule fails in this regard.

Only a strict liability rule succeeds. On efficiency grounds, in terms of both the level of care and the level of activity, strict liability therefore emerges as the proper standard to apply in environmental tort cases.[44]

b. **Joint and Several Liability**

The justification for imposing joint and several liability on multiple toxic waste defendants derives from a second characteristic of toxic waste injuries — that they may be caused by the joint nature of the defendants' actions.

The toxic waste, exposure to which caused the injury, may be joint in one of several ways. First, the defendants' separate waste might have combined chemically to produce another substance that actually caused the injury. Alternatively, the substances could have acted synergistically to cause the injury. These are traditional cases of joint tortfeasers creating technically-indivisible damage, to which the courts have consistently applied joint and several liability.[45] In addition, the pollution from only one defendant may have caused the injury, but the conjoint hazardous wastes make it impossible to determine which of the defendants' pollution it was. This is a situation which represents a practical (as opposed to technical) indeterminancy, but which has properly been treated as joint by the courts.[46]

At the same time, the joint and several standard of liability is not an inflexible rule to be arbitrarily applied. Courts should encourage defendants to present evidence to justify limiting or excluding their contribution or to assist the courts in constructing an equitable apportionment of costs among defendants.[47], [48]

The combination of the "carrot" of apportionment and the "stick" of joint and several liability furthers several "fact-finding" objectives of the environmental liability system. First, in the alternative liability case, where the hazardous waste cannot be unambiguously identified with one of several defendants, it places the burden of obtaining information about the source of the pollutant on the parties in the best position to carry the burden. Second, it encourages joint defendants to negotiate a settlement, and toward that end, to make available in a comprehensive and timely fashion any information which might reduce their liability. This, in turn, promotes the prompt clean up of hazardous waste. Finally and prospectively, it provides a strong incentive for firms in the hazardous waste management system to maintain a detailed accounting of their activities.

c. **Statute of Limitations "Discovery Rule"**

The statute of limitations, which specifies a deadline for plaintiffs to file suit, promotes the utilization of fresh, available evidence and protects potential defendants from indefinite threats of lawsuit for past activities. However, the long latency periods between exposure and the manifestation of many chronic toxic waste diseases may preclude legal recovery by the

---

[40] See Brown (1973). The negligence rule works because, according to its own criteria, it is less costly to take efficient care than to pay for the damages that result from inefficient care. By comparison, a no liability rule produces an inefficient level of care: the injurer will not take any steps to avoid accidents since it would not benefit him to do so.

[41] See Shavell (1980a).

[42] The internalization of costs is precisely the method for remedying a misallocation of resources resulting from the presence of a (depletable) externality. See Baumol and Oates (1975), pp. 19-23.

[43] Caldart and Ryan (1985) provide a detailed categorization of hazardous materials management options.

[44] The justification for strict liability, of course, does not depend exclusively on economic efficiency arguments. A similar "polluter pays" principle can be derived on equity grounds using a rights-based approach.

[45] See Landes and Posner (1980) for a categorization and an analysis of joint and multiple tortfeasers.

[46] See, for example, *Summers v. Tice,* 33 Cal. 2d 80, 199 P.2d 1 (1948).

[47] The provisions in the Superfund Amendments and Reauthorization Act of 1986 to protect *de minimis* contributors of waste at a disposal site indicate that joint and several liability should not be capriciously assigned to all multiple defendants. See CERCLA Section 122(g)(1) and Section 107(b)(3).

[48] One method for reducing the court's involvement in apportioning costs is to modify liability rules so as to make a single identifiable (type of) hazardous material handler — such as generator or transporter — responsible for each possible accident scenario. Such liability "channeling," however, might assign liability arbitrarily, but also could encourage the potentially liable parties to allocate liability among themselves and to take actions to control the risk of future accidents. See Ferreira (1982), pages 276-277.

victim because of a restrictive statute of limitations.

One solution to this problem is to institute a "discovery rule" for hazardous waste releases specifying that the filing period to which the statute of limitations applies does not begin ("a cause of action does not accrue") until the injured party discovers, or could reasonably be expected to discover, a causal connection between exposure to the toxic waste and the manifestation of the disease.[49] The "State Procedural Reform" provision of the Superfund Amendments and Reauthorization Act of 1986 establishes such a discovery rule which preempts state statutes of limitation.[50]

d. **Compensation for Future Increased Risks**

The long latency periods between exposure and the manifestation of chronic diseases also often frustrate the operation of the tort system because some form of present injury is traditionally required as a condition for compensation.[51] By restricting a cause of action until manifestation of the disease, the courts may preclude recovery for exposure-related health expenses incurred during the latency period and seriously diminish the victim's chances of obtaining compensation for losses caused by the manifest disease (because of the perishability of evidence and the increased uncertainty, over time, of the polluter's existence and solvency).

For example, persons exposed to a release of toxic material may require some type of health screening to determine the extent of exposure and an indication of related health problems (suggested by a detectable increase in the incidence of toxin-related diseases in the exposed population). Similarly, because persons exposed to toxic material face increased risk of contracting certain diseases, they may be compelled to undergo more frequent and more specialized health examinations in order to assure early detection of the diseases and, thus, to minimize their damage. These health screening and health monitoring expenses both result from the increased risk of disease from exposure to toxic material. It seems a reasonable modification of tort rules to permit exposed parties to recover these tangible costs from liable polluters even though no disease has yet been manifest.[52]

The combination of the long latency period for many chronic toxic waste diseases and the manifestation condition for obtaining compensation also creates obstacles for victim recovery of losses once the disease manifests itself. By the time the latency period has ended, witnesses and evidence needed to prove liability may be unavailable, and if available, their credibility may be seriously eroded as a result of the time lapse. In addition, the liable party may no longer be in business or able to compensate the victims for their losses.

One possible solution to this problem is to permit exposed persons to receive compensation in anticipation of their (expected) disease expenses. This approach, however, has serious flaws. It permits some individuals to receive compensation for diseases they will never contract, and it may undercompensate individuals who do contract an exposure-related disease (by the difference between their actual and their expected costs). A preferred alternative would be to allow persons exposed to toxic materials to file suit against the polluter prior to present injury. If found liable, the defendant would be required to establish a mechanism to ensure recovery by the plaintiff for any losses incurred from the subsequent manifestation of any exposure-related disease.[53] Modifying tort rules in this way would provide an additional deterrent benefit by confronting polluters immediately with the consequences of their actions, instead of a remote and uncertain court action decades later.[54]

e. **Causation**

The fact that there are to date no unambiguous markers to guarantee the source of a disease has created huge "causation" problems for the courts.[55] The "all or nothing" priniciples of tort law wreak havoc on toxic suits involving diseases with multiple etiologies, where causation can only be evaluated statistically. Terms such as "more-likely-than-not," "proximately-caused," and "preponderance of the evidence" are inadequately discriminating to cope with the probabilitistic explanations of science. Solutions to these problems require a major revision by the courts in the reasoning and terminology to be applied to questions of causation in cases involving injuries from exposure to toxic substances.

One option is to reduce the plaintiff's burden (of proving by a preponderance of the evidence that the defendant's actions were the probable cause of his disease) by replacing "the probable cause" test with "a substantial factor" test.[56] This tort revision would more accurately capture the multi-causal nature of diseases related to toxic waste exposure and would force polluters to assume (partial) liability for diseases their actions contributed to, even if they were not the probable cause.

---

[49] See Trauberman (1983), pp. 217-218, for a detailed assessment of this modification of tort rules.

[50] CERCLA Section 309(b)(4).

[51] However, some courts are now recognizing that the present injury may be at the sub-cellular level. See Kanner (1987).

[52] In addition, exposure to toxic waste may compromise an individual's immunological system, thereby confronting him with substantially-increased risks of contracting diseases ostensibly unrelated to the hazardous material. Nicholas Ashford has termed this phenomenon CAIDS, chemically-acquired immune deficiency syndrome. CAIDS, once diagnosed, should, perhaps, itself be a compensable disease.

[53] One way to accomplish this end would be to require the defendant to purchase an insurance policy which would compensate the plaintiff for future illnesses potentially related to toxic exposure.

[54] Of course, present costs for insurance premiums would reflect the discounted future payouts for compensation.

[55] However, this problem is being addressed by research on biological markers to identify specific chemicals which attach to genetic material. See Note 29 *supra*.

[56] See Trauberman (1983), pp. 225-226.

A similar alternative is to replace the "preponderance" rule with a "proportionality" rule.[57] According to this approach, exposed persons who manifest a disease would be entitled to compensation from the polluter if his toxic wastes were statistically related to an increased incidence of the disease. However, the extent of compensation would be restricted to that statistical proportion of the disease to which exposure to the toxic waste contributes. Without this tort rule, whichever party to the toxic waste suit loses carries too great a burden of the injury; this, in turn, imparts erroneous deterrence signals to potential polluters.[58]

A third option would be to introduce "rebuttable presumptions" which would shift the evidentiary burden from the plaintiff to the defendant.[59] Rebuttable presumptions are utilized to determine whether the defendant's toxic waste was the cause of the plaintiff's exposure and whether the plaintiff's disease was caused or substantially contributed to by exposure to the toxic waste. On an initial showing by the plaintiff that the defendant may have been responsible for the exposure, and possibly the disease, the defendant then bears the burden of showing that it was less likely than not that he or she was responsible or that his or her actions did not contribute significantly. One advantage of this approach is that polluters are generally in a better position to provide evidence concerning the release of their hazardous materials; another is, by forcing the defendant to come forward with these details, the plaintiff may more easily defeat the assertions. On the other hand, rebuttable presumptions of this type would constitute a significant modification of traditional tort practices and may not be warranted unless packaged as part of an administrative system that provides compensating benefits to the hazardous waste management industry. In the end, however, the impact of such rebuttable presumptions may be minimal: industry, with its larger resource base, still may dominate the technical debate.

f. Class Action

Where the release of hazardous material results in mass exposure, individual actions against the polluter create enormous litigation costs and duplication of effort. The solution is to encourage the consolidation of claims, where common issues predominate, through class action or "public law" remedies.[60] In addition, in mass exposure cases involving both common and diverse issues, the courts should encourage split trials, comprised of a class action proceeding on the common issues and individual proceedings to decide the diverse issues. These tort procedures would enable plaintiff attorneys to achieve the same economies of scale that defendants already enjoy and would effect vast savings in judicial resources otherwise required for redundant adjudication.[61]

2. Options Indicated by the Goals of the Toxic Tort System

Some alternative tort rules are not related to any special characteristics of hazardous waste injuries. The merits of these tort options can be evaluated only in light of the objectives of the hazardous waste compensation/liability system and how current tort rules satisfy those objectives.

Recall that the purposes of the toxic tort system, from a social perspective, are compensation of victims, deterrence of future pollution, and punishment of willful or wanton releases of hazardous substances. Criteria for evaluating the extent to which these objectives are being achieved include minimizing system costs and uncertainty and promoting system fairness. The following tort options — capping total damages or certain damage categories, eliminating retroactive liability, and permitting punitive damages — are analyzed in terms of the tort system objectives.

a. Limits on Tort Awards to Toxic Waste Victims

The functioning of liability insurance markets depends on tolerable levels of uncertainty. Unfortunately, the hazardous waste compensation/liability system is fraught with uncertainty throughout. Of particular concern to the environmental liability insurance industry is the extent of their potential financial exposure, both because awards in individual toxic waste injury suits are theoretically unlimited (and realistically are sometimes very large) and because large numbers of injuries can result from a single release of toxic material (i.e., the injuries are not independent events which will tend to average out over time).

One way to reduce system uncertainty, particularly to potential insurers, is to place caps on certain award categories or on the total award a successful plaintiff in a toxic tort injury suit will be permitted to receive. The usual award categories recommended for capping are pain and suffering, psychological damage, and punitive

---

[57] See Rosenberg (1984), pp. 866-887.

[58] This essential point is derived in Shavell (1980b). Its implications are explored in Landes and Posner (1984) and Rosenberg (1984). Of course, in practice, not all victims of toxic waste exposure recognize or claim for consequential disease. Therefore, the issue of overpayment is probably not compelling.

[59] However, while rebuttable presumptions shift the *burden* of proof, they do not change the *standard* of proof. See Trauberman (1983), pp. 226-230 and United States Government, Senate Committee on Environment and Public Works (1982), pp. 196-218.

[60] See Rosenberg (1984), pp. 905-929.

[61] In addition, a variety of quasi-tort or non-tort systems have emerged to reduce the expense of tort litigation. These include alternative dispute resolution approaches, such as binding arbitration, mediation, or "mini-trials." For information about alternative dispute resolution, see Alliance of American Insurers (1986a), pages 1-3, and National Insurance Consumers Organization (August 1986), pages 38-41. Of course, in the extreme, tort class action may be superseded by legislation creating an administrative system, the merits of which are described in Section III.F, *infra*.

damages.[62] These categories have the common attributes of being relatively subjective in nature and of having the potential to generate enormous monetary awards (potentially the dominant component of total tort awards).

While superficially attractive, this proposal suffers from several serious flaws. First, it would discourage voluntary market changes; insurers can themselves reduce their uncertainty by providing, within the insurance policy, per injury deductibles and indemnity limits and total indemnity limits on the insured[63] (as well as by improving their risk assessment and risk management performance). Second, the proposed caps on awards seriously undermine the system objectives of compensation, deterrence, and punishment. While the award categories under consideration for capping are somewhat subjective, the damages to the victim, represented by these categories, are real. Failure to permit award in full will insufficiently compensate the injury victims, inadequately deter polluters, and incompletely punish willful or wanton releases by polluters of hazardous material.

b. **Retroactive Liability**

Ignoring willful and wanton acts by the defendant, the primary objectives of the toxic tort system are compensation of victims and deterrence of future pollution. However, retroactive liability, by definition, is restricted to prior acts, so that the question of deterrence is irrelevant here.[64] What remains is compensation, and the issue is whether retroactive liability promotes compensation of hazardous waste injuries in an equitable and efficient manner.

By and large, retroactive liability is fair: the cost of remedying hazardous waste injuries is borne by those parties who contributed to the toxic release and who profited from the manufacture which resulted in the toxic waste. In a sense, retroactive liability might equivalently be viewed as a damage tax on those parties which caused the injury. However, retroactive liability is more equitable than a tax on the hazardous waste management industry for this reason: damage costs are borne by specific firms in (approximate) proportion to their contribution to the injury rather than by a tax to be borne equally by all firms, some of which might not even have been in business at the time the toxic material was released.

It is on efficiency grounds that retroactive liability might be challenged. The high transaction costs associated with hazardous waste injury litigation may make retroactive liability a poor mechanism for providing injury compensation. By comparison, financing compensation through fees imposed on the hazardous waste management system, as was done to create Superfund, would almost certainly be less costly.

The imposition of retroactive liability, to be socially justified, thus depends on whether, for the purpose of promoting victim compensation, its gains in equity exceed its efficiency losses. However, limiting retroactive liability in future situations should not be confused with the historical imposition that occurred without weighing the policy options.

c. **Punitive Damages**

In theory, punitive damage awards represent society's condemnation of a defendant's reprehensible behavior (to include acts of malice, recklessness, indifference to the rights of others, and outrageousness). In short, they denote a punishment for wrongdoing. In practice, punitive damages are permitted by various state and federal statutes to accomplish a variety of objectives and to address a variety of wrongs. Generally, the decision to award punitive damages and the amount of the award are left to the discretion of the jury. However, instructions are usually given by the court as to threshold findings of behavior sufficiently egregious to qualify for *consideration* of punitive damages.

The actual deployment of punitive damage awards as a catchall category under the broad discretion of the jury is both a strength and a weakness. On the one hand, if the tort system is not functioning optimally (in terms of achieving societal objectives), then punitive damages may serve as a "safety valve" to offset unintended and undesirable legal advantages to toxic waste polluters and disadvantages to toxic waste victims. On the other hand, the unguided discretion of the jury in awarding punitive damages creates a substantial risk that the defendant will be incorrectly found liable or that the size of the award will be seriously in error;[65] nor can appellate review do much to reduce this risk, since the appellate process itself lacks clear, consistent standards to apply.[66]

What is certain is that punitive damages, as a practical matter, increase uncertainty as to the outcome

[62] In addition, several researchers have suggested limiting lawyers' fees. For example, the U.S. Attorney General's Tort Policy Working Group recommended scheduling plaintiffs' attorney contingency fees on a declining scale (starting at 33%) as the award increases. Robert Hunter and Jay Angoff argue that, if lawyers' fees are capped, both defense and plaintiff attorney fees should be limited, since defense lawyers' fees have risen more rapidly than plaintiff lawyers' fees. See United States Government, Report of the Tort Policy Working Group on the Causes, Extent and Policy Implications of the Current Crisis in Insurance Availability and Affordability (1986), pages 72-74, and National Insurance Consumers Organization (August 1986), pages 31-33.

[63] However, RCRA, CERCLA, and corresponding state statutes may require per victim coverage that exceeds desired insurer limits.

[64] This is assuming that retroactive liability, which was unanticipated by some insurers in the past, will not be a problem in future policies, which will contain iron-clad language and definitions.

[65] The court usually provides no guidance as to the appropriate measure of punitive damages. Schwartz (1982), pp. 146-147, reports that a survey of California judges revealed strong support of the jury in most of its ordinary civil functions, but with respect to punitive damages, the judges tended to doubt the correctness of the jury both in awarding damages and in their amount.

[66] See Wheeler (1983a), pp. 288-291.

of tort litigation. Those opposed to permitting punitive damage awards argue that this uncertainty expands the divergence in the plaintiff's and the defendant's expectations, which raises the likelihood that cases will not be settled without litigation and appeal.[67] Conversely, proponents argue that the increased uncertainty occasioned by punitive damages is what induces polluters to negotiate with victims and to settle claims outside of court.

Perhaps the best way to evaluate the efficacy of punitive damage awards is in terms of compensation, deterrence, and punishment. By examining each of these separately, it may be possible to determine whether punitive damage awards are the appropriate instrument for addressing that particular objective, and, if so, how the punitive damage award process should be structured so as best to achieve that objective.[68]

1. Compensation

Only three states — Michigan, New Hampshire, and Connecticut — currently justify punitive damages as a form of victim compensation.[69] In those states, punitive damages are specifically authorized to compensate the plaintiff for "psychic harms" not easily estimated in monetary terms or for litigation expenses. Such compensation promotes the goal of restoring the plaintiffs to their pre-injury positions, in monetary terms, to the fullest extent possible. (But note the inappropriate mixing of punitive and real, though unquantifiable, psychic damages.)

However commendable the goal, one must question the method. Granted, there may be portions of the victim's loss which are not readily amenable to quantification or monetization, or which are not encompassed by existing damage rules. However, punitive damage awards are an awkward and vague instrument for remedying this problem; furthermore, recovering these intangible losses through punitive damages in no way eases the task of estimating their value in monetary terms. If the state wishes to compensate the victim for these intangible harms, why not do so directly by legislation permitting recovery of damages from loss of life, pain and suffering, emotional distress, and other deleterious psychological effects caused by the defendant? A similar argument applies to litigation expenses. If the law does not generally recognize plaintiff attorneys' fees as a component of compensable damages, then the state may expressly award such damages by statute.[70]

[67] See Ellis (1982).

[68] Although the various objectives of punitive damage awards can be isolated, such awards are, of course, likely to have overlapping effects on compensation, deterrence, and punishment.

[69] See Wheeler (1983a), pp. 304-306. Several states — among them, California and Missouri — have expressly rejected the use of punitive damage awards for compensatory purposes.

[70] However, in a civil suit, the state is usually considered to be approximately indifferent to the relative interests of plaintiffs and defendants as a class. Furthermore, since the importance of the parties' interests at stake in suits for compensatory damages is roughly equal, it is unclear why, *ceteris paribus,* the state would wish to compensate plaintiff's, but not defendant's, attorneys' fees. There is no need or reason to affix compensation for legal costs to punitive damages.

That punitive damage awards are an inappropriate tool for recovering "extra-compensatory" damages becomes apparent as soon as one realizes that the state's justification for such *compensation* — to provide injured plaintiffs with an opportunity to offset some of the harm which is not legally recognized and for which compensatory damages cannot be claimed[71] — is virtually unrelated to the degree of malice or recklessness in the defendant's actions — the conditions for punitive damages to apply. Hazardous waste victims of reckless acts and those of innocent acts are equally desirous and deserving of compensation (at least under a strict liability standard).[72] However, punitive damage awards exclude the latter class of victims from recovery.

2. Deterrence

The vast majority of states specify deterrence as an objective of their punitive damages system.[73] Their interest is, on the one hand, to provide sufficient disincentives to discourage undesirable conduct while, on the other hand, not to discourage behavior that is, on balance, beneficial to society. Generally, the appropriate level of deterrence is achieved by forcing the polluters to "internalize" the full costs, no more and no less, that their actions impose on society.[74] Note that this cost-internalization standard for deterrence applies to both innocent and outrageous conduct by the defendant. To the extent that malicious or reckless acts by a polluter cause more severe damages to more victims, then the necessary additional deterrence is automatically obtained from the additional damages the polluter is forced to pay.[75]

Clearly, a portion of the deterrence function is satisfied by whatever compensation the polluters, because of their actions, are required to provide the victims of toxic waste exposure. In that sense, incomplete compensation *could* result in under-deterrence, the remedy for which is identical to that for incomplete compensation. However, the polluters face other elements of deterrence as well, principally their own litigation expenses and the loss of good will caused by adverse publicity surrounding their behavior. Because

[71] See Wheeler (1983a), page 304.

[72] To the extent that reckless acts create more harm, that harm is already compensated by existing damage rules or can be directly compensated by the methods suggested above. This would include the "insult" to the plaintiff caused by the outrageousness of the defendant's conduct, which could be directly compensated as emotional distress damages.

[73] See Wheeler (1983a), pp. 306-310.

[74] See Baumol and Oates (1975), pp. 19-23. This finding is derived in terms of economic efficiency objectives. However, a similar rule can be inferred, on equity grounds, from the widely accepted "polluter pays" principle.

[75] However, special deterrent considerations may come into play in the following sense: even if polluters were willing to pay for the consequences of their *egregious* behavior, society would still not permit it. The issue then becomes one of ethics and values, not captured by economic analysis.

of the existence of these non-compensatory costs, in theory full victim compensation *could* lead to over-deterrence of hazardous waste release.

One additional factor, however, creates a substantial risk of under-deterrence of hazardous waste damage. That factor is the polluter's ability to elude detection, in a legal context.[76] Plaintiffs in toxic waste suits must demonstrate both that the damage to their health was caused by exposure to hazardous waste and that the hazardous waste in question was released by the defendant. The difficulties confronting toxic waste plaintiffs in both of these endeavors is well-documented in the Special Commission's own report.[77] Similarly, we should note that, if the successful plaintiff's litigation costs are not compensated by the defendant, then many victims of lesser toxic waste injuries may forego attempting recovery through the courts; the potential compensation will not warrant absorbing the litigation expense. Again, the result in these cases will be inadequate deterrence of hazardous waste.

There are two direct remedies for this source of under-deterrence. First, the state can attempt to remove impediments facing the plaintiff in a tort proceeding; these might include modifications of liability rules, the statute of limitations, and the admissibility of evidence, and the shifting of attorneys' fees. Second, if the previous remedy proves impracticable or insufficient, then the state can impose, by statute, multiple damages on the defendant.[78] For example, if the state determines that polluters are able, under the existing legal system, to avoid paying for half of the damages they cause, then it can require polluters to pay double damages.[79] Such legislation by the state would increase deterrence both by encouraging more victims to seek recovery of damages from the polluter and by increasing (multiplying) the magnitude of damages paid by the polluter to each successful plaintiff.

3. Punishment

Unlike compensation and deterrence, the imposition of punishment requires malicious, reckless, outrageous, or otherwise morally-reprehensible behavior on the part of the polluter. What determines the moral gravity of the polluter's conduct is an issue of enormous controversy.[80] It is clear, however, that more is required than simply that toxic waste released by the polluter caused the victim's injury. First of all, in a regime of strict liability, the defendant may have taken all reasonable precautions to prevent the toxic release, but the accident occurred anyway. In this case, even though the plaintiff would be awarded compensatory damages from the defendant, the defendant would not be negligent and certainly not guilty of outrageous conduct. Even marginally negligent acts may not qualify as egregious behavior on the part of the polluter.

Morally reprehensible conduct by a polluter probably requires a conscious disregard for the rights and safety of others, which causes (or threatens to cause) an unnecessary and irreplaceable loss of health or life. Strong candidates for moral condemnation include gross negligence (failure to introduce relatively low-cost remedies), failure to comply with established standards of safety, and attempts to conceal or failure to communicate known environmental risks. Note that just because the defendant consciously "traded-off" lives for dollars, for example, in pre-accident cost-benefit analysis, he or she is not necessarily guilty of indifference to the rights and safety of others. Such trade-offs are quite capable of generating non-negligent conduct.[81] However, where the polluter's cost-benefit analysis seriously undervalues the loss of health and life, the polluter may well be found guilty of grossly negligent behavior.

Not only is the polluter's egregious conduct a precondition for punishment, but the moral gravity of his offense strongly influences the level of punishment. That said, there are few guidelines for establishing the proper level of punishment. Some legal scholars have suggested broad, largely-qualitative factors to assist juries in assessing punishment in a civil court.[82] For example, the wealth of the defendant is usually deemed to be a factor because the "diminishing marginal utility of money" requires greater monetary damages be imposed on wealthier defendants in order to achieve a given level of punishment. Others have suggested limits be placed on punitive awards, perhaps tied to multiples of compensatory damages;[83] however, there is little theoretical justification for these proposals.

The question of the level of punishment for the offending polluter becomes more complicated in mass-exposure cases. If a class action is permitted, then the court may impose punitive damages as total punishment for the corporation's conduct and apportion those damages among the individual victims. However, if victims must file individually, it is not clear whether each plaintiff can request punitive damages from the

---

[76] The polluter's ability to avoid detection may also frustrate compensation objectives as well. However, many toxic waste victims are eligible to receive compensation from their own (first-party) insurance policies. The percentage of the victim population covered by such insurance and the extent of each victim's damages thus compensated is an empirical question.

[77] See Commonwealth of Massachusetts (December 16, 1986), pp. 15-17.

[78] This approach is similar in concept to the awarding of treble damages allowed by the Clayton Act in private antitrust actions.

[79] Coffee, however, identifies a serious flaw in multiple damages, which he terms "the deterrence trap." The maximum collectible damages that can be levied against a firm are necessarily bound by its wealth (and by the limits of its insurance). If multiple damages exceed this amount, then adequate deterrence cannot be achieved. See Coffee (1981), pp. 389-393.

[80] See, for example, Owen (1982b), Schwartz (1982), and Wheeler (1983a).

[81] See Owen (1982b), pp. 24-26.

[82] See, for example, Owen (1982b), page 51.

[83] See, for example, Wheeler (1983a), pp. 314-315.

victim. If each can, then there is no mechanism to ensure that the firm is not being overly, and repetitively, penalized. If not, then the earliest-to-file plaintiffs will receive all the punitive damages. This hardly seems an equitable apportionment among potential claimants.

Another issue concerns the nature of the punishment when the defendant is a corporation. Monetary fines which comprise a significant proportion of the cash resources available to the polluting firm may, in addition to penalizing stockholders, create spillover effects on the firm's employees, suppliers, and creditors. The alternative of an "equity fine," imposed on the equity securities of a polluting corporation, would limit the consequence of the punishment to the corporation's stockholders.[84]

Finally, the imposition of punishment in a civil suit raises a variety of procedural issues.[85] For example, consider the burden of proof. In criminal hearings, before punishment is inflicted, the incriminating facts should be proven "beyond a reasonable doubt." By comparison, civil punishment requires only a "preponderance of the evidence," courts having rejected even a "clear and convincing evidence" compromise.[86] One solution to these procedural questions is to bifurcate punitive damage trials (assuming punitive damages are intended as punishment). This device would permit punitive damages suits only after the jury has rendered a verdict on liability and non-punitive damages. Bifurcation of this kind would ensure that evidence pertinent to punitive damages, such as the wealth of the defendant, could not be improperly used to influence the jury when it considers the issues of liability and compensation. In addition, it would facilitate the introduction of a higher burden of proof for civil punishment, without confusing the jury with differing requirements for different evidence.

3. Conclusions

We have considered a large number of options for changing the tort system. Many of these options attempt to remedy specific legal impediments that have arisen because of special characteristics of toxic waste injuries. Others, such as award caps, retroactive liability, and punitive damages, have been introduced in terms of their direct contribution to satisfying the goals of the hazardous waste liability/compensation system. While the individual options of either type remain highly controversial, we believe that framing their evaluation within the context of explicit toxic tort difficulties and objectives has illuminated their merits and shortcomings.

F. DEVELOP COMPENSATORY PROGRAMS FOR VICTIMS

For compensatory purposes, government can address the previously discussed shortcomings in the tort system by establishing victim compensation programs for those harmed by hazardous substances. An administrative program could be swift, equitable, and have lower transaction costs than the tort system, but this would come at the expense of the adaptability, flexibility, and specificity provided by the adjudication of individual cases in the tort system. A variety of plans have been proposed to the federal government, but none have been enacted to date.

The predicament of toxic substance victims is not new; the first proposal for an administrative victim compensation proposal was published ten years ago.[87] The federal government has been reviewing the factual basis and considering the policy options for toxic victim compensation for nearly a decade. In 1978, an EPA representative stated during a Congressional hearing that the Agency had "virtually no data as to the extent of timely and complete compensation of persons injured in toxic substance incidents."[88] One of the earliest studies, *Compensation For Victims Of Water Pollution,* was conducted by the Congressional Research Service (CRS) in 1979. Despite the narrowness of its title, it "assesses existing laws and programs which provide for assistance in the event of a toxic or hazardous substance incident."[89] In the process of considering a Senate bill addressing the compensation of toxic substance victims, the Senate had the CRS draft *Six Case Studies of Compensation for Toxic Substances Pollution,* a thorough study of the legal and practical obstacles to recovery faced by victims in a number of specific cases. The most widely-referenced review of the issues is *Injuries and Damages From Hazardous Wastes — Analysis and Improvement of Legal Remedies* (the 301(e) report, or the Grad Report), drafted by the "Superfund Section 301(e) Study Group" in 1982 in response to Congress' directive following its rejection of remedies for personal injuries and property damage contained in earlier bills. The National Science Foundation's 1983 study, *Compensation for Victims of Toxic Pollution — Assessing the Scientific Knowledge Base,* considers the resolution of three historical toxic pollution incidents under two proposed and four existing compensation systems. All of these reports note the inadequacy of the existing system in providing compensation, and each takes a slightly different cut on the problem, but only the 301(e) Report offers a proposal. In addition to federal government reviews, academics and interest groups have also considered victim compensation.[90]

---

[84] See Coffee (1981), pp. 413-424. In addition, Coffee suggests that civil penalties be coordinated with innovative criminal sanctions applied to guilty corporations, to include probation and "wraparound sentences."

[85] See Wheeler (1983a).

[86] See Schwartz (1982), page 144.

[87] See Soble (1977).

[88] United States Government, House Committee on Public Works and Transportation (1979), page 27.

[89] United States Government, House Committee on Public Works and Transportation (1979), page iii.

[90] See, for example, Pfenningstorf (1985), Keystone Center (1985), and Citizens' Clearinghouse (1984).

1. Rationale for an Administrative Compensation System

Why remedy the failure of the tort system with an administrative compensation system? There are two major motivations for the creation of any governmental compensation system. One is that there is a readily identifiable class of victims or harmed parties who are considered particularly deserving of compensation; examples include Medicaid, which provides affordable health care to the poor, and programs under Social Security, which assist those too old or infirmed to work. In such cases, the tort system is not usually an alternative because victims and responsible parties are diffuse entities and there are no obvious causal relationships linking them. The other motivation for a compensation system is the existence of a class of readily identifiable creators of harm who can be taxed to provide aid to the injured party; Workers' Compensation and the Black Lung Benefits Program exemplify this purpose. The tort system could conceivably provide relief in some of these situations, but the common fact patterns, the difficulties in pursuing individual causation and apportioning liability, and the expense of the tort system alternative suggest an administrative approach as a more efficient and equitable solution.[91]

Both motivations thus compel the compensation of toxic substance victims through an administrative system: they are particularly deserving, due to their innocence in causing the harm, their lack of opportunity to prevent the harm, and the absence of options for redress; and the creators of the harm — chemical handlers — are an easily identified and taxable group. Note that these two motivations for creating an administrative compensation system for toxic victims reflect most strongly the purpose of compensation, with deterrence and punishment receiving less emphasis than in tort remedies.[92]

2. Structure and Function of Compensation Systems

Victim compensation systems have a number of common features. The National Science Foundation study reviews each system in terms of its constituent elements, the degree to which it makes the victim "whole" again, the time to recover payment for damages, the anticipated cost, the deterrent effect, and the generation of additional information on the disease and its etiology.[93] For discussion purposes here, we will adopt the framework used by the NSF study. The constituent elements are as follows:

- Forum - the entity that judges pivotal issues of liability and compensation;
- Parties - who is eligible to recover;
- Evidentiary showings - the rules and presumptions establishing proof of injury or causation;
- Recovery - size of award, likelihood of recovery, and the types of injuries considered compensable; and
- Financing - the source of funds for payment to the victim, and the availability of insurance to either party for indemnification of losses.

a. Forum

Most studies of victim compensation systems recommend that the claims be decided by an administrative board, similar to that used in the resolution of Workers' Compensation claims. The board may or may not have an obligation to provide medical and scientific support to claimants; this may affect the nature and degree of revenues received by potential claimants. In contrast, the tort system can utilize the plaintiff's counsel in funding the technical research necessary for a winning case; no such opportunity operates in an administrative system. Of course, if the causal showing that needs to be made is weaker in any administrative system, this difficulty might be eased. This, however, has not been the case in Workers' Compensation because the standards of proof concerning the causal nexus between exposure and disease have not been eased relative to those required in the tort system.

As with other such systems, there are various mechanisms and levels of appeal, sometimes including judicial appeal in special circumstances. Administrative systems are often intended to provide a positive alternative to the tort system, and the tradeoffs built into these systems ensure some balance. While compensation systems are rapid and fairly certain, they offer limited rewards; litigation, by contrast, is slow and unpredictable but holds the potential for full compensation, including damages for pain and suffering not usually deliverable through an administrative system. In addition, punitive damages can be included in the tort system, but are only infrequently part of an administrative system.

A major issue in the operation of any victim compensation system is the victim's freedom to elect among forums for resolution of the claim. The 301(e) Report advocated free choice, allowing those dissatisfied with their compensation in the administrative system to *subsequently* file in the tort system, but with a caveat designed to prevent "frivolous" appeals: unless the verdict found damages to be at least 120 percent of those originally recovered under the administrative system, the claimant could be required to pay the defendant's defense costs. Dissenters protested that the rebuttable presumptions of the administrative system would eventually find their way into the

---

[91] The astronomical legal expenses incurred in the resolution of asbestos cases have caused some to call for an administrative compensation system for this class of injury. However, as is sometimes alleged concerning the Black Lung Benefits Program, an administrative approach can, if not carefully designed, compensate beyond intentions and also become extremely costly.

[92] The effectiveness of the deterrence function here turns on the specific and strategic design of the tax structure for funding the administrative system.

[93] National Science Foundation (1983) pp. 2-3.

co-existing tort system, yielding an impossible marriage between a fault-based and a no-fault system.[94]

b. **Parties**

The definition of who can qualify as a victim has been limited in specific ways by a number of different proposals. Some of these limitations stem from a perceived potential jurisdictional overlap; for example, some proposed systems exclude occupational exposures. However, it has also been argued that since people suffering from occupational disease face basically the same problems in obtaining relief as those injured elsewhere by hazardous substances,[95] they ought also be included in a comprehensive remedy. Other victim compensation proposals have limited the range of substances covered, excluding, for example, pesticides or FDA-regulated chemicals. Soble's definition of a toxic substance is not tied to any regulatory standard and is instead "intentionally broad" in order to facilitate shifting the burden of proof to the defendant, particularly in cases of multiple causation.[96]

The recommendations of the 301(e) Report apply only to victims of exposure to hazardous wastes regulated by CERCLA. Nonetheless, the Report notes that the terms "hazardous substance" and "hazardous waste" will often be used interchangably, since CERCLA covers "hazardous substances that have entered the environment in the form of waste and spills" (page 26), thereby rendering any substances wastes upon release even if they were not previously. In that case, the distinction between the terms seems to have collapsed. The study group member Charles D. Brietel, former chief judge of the New York Court of Appeals, cautioned that "most rules applied to hazardous waste sites and spills should and will, sooner or later, inevitably apply to toxic substances in general . . ."[97] In sum, it is important to note that estimates of the size of the universe of potential toxic substance victims should not be limited to a consideration of the volume of hazardous wastes handled, or the numbers of known sites, but include the volume of hazardous substances in use generally, since release of these substances might also produce victims.

In some proposed systems, the initial tests for demonstrating one's status as a victim may be as rigorous as the evidence necessary to prove one's claim in another system. The Keystone Report proposes that status as a claimant can be triggered by a "release" of a substance, which is defined by the particular chemical, the amount released, and the distance of the victim from the point of release. Once a claimant has met these initial tests concerning conditions of exposure and particular substances, other criteria govern his or her qualifications: the claimant may need to show coverage by a requisite nexus between the substance and the injury, which could include time limits, physician statements, etc. Posthumous filings by a party's estate may or may not be allowed. Finally, the system need not necessarily be retroactive; it could be designed to function only prospectively, eliminating any coverage of past injuries and providing compensation only to victims of releases dating since its enactment.

c. **Evidence**

Demonstrating that one is indeed a victim is difficult because it raises all the causation issues discussed elsewhere in this report. Most systems ease but do not eliminate the claimants' burden of proof. Proving a claim could require little more than a demonstration of "standing," i.e., simply documenting exposure (entitlement), or could demand the preparation of an argument very much like that needed in court.

A major expense facing victims in tort proceedings, and potentially in administrative hearings as well, is providing the technical specialists to support their cases. In compensation systems, rebuttable presumptions typically guide the decision process (naturally embodying all the problems of fitting uncertain and probabilistic science to the crisp categorizations of law). Presumptions allegedly provide such a necessary and valuable tool for victims that one compensation system advocate is willing to accept compensation caps in exchange for presumptions.[98]

Rebuttable presumptions may not eliminate the need to show reasonable proof that an exposure is linked to a disease. Administrative compensation systems may, through their guidelines and procedures, recreate some of the fundamental problems of the tort system, such as the need to meet a more-likely-than-not test in causation in order to qualify. For example, in situations where the exposure is believed to raise the incidence of a disease up to 50% above the background level, no single victim will be able to assert successfully that the exposure was the likely cause of their disease, thereby functionally denying compensation to all victims of this class. Furthermore, even a strong rebuttable presumption can do little to mitigate the potential for a battle-of-the-experts in areas of scientific and technical dispute, and the typical disparity between the financial resources of the alleged victim and the defendant.

Most proposals for victim compensation systems have acknowledged the evolving nature of toxicology and epidemiology by tying criteria to state-of-the-art medical science. The 301(d) Report, noting the difficulty in finding a single opinion to hold "true" amid controversy and debate in science, proposes a system

[94] See United States Government, Senate Committee on Environment and Public Works (1982), page 290, comments of Professor Frederick R. Anderson, Esquire, and others.

[95] Statement of Jeffrey Trauberman, Hearing Before the Subcommittee on Cancer, Transportation and Tourism, June 29, 1983.

[96] Soble (1977), page 745.

[97] United States Government, Senate Committee on Environment and Public Works (1982), page 296.

[98] Testimony of Jeffrey Trauberman, *supra* at 90, page 546.

of government-prepared, periodically-updated "toxic substance documents" to be based on the latest peer-reviewed research and provide a definitive view on each substance. The 301(e) Report also proposes that identifying a single contributory cause is sufficient for qualification procedures and does not require that other contributory causes be ruled out in order for a claim to be accepted.

Even demonstrating that a chemical exposure is a cause or contributing cause requires showing scientific evidence which simply may not exist because the phenomenon has not been investigated. The NSF study said: "given the gaps in current scientific knowledge about toxic pollutants, it appears that no cause-based compensation process will cover all persons actually injured by exposure to toxic substances."[99] As discussed in an earlier section, there is a great need for additional toxicological and epidemological research; both the Massachusetts 21E Report and the Keystone Center Report included provisions in their compensation systems that would "push" this work, via provisions for financing research on specific pollution events.

d. **Recovery**

Medical benefits are the minimum provided by all proposed compensation systems; some provide additional benefits such as compensation for lost wages, survivors' benefits, attorney's fees, and coverage of mental health services. As with Workers' Compensation, systems might employ scheduled compensation for various injuries. None of the proposed systems provide awards for pain and suffering, and most systems prevent double compensation for injury.

The Citizens' Clearinghouse, considered by many to be "the voice of toxic waste victims," stressed that any victim compensation system should include provisions for the delivery of water supplies, health care, short-term housing, etc. immediately upon discovery of exposure.[100] These needs for immediate assistance were also discussed in the Keystone Center Report. Provisions for more effective emergency response mechanisms and for technical assistance grants in the reauthorized Superfund Act have addressed some of these needs.[101]

Some members of the 301(e) Study Group recommended that broader recovery under the administrative system be available, teamed with restricted access to the state courts. Additional harms that would need coverage under the administrative system include impaired fertility, chronic miscarriage, various forms of neuropathology, teratogenic effects, mutagenic effects, and fear of future cancer. Those awards would be subject to upper limits, which some victim advocates believe could be acceptable when teamed with rebuttable presumptions.[102]

e. **Financing**

Most systems would be financed by taxes on industry (similar to Superfund) but would seek compensation directly from the responsible party first before expending general fund monies, thus preserving some deterrent effect (but possibly placing a large burden on the victim due to the time delays such efforts might entail). Alternatively, a system could pay victims directly and then seek reimbursement itself from the responsible party. In cases where the responsible party or parties cannot (all) be identified, victims could be compensated for the "orphan's share" through tax dollars. How to set these taxes is an open question.

As with Superfund, retroactive imposition of liability is controversial, and some have argued for different schemes to handle injuries resulting from past conduct as opposed to conduct occurring subsequent to the creation of new legislation. Some hold that since society at large benefits from the "underpriced goods" (which were cheaper because pollution was an externalized cost), society should now pay the health care costs of toxic victims. Others argue that chemical handlers should provide funding for "orphaned shares" rather than our general revenues: they are responsible for these injuries, have benefited financially from the production and sale of these "underpriced goods," are most likely to know how to and be able to reduce pollution in the future, and are best able to pass costs on to society in an appropriate way. This same logic underlies programs like the Black Lung Benefits Program, which spreads financial responsibility for past actions throughout the currently-existing industrial sector.[103]

Ideally, the financing of compensation programs for any harm would approximately reflect the responsible parties' role in contributing to disease. Industry can be taxed to provide fund monies through a variety of means: emissions taxes provide a deterrent effect; feedstock taxes, while more easily administered, provide little waste minimization incentive (except to possibly encourage input substitution) and taxes tailored to the level of hazard imposed by an activity would be incredibly complex, though fully deterrent. Trauberman's proposal blends these options, with increasing use of the degree-of-hazard tax as the knowledge base expands and improves.[104]

In Congressional testimony in 1983, the American Insurance Association argued that the total cost of victim compensation as envisioned by the bill then under consideration would be vast and inestimable.[105] Paradoxically, during this same hearing, they also suggested that no real need for a federal victim compensation mechansim exists since California's plan

[99] National Science Foundation (1983), page 213.

[100] Citizen's Clearinghouse for Hazardous Wastes (1984).

[101] Superfund Amendments and Reauthorization Act, Title III and Section 117(e).

[102] Testimony of Jeffrey Trauberman, *supra* at 90, page 346.

[103] This is not to imply that the current program is fully funded by industry; tax dollars continue to support it.

[104] Testimony of Jeffrey Trauberman, *supra* at 90, pp. 339-343.

[105] Statement of American Insurance Association, *supra* at 90, page 439.

has received no claims in its year and one-half of operation.[106]

In response to assertions that victim compensation systems will load industry with responsibilities too weighty to bear in an era of keen global competition, Trauberman has countered these views by noting that Japan's decade-old victim compensation program does not appear to have harmed their economy.

f. **Complementarity**

The effectiveness of a victim compensation program is determined not just by its characteristics but also by its "fit" with complementary systems, specifically the tort system. A limitation of tort rights, even when an administrative system has been designed specifically to provide a substitute, is unpopular. Because of tort law's unique ability to foster development of legal doctrine, there is little interest in disabling what seems to be the evolutionary mechanism (or perhaps a safety valve) in the legal system for addressing new and unexpected issues. Similarly, locking the claimant into a single and static system of redress has negative implications for the development of law. The conditions under which the claimant can elect the administrative or the tort remedy are extremely important and should be fashioned to reflect the complications inherent in the parallel operation of tort law and administrative compensation systems. This issue is elaborated in the Recommendations Section.

Legal constructions affect the financing of victim compensation systems and have great import for the potential insurability of personal injuries. Rules governing subrogation are signposts to the paying parties; such guidelines will be closely scrutinized by insurers. Concerning subrogation, some commentors have both questioned its justice and asked whether it is worth the transaction costs it involves, noting that it may be appropriate only in cases of egregious conduct.

3. Existing Toxic Substance Victim Compensation Systems

In order to consider the concept of an administrative system most fully, it is prudent to examine existing systems; we will consider the Japanese system, which has been widely referenced,[107] and comment on the Dutch and California systems.

The Japanese Law For Compensation of Pollution-Related Health Damage, Law Number 111, was established in 1973. Compensation is granted by a governmental panel made up of legal, medical, and other experts, and provisions for review of grievances exist. Parties must suffer from a designated (scheduled) disease and live or work in an identified pollution area. The procedures for identifying these diseases and areas are complicated, controversial, and somewhat political.[108] Epidemiological studies and risk factors play a major role in these designations. Victims are eligible for medical benefits, funeral and survivor benefits, and eighty per cent wage compensation. No pain and suffering awards are included. Any benefits provided by the workers' compensation or national health insurance systems are subtracted. Just how these compensation programs dovetail, and the extent of federal compensation provided, is not clear.

The system is financed by the offending pollution source(s): Class I areas are considered "generally" polluted, so these revenues are generated by an emissions tax levied on stationary and mobile sources, while Class II areas are polluted by a specific source of emissions, typically a particular industrial plant, which provides direct and complete compensation itself. In the first five years of the program, between $500 million and $1 billion was spent on the compensation of 58,000 victims in Class I areas; no figures on Class II areas were provided.

The program developed partially in response to a rash of sulfur oxide air pollution events in coastal cities and the mercury pollution episodes at Minimata and Niigata. The mercury episodes resulted in litigation when the traditional practice of "mimaikin" or "extrajudicial monetary payments" to victims broke down. It was then necessary for the government to demonstrate that it was concerned about these problems. While some argue that persons suffering from pollution-related diseases have not been recognized, others believe that compensation is being provided too liberally; it has been argued that the program was essentially a political response to events of the era and that the government intends to phase it out administratively.[109]

Other administrative compensation systems reviewed similarly provide compensation to those unable to obtain it more directly through an identifiable transgressor. The Dutch Air Pollution Control Act makes such provisions,[110] and may also provide relief where the injured person does indeed have a claim against another for recovery of damages, but would be faced with unreasonable delays if the claim were formally adjudicated. Because the administrator's decision to grant or deny compensation is not subject to a full-scale legal review, the Dutch Act has been viewed as more of "a welfare benefit than an enforceable right."[111]

California established its Hazardous Substance Compensation Account approximately two years ago, but since then only one party has collected from the system. One observer suggested that the requirement of seeking contributions from all potentially responsible parties prior to application for compensation

---

[106] Statement of American Insurance Association, *supra* at 90, page 432.

[107] See, for example, Pfenningsdorf (1985) and United States Government, House Committee on Public Works and Transportation (1979).

[108] For example, ". . . there is no chance in the world that cancer will be designated," commented Professor Julian Gresser (Congressional Research Service (1979), page 310).

[109] Congressional Research Service (1979), page 310.

[110] Pfenningstorf, (1985) page 149.

[111] Pfenningstorf, (1985) page 150.

imposes a large burden, rendering the system really only a last resort for a party in need.[112]

4. Current Prospects

Despite the once-strong interest in creating a federal victim compensation system, few, if any, are currently advocating such a program. Representatives of groups supporting such legislation in the past cite a number of factors as contributing to their diminished efforts: the unlikelihood of passage due to changed Congressional composition;[113] the creation of Superfund's Title III, providing some of the victim's most urgent needs; and a growing conviction that the exchange of the unpredictibility of the tort system is not worth the more certain but incomplete compensation provided by an administrative system.[114]

5. Conclusion

Compensation systems offer an attractive alternative to litigation, but on closer examination, appear to embody many of the same fundamental problems encountered in the tort system: definition of a victim, demonstration of causation, and the equitable resolution of cases of uncertain and/or synergistic causation. The inadequacy of past and existing methods of preventing toxic substance exposures and injuries have given rise to the current state of affairs, and optimists have called victim compensation "an interim solution," pending the development of better means of assessing the capability to avoid toxic substance injury.[115] Developments over the past five or ten years in the area of environmental regulation and control technology, and particularly in waste source reduction, foster our confidence in the preventability of toxic substance injuries.

Of course, scientific and technical uncertainties play a major role in complicating the issue victim compensation but we echo the conclusion of the CRS Report: "in the long run, the question of compensation is inextricably linked to the basic socio-political issue of how to distribute the risks and costs of modern industrial society."[116] It is incorrect to think that if we could only sort out the scientific uncertainties concerning causation, we would have solved the victim compensation problem. As stressed by all major reports on the issue, mechanisms to provide victims the full compensation they deserve do not now exist and, as most studies of compensation systems reveal, administrative solutions alone are not likely to provide such compensation.

The theoretical advantage of more certain compensation remains only theoretical when the system addresses the needs of a very limited class of victims, as in Japan. The advantage of less extensive application procedures and reduced transaction costs is lost when the claimant must first exhaust other legal options prior to application, as in California. Finally, the ability of the system to maintain neutrality and objectivity is lost when the qualification criteria, which provide the core of the system, are submerged in administrative agencies and not subject to legislative or judicial review. Therefore, the development of an administrative compensation system involves the consideration of two major issues: the ability of the system to adapt to change in the technical understanding of disease causation, and the legal rights preserved for potential claimants and defendants.

In the Recommendations section of this report, we explore the combination of an administrative and a tort system, jointly conceived and operating.

---

[112] Personal communication on April 23, 1987 with Will Collette of Citizens' Clearinghouse.

[113] In fact, during the Superfund reauthorization process, Stafford made a pact with the Judiciary panel that he would not amend the bill to create a right for individuals to sue under CERCLA for injury from toxic substances if the panel pledged not to throw out joint and several liability provisions. Bureau of National Affairs, 1985.

[114] Will Collette of Citizens' Clearinghouse has noted that "getting a case heard by their peers is people's only shot at justice." Personal communication, April 23, 1987.

[115] Testimony of Jeffrey Trauberman, *supra* at 90.

[116] United States Government, House Committee on Public Works and Transportation (1979), page 19.

IV. RECOMMENDATIONS

A. INTRODUCTION

As stated elsewhere, the interaction of the various institutional actors important for the delivery of pollution insurance is complex and highly interdependent, and each party's actions will play a major role in the successes or failures of the system. The recommendations emerging from this research are interim ones and are designed to be implemented immediately, yet not exclude other actions when indicated. Ideally, these measures will foster greater responsiveness on the part of all parties. Monitoring the effects of these interim measures can then reveal whether the system shows signs of improving and will provide guidance for future action.

In the next four sections, recommendations are suggested for (1) the insurance industry, (2) the federal government, (3) state licensing authorities and insurance regulators, and (4) the tort system. None of these recommendations represent sweeping changes, but rather a coordination of significant, though incremental, improvements. The last section, A Preliminary New Proposal, does suggest more far-reaching changes and is introduced here to stimulate discussion. This proposal, however, presupposes the adoption of the recommendations in the prior four sections and builds upon them.

Our recommendations are conditioned by all of the facts in the foregoing discussions, but some points are fundamental and bear repeating here. First, the insurance industry has become increasingly concerned with financial management as opposed to risk management, thereby hampering its performance in providing pollution liability insurance. Second, the better part of the uncertainty in the area of pollution insurance delivery stems from things unknown but not unknowable. Improving the knowledge base concerning environmental risk will eliminate a major source of insurance industry pessimism and encourage investment in the insurance market. Finally, the past problems in this area have cast an inordinately large shadow on the future, undermining innovative approaches and compelling misguided solutions such as restrictive "tort reform."

B. THE INSURANCE INDUSTRY

The insurance industry, which has essentially abandoned the pollution insurance line, can do a number of things to re-enter the market. But as industry spokespeople have pointed out, there is little incentive to do this. The market is fraught with uncertainties on every level, and other business opportunities promise more predictable return on an investment. Given the current situation, the insurance industry might choose simply to watch the experience of the pools and not engage itself until the line becomes more rationalized.

However, early involvement may be advantageous, from the insurance industry perspective, because it could serve to shape the evolving market in a way most compatible with their interests in preserving a place in it. Many decisions currently being made by government and the regulated community could affect what the insurers will and will not be able to do in the future. Concerns like potential profitability, competition with governmental organizations, and the level and extent of regulation may be more easily addressed now than in the future, once institutions and common practices become established and entrenched.

In addition to the insurance industry itself, the regulated community and the government also have an interest in the insurance industry's early involvement in the market. First, the property and casualty insurance market is the logical choice for providing pollution liability insurance because it has risk management experience. Pollution insurance is in many ways a special case of risk management. Even though the alternatives to industry involvement, such as pools or state-run programs, would employ individuals with industry experience, the institutional knowledge residing in established insurance corporations cannot be fully carried by a handful of employees. Furthermore, because the industry is part of a multi-layered structure of liability spreading, it would not risk financial collapse as a result of a pollution loss, as a less-developed and less-capitalized risk-sharing entity might. Because it promises to be a stable and effective provider of this insurance, it is beneficial to the insured and the public interest that the insurance industry be involved in the development of the market.

The insurance industry can develop its role in the market in the following ways:

- Develop and improve risk assessment and risk management expertise. It is not necessary that the insurers actually employ risk assessors on their staffs, but it is essential that risk assessments be fully utilized.
- "Rationalize" the market — develop classifications for the insured based on the risks actually posed by their activities, and set premiums to the risk posed. Use all relevant criteria, such as type of activity (generation, storage, etc.), the substances used, and the probability of harm. Tie pricing to the threat and magnitude of harm, drawing on experience to date, as well as projections of experts.
- Require the insured to conduct environmental audits as a condition of coverage, compelling them to become directly involved in their own risk management.
- Identify and eliminate poor and unpredictable risks, fostering the evolution of the regulated community and, in particular, the waste management sector.

- Explore new policy types, contract options, and organizational structures for delivering pollution liability insurance.

Some of these recommendations might be most easily followed by a cooperative organization of industry representatives. The development of risk assessment and risk management criteria, in particular, could be done most effectively and efficiently by sharing data and coordinating methodology. A trade association or industry organization, possibly AIRAC, might provide the necessary catalyst for creation of a standard-setting group for insurers writing this line. A governmental study commission could also fill this role but would have broader concerns than a self-organized industry group and would not have the potential for ongoing evaluation that an industry group might.

C. THE FEDERAL GOVERNMENT

As discussed earlier, one of the major sources of uncertainty affecting the insurance market is just how large the problem of health damage, traceable to toxic waste exposure, could be. The perception, or at least the articulated perception, is that the problem is large. However, the increase in the incidence of health damage related to specific exposures, though possibly a serious health problem, is not always statistically significant and discoverable.

- The government should direct research into the nature and magnitude of health effects associated with hazardous waste activities that could result in compensable events.

A second source of uncertainty stems from a lack of appreciation of the technological solutions that are available or could be developed to control, contain, or mitigate future exposures to toxic substances.

- The government should undertake and disseminate an assessment and evaluation of technological solutions to address the hazardous waste problem in order to allow more realistic assessments of future health risks based on likely technological controls.
- Federal (and state) regulatory authorities should regulate environmental and occupational health legislation more vigorously in order to lessen the probabilities (uncertainties) of toxic substance exposures. A lax regulatory effort encourages careless waste containment, handling, and treatment.
- Federal (and state) governments should regulate environmental laws more deliberately and strategically in order to encourage the optimal *kind* of technological response to environmental laws. "Band-aid" solutions ought to be discouraged in favor of stimulating the development and adoption of technologies which are superior at preventing, containing, and mitigating the exposure to toxic substances resulting from industrial production.

D. STATE LICENSING AUTHORITIES AND INSURANCE REGULATORS

The effective operation of both the environmental liability insurance industry and the hazardous waste industry, which it serves, requires the active participation of state government. Two state regulatory authorities are required, one to monitor the environmental insurance market and the other to license activities involving hazardous materials. Although their functions are distinct, the impact of their regulations overlap. Thus, it is important that these two regulatory authorities work cooperatively, not competitively, in order to promote their respective interests.

The Massachusetts Licensing Authority (MLA) — operating within the Commonwealth's Department of Environmental Quality Engineering (DEQE) — should provide permits to engage in activities involving hazardous materials.[1] Firms desiring permits must provide a detailed accounting of (1) each activity involving hazardous material, (2) the waste characteristics by activity, and (3) the anticipated environmental (including health) consequences *by activity*. The Licensing Authority may determine that certain activities — for example, disposal of toxic wastes by landfill — constitute a sufficient environmental hazard that they become prohibited; no permits for these activities would be provided. More likely, the Licensing Authority may find that a particular activity involving a specific hazardous material at a given site creates a large, "unnecessary" social risk, and a permit will therefore be withheld.

Note that in order to determine whether given activities are unnecessary, the MLA must be given rather broad oversight of those activities, to include not only hazardous waste activities, but also hazardous materials activities which might reduce the volume or the toxicity of the waste generated (source reduction) or which might foster containment of the hazardous waste. Toward this end, the Licensing Authority might well require compliance with some sort of waste-minimization clause as part of the licensing procedure. Alternatively (or in addition), the MLA could play a more active role by facilitating the sharing of technical information concerning production processes and procedures to reduce or contain hazardous waste. Regardless of the specific nature of its responsibilities, whether as a stringent regulator or as a clearinghouse of technological information, it is clear that the Licensing Authority must possess substantial technical expertise in hazardous materials activities and in hazardous waste activities in order to perform its functions properly.

---

[1] Note that we have specified a regulatory entity, the Massachusetts Licensing Authority, purely for expository convenience. Precisely how the licensing function is accomplished, from an organizational or administrative perspective, is not crucial to our recommendations, so long as the function is performed. (This same caveat applies in subsequent discussions concerning the Massachusetts Pollution Insurance Commission.)

Firms receiving a permit from the MLA are not automatically authorized to undertake the specific activity defined by the permit; such authorization is contingent upon the availability of environmental liability insurance in amounts sufficient to satisfy Massachusetts requirements. The availability of such insurance, and at what price, falls within the purview of the Massachusetts Pollution Insurance Commission (MPIC).[2]

More broadly, a major function of the Insurance Commission is to ensure the proper and orderly operation of the environmental liability insurance market. To accomplish this objective, the MPIC must provide criteria for insurers to use in underwriting. In order to encourage the insurers' risk management responsibilities, the Insurance Commission will certainly want to establish criteria that allow categorization of activities as finely as possible; evaluation of the waste characteristics and the environmental consequences by specific activity will then permit a more precise estimation of the risk posed and of the appropriate insurance rate to offset that risk. The actual insurance rate structure could be determined by a State Rating Bureau, of a type similar to that employed to assist in establishing automobile insurance rates in Massachusetts. However, unlike automobile insurance, for the MPIC to perform its function, it must be authorized to exclude poor risks — by activity and by firm — from obtaining insurance.[3] In those instances, the Commonwealth is best served by not exposing its citizens to the risks posed by the activity or firm in question; the unavailability of insurance in these situations represents the proper functioning of the insurance market, not its failure.

When the MPIC determines that an activity is a sufficiently poor risk to withhold insurance, it should notify the Licensing Authority so that no further permits for the activity will be granted. In practice, it is anticipated that the MLA and the MPIC will coordinate their efforts, but they may, in theory, operate independently, in which case either essentially has veto power over an activity.

For firms denied insurance by a specific insurer or insurers, the Insurance Commission should establish an effective appeal mechanism to ensure the insurers' actions were justified. If the MPIC determines that the firms and their activities constitute a reasonable risk, it may first offer other insurers the opportunity to provide insurance within the price guidelines established by the Insurance Commission. If no insurer will undertake the risk, then the Insurance Commission may permit the firms undertaking a similar activity to pool risks and self-insure according to conditions created by the Commission. Alternatively, the Commission may establish a Joint Underwriting Authority (JUA) for the firms and activities improperly denied insurance; the JUA will consist of all insurers writing liability insurance in the Commonwealth, who will participate in the expenses, profits, and losses of the JUA in proportion to their share of gross premiums in the Commonwealth.

We should note that these actions by the Insurance Commission are in no way incompatible with specific directives by the Commonwealth to promote the environmental liability insurance market. These would include self-insurance initiatives, insured risk management incentives, and state reinsurance facilities.

E. THE TORT SYSTEM

The tort system appears to be the most significant mechanism for maintaining risk aversion in the market. In this section, several suggestions for changes to this system are offered, all in the direction of creating a fairer and more responsive instrument for reducing pollution damage to health. We do not, however, endorse the calls made by some in the insurance industry and elsewhere for widespread and sweeping "tort reform." The literature and position papers we examined provide no sound basis or economic justification for adopting these extreme measures.

1. Accommodating Special Characteristics of Hazardous Waste Injuries

Several characteristics of injuries caused by exposure to toxic materials have undermined the intended functioning of the tort system in resolving damage claims related to such injuries. To remedy the defects caused by these characteristics of hazardous waste injury, we recommend that the following modification of tort rules be incorporated by Massachusetts law:

- Because those victims of hazardous waste exposure generally cannot take any reasonable precautions to avoid such exposure, *strict liability* should be imposed on the hazardous waste management industry, which can reduce the risk of toxic release.
- In those cases in which hazardous waste handlers jointly create technically-indivisible hazardous waste or the conjoint waste makes it impossible to determine which handler caused the injury, the contributing hazardous waste handlers should be *jointly and severally liable* to pay for the resulting injury damages.
- Because of the long latency period between exposure and manifestation of many chronic toxic waste diseases, the commencement date for the statute of limitations should be the date of discovery, when the plaintiff knew, or reasonably should have

[2] The Commission could be part of DEQE or situated separately in the state organizational structure. See Note 1, *supra*.

[3] Poor risks should be seen from a technical perspective, rather than from a purely financial one. There are three reasons why a firm could be regarded as a poor actuarial risk: 1) an insurance contract was liberally construed retroactively, 2) a compensable event(s) occurred in the past, and 3) the insured was a poor risk manager. The first reason should not be a justification for not insuring *future* risks under revised contract language. Past compensable events should be distinguished by determining whether better risk management could have prevented the event. The third criterion, technical responsibility for past *or* anticipated compensable events, should be the focus of determining insurability.

known, that the personal injury was caused or contributed to by the hazardous substance concerned. This *discovery rule* has already been imposed on Massachusetts by the "State Procedural Reform" provision of the Superfund Amendments and Reauthorization Act of 1986.[4]

- Again because of the long latency period between exposure and manifestation of many chronic toxic waste diseases, exposed parties should be permitted to recover health screening and health monitoring expenses from liable polluters even though no disease has yet been manifest. Furthermore, if found liable, the defendant should be required to establish a mechanism to ensure recovery by the plaintiff of the losses he incurs as a result of any exposure-related disease that subsequently becomes manifest.
- Because diseases caused by toxic materials generally can have multiple etiologies, the "probable cause" test should be replaced by a "substantial factor" test.[5]
- Because hazardous materials incidents may result in mass exposure, class actions should be permitted and encouraged where common issues predominate. In mass exposure cases involving both common and diverse issues, split trials should be permitted and encouraged, comprised of a class action proceeding on the common issues and individual proceedings to address the diverse issues.

While these various modifications to the tort system may appear to erode the traditional tort principles of fault and causation, we believe, on the contrary, that these changes merely constitute a practical application of those very principles to unanticipated conditions and circumstances created by the special characteristics of toxic waste injuries. Furthermore, in our view, these recommended tort changes are necessary for the hazardous material compensation/liability system to achieve its objectives of compensation and deterrence of toxic waste injuries.

2. Opposition to Capping of Awards

There is no question that the hazardous waste compensation/liability system is beleaguered throughout by enormous levels of uncertainty. Placing caps on allowable damage awards or on certain damage categories, especially pain and suffering, can reduce system uncertainty. In particular, by limiting the financial exposure of insurers, such caps can help stimulate the environmental liability insurance market, promoting the availability of liability insurance to hazardous waste handlers at more affordable rates.[6]

While acknowledging this benefit of award caps, we must strongly recommend *against* their enactment. Restricting damage awards, by insufficiently compensating exposure victims and inadequately deterring polluters, will seriously compromise the attainment of the compensation and deterrence objectives of the system. Reducing system uncertainty and uncertainty in the environmental liability insurance market can be achieved by far less costly means: (1) by insurers introducing policies which contain per injury deductibles and indemnity limits and total policy indemnity limits; (2) by insurers improving their risk assessment and risk management performance; and (3) by the state permitting more flexible insurance arrangements and by introducing public or quasi-public insurance mechanisms, if deemed necessary.

3. Impose Retroactive Liability

Some individuals will sustain injuries from exposure to hazardous materials that were released prior to the passage of current environmental liability legislation. Who should bear the cost of these injuries is purely a matter of compensation. Retroactive liability, then, must be judged according to whether it promotes compensation for hazardous waste injuries in an equitable and efficient manner.

Retroactive liability is fair, in comparison to the alternatives. The costs of hazardous waste injuries is borne by those parties who contributed to the toxic release and who profited from the activity which created the hazardous waste. The advantages of retroactive liability on efficiency grounds are less appealing. Financing compensation for retroactive incidents through fees imposed on the hazardous waste management system would certainly be less costly to administer than through liability claims in the tort system. Assuming that the gains in equity exceed the efficiency losses, we conditionally support retroactive liability.

4. Punitive Damages

The hazardous waste management industry, environmental liability insurers, and the public share a common interest in deterring or removing the "bad actors," those hazardous waste handlers who "dump," who attempt to conceal toxic releases, or who commit other outrageous acts which demonstrate a conscious and deliberate disregard of the interest of others.

---

[4] CERCLA (309)(b)(4).

[5] In addition, replacing the "preponderence of the evidence" rule with a "proportionality" rule and introducing rebuttable presumptions are tort options which merit further study.

[6] It is ironic that the hazardous waste management industry could find its level of financial exposure *increased* as a result of capping award categories. Where award categories are capped, juries may attempt to restore equity by increasing uncapped award categories, with punitive damages being the most likely candidate. However, punitive damages are generally either uninsurable or indemnified only for nominal amounts. Hence, hazardous waste handlers may face increased uncertainty as a result of capped awards. See Notes 8 and 3, *infra,* and accompanying text.

Egregious conduct in the management of hazardous materials is a severe social wrong that ought to be punished; additionally, such punishment provides corresponding disincentives to those contemplating similar behavior in the future. Punitive damages provide a mechanism for victims of hazardous waste exposure to initiate action to punish (and correspondingly to deter) polluters whose reprehensible conduct caused the victims' injuries. Such a private right of action would augment criminal and civil penalties available to the Attorney General and the state environmental regulatory agencies, which have limited staff for investigation and prosecution of such claims.

Massachusetts is one of four states which does not recognize common law actions for punitive damages.[7] However, exceptions may be statutorily created. We recommend a statutory revision of Massachusetts common law to permit punitive damages in tort actions arising out of the release of hazardous waste which was caused by the *outrageous* behavior of the defendant. Such punitive damages are intended to reflect the egregiousness of the defendant's conduct and to punish and correspondingly deter such conduct beyond the obligation to pay compensatory damages.[8]

That decided, a variety of procedural issues remain to be resolved concerning the treatment of punitive damages in hazardous waste suits. In the following discussion, we consider these issues, making recommendations or suggestions when we believe support for them is conclusive; however, most of these matters merit further study and, in some cases, their resolution must ultimately be achieved by judicial review.

a. Admissible Evidence

To establish a punitive damage claim the plaintiff must introduce evidence to demonstrate the outrageous behavior of the defendant which caused (or significantly contributed to) his injury. The size of the punitive damage award will be based on evidence concerning the moral gravity of the defendant's conduct, the extent of the plaintiff's resulting injury, and the wealth of the defendant. The last factor is usually considered to be important because monetary damages must be increased for wealthier defendants in order to obtain a given level of punishment (assuming a declining marginal utility of money).

[7] See Alliance of American Insurers (1986), page 65.

[8] Invoking punitive damages only as punishment for egregious conduct is subject to one emphatic qualification, which is that the hazardous waste liability system (of which punitive damages are a part) is otherwise providing the appropriate degree of compensation and deterrence in an equitable manner. If this condition does not obtain — if, for example, awards for pain and suffering were not permitted or if compensation awards were restrictively capped — then punitive damage awards might be employed, in our view, merely as a device to restore equity to victims of hazardous waste exposure. In that case, punitive damages could be claimed with or without egregious behavior on the part of the defendant, to satisfy compensatory, deterrent, or punitive objectives (and the following discussion of related issues in the text would no longer apply).

b. Evidentiary Standard

The preponderance of evidence standard generally employed in tort law corresponds to the roughly equal interests of the parties in a tort case.[9] However, in the case of punitive damage claims, the interests are unequal in two ways. First, the defendant, unlike the plaintiff, is threathened with the stigma of reprehensible conduct, which may permanently damage his reputation and his position in both business and social environments. Second, the purpose of punitive damages is primarily to vindicate the public interest; the individual plaintiff's award of punitive damages is not a right, but merely incidental to the furthering of that public interest.[10] As a result, the defendant in a punitive damage suit bears a larger risk than the plaintiff and needs to be protected with a higher evidentiary standard than the preponderance of evidence.

In criminal cases, the burden of proof is "beyond a reasonable doubt." However, the risks to the defendant in criminal matters, both in terms of stigma and the nature of the punishment (potential imprisonment), clearly far exceed those in punitive damage suits. What is desired is therefore a middle ground between "preponderance of the evidence" and "beyond a reasonable doubt." We suggest a "clear and convincing" standard of evidence to establish the egregiousness of the defendant's conduct in a punitive damage claim.[11],[12]

c. Bifurcation of Trial

As indicated above, claims for compensation and claims for punitive damages depend on different evidence and different evidentiary requirements. In order to avoid confusing and perhaps prejudicing the jury, we recommend bifurcated trials to address hazardous waste injury claims: only after finding the defendant liable to make compensatory payments could the jury, in a separate trial, hear evidence on and establish awards for punitive damages. We further suggest that the punitive damage trial be split so that evidence pertaining to the size of the punitive damage award — in particular, the wealth of the defendant — not be introduced until the jury has found the defendant guilty of reprehensible behavior. Segmenting the trial in this manner will minimize the possibility that the jury's determination of defendant culpability is influenced by the defendant's deep pockets.

[9] See Note 70 in Section III, *supra.*

[10] See Wheeler (1983), pp. 292-293.

[11] This evidentiary standard for punitive damages exists in at least three states (Wisconsin, Minnesota, and Oregon). See Wheeler (1983), pp. 296-297.

[12] Note that this higher burden of proof would *not* apply to demonstrating that the defendant's release of hazardous material caused the plaintiff's injury.

d. **Insurability**

Since punitive damages are intended as punishment, we suggest that they not be insurable.[13] The social objective of punishing outrageous behavior would be undermined if the burden of punitive damages were shifted from the polluter to the insurer. Analogously, indemnification of criminal fines and penalties has been rendered void as violative of public policy; employing similar reasoning, many jurisdictions do not permit defendants to insure against punitive damages.[14]

An apparent defect in making punitive damages uninsurable is to diminish the magnitude of punitive damage awards (since the wealth of the defendant is a factor and the insurer's usually sizeable contribution to defendant's wealth has been removed) and to reduce the likelihood of plaintiff collecting the damages (since the defendant may be legally or effectively insolvent). However, recall that the purpose of punitive damages is to impose punishment on the defendant, not to bestow those damage awards onto the plaintiff. Hence, the public interest is not damaged by the fact that uninsurability will tend to reduce the size of punitive damages received by plaintiff.[15] For the same reason, the statute may wish to provide that only a portion of punitive damage awards (e.g., one-half) goes to the plaintiff, and the remainder go to Massachusetts, perhaps to be used to support hazardous waste victims for whom no responsible party could be identified.

e. **Retroactive Exclusion**

Punitive damages may be applied retroactively in two ways. First, the jury may evaluate the defendant's conduct as being outrageous based on current knowledge rather than according to the existing knowledge at the time of the defendant's tortious actions. Second, punitive damages may be claimed for defendant's acts which occurred prior to the passage of the (proposed) punitive-damage legislation.

We recommend that punitive damages not be applied retroactively in either of the aforementioned senses. In our view, the imposition of legal punishment should occur within a legal context: the defendant must know, or should have known, at the time of his actions that his conduct was morally reprehensible and subject to specific penal consequences, as specified by law. Indeed, punitive damage awards for actions taken prior to legislation may run afoul of *ex post facto* prohibitions.[16]

f. **Size and Nature of Awards**

The size of the punitive damage award to the successful plaintiff depends on the outrageousness of the defendant's actions, the extent of the resultant injury, and the wealth of the defendant. Since the magnitude of these factors (however measured) can be extremely large, so in theory can be the size of punitive damage awards, and we see little reason to limit them. There are, however, two additional factors which may suggest restricting the magnitude of the award to individual plaintiffs and altering the nature of the penalty imposed on the offending corporation.

First, when the defendant's egregious behavior produces multiple victims, there is the risk that each plaintiff will "fully" punish the defendant, resulting in overpunishment of the plaintiff from a social perspective. Even if the total punitive damages borne by the defendant is appropriate, it is unclear how those damages are to be equitably distributed among the victims in separate trials. The obvious solution, where possible, is to encourage a class action for punitive damages. If class action is not available, then it may make sense to limit punitive damages to some multiple of compensatory damages to ensure a more equitable distribution of damages and to avoid over-punishing the defendant.[17,18]

Second, there is some risk that large punitive damage awards imposed on polluting *firms* may adversely affect many innocent parties, such as the creditors, suppliers, and employees of the firm. One method of restricting the impact of punitive damages to the owners of the corporation (and to the company's management immediately under their control) is to encourage the court to establish punitive damages in the form of equity security fines imposed on the corporation.[19] We recommend that the legislature permit equity fines and similar innovative forms of punitive damages.

---

[13] Regardless, it is probably that most insurers will choose either not to indemnify punitive damages or to provide such insurance only for token damages and with high deductibles.

[14] See, e.g., *Northwestern National Casualty Co. v. McNulty,* 307 F. 2d 432, 440 (5th Cir., 1962).

[15] There is, however, a serious potential problem when a polluter, either insured or not, is not effectively threatened by punitive damages. John Coffee has termed this "the deterrence trap," although "the punishment trap" could apply equally well here. (See Coffee (1981), pp. 389-393 and Note 79 in Chapter III (Section E), *supra.)* In the extreme, a firm could plan to have an abbreviated corporate life, extracting the immediate profits from its irresponsible conduct and exiting from the industry before the consequences of its actions become known and claims against the firm made. Punitive damages against such a firm would be an empty threat. The only remedy would be criminal and tort action against those *individuals* in the corporation who devised and knowingly executed this strategy.

[16] "Every retrospective act is not necessarily an *ex post facto* law. That phrase embraces only such laws as impose or affect penalties and forfeitures." *(Lock v. New Orleans,* 4 Wall 172, 18 L. Ed. 334.) *Ex post facto* prohibitions appear not to be restricted to criminal statutes, but it is unclear whether they apply to punitive awards within tort proceedings.

[17] We recognize, however, the tenuous link between the size of compensatory damages and the size of punitive damages.

[18] Possibly the multipler could depend on whether the defendant contests a class action for punitive damages.

[19] See Coffee (1981), pp. 413-424.

F. A PRELIMINARY NEW PROPOSAL

Considering the limitations of the existing tort system and historical failings of the Workers' Compensation system, it is clear that a design of a new system, possibly containing useful conventions and features of both, may be worthy of examination. A new system for victims' compensation (and possibly workers' compensation) is described in this section.

The system must, of course, address the three goals of compensation, deterrence, and punishment. Specifically, the new system must offer significant improvements in the following ways:

- avoid nuisance or superfluous suits,
- increase accountability for pollution-caused health damage,
- reduce transaction and administrative costs,
- reduce delays of payments for interim measures important to the victims, such as medical surveillance and rehabilitation,
- offer timely and speedy payments for damages,
- reduce uncertainties in both awards and insurance premiums, and
- allow flexibility to accommodate parties of different interests (e.g., through maintaining an elective process in which both the claimant-victim and the insured-defendant can participate).

This might best be achieved by creating a dual and integrated scheduled compensation and tort system, backed up by state agencies which address both the permitting of hazardous substance handling and appeals on the issue of their insurability in the state. The four components of the system: (1) a victims' compensation system, (2) the state tort system, (3) the Massachusetts Licensing Authority, and (4) the Massachusetts Pollution Insurance Commission, will comprise a united system sharing a common data base for health effects information, technological control options, and insurance experience.

The scheme pictured in Figure 4.1 indicates the interaction between the victims' compensation system and the tort system. On the discovery of exposure to toxic substances, a potential victim may apply to an administrative system for interim measures of support for medical surveillance and rehabilitation. The funds to support these payouts could come from a combination of feed-stock taxes, waste-end taxes, and insurance premiums for victims' compensation.

In the event that no known, solvent, or insured entity can be discovered who might have been responsible for the exposure, the victim will be paid out of the administrative system which will, in addition to the interim measures discussed above, also pay according to a scheduled payout for actual damages, psychic harm, and other objectively verifiable elements of pain

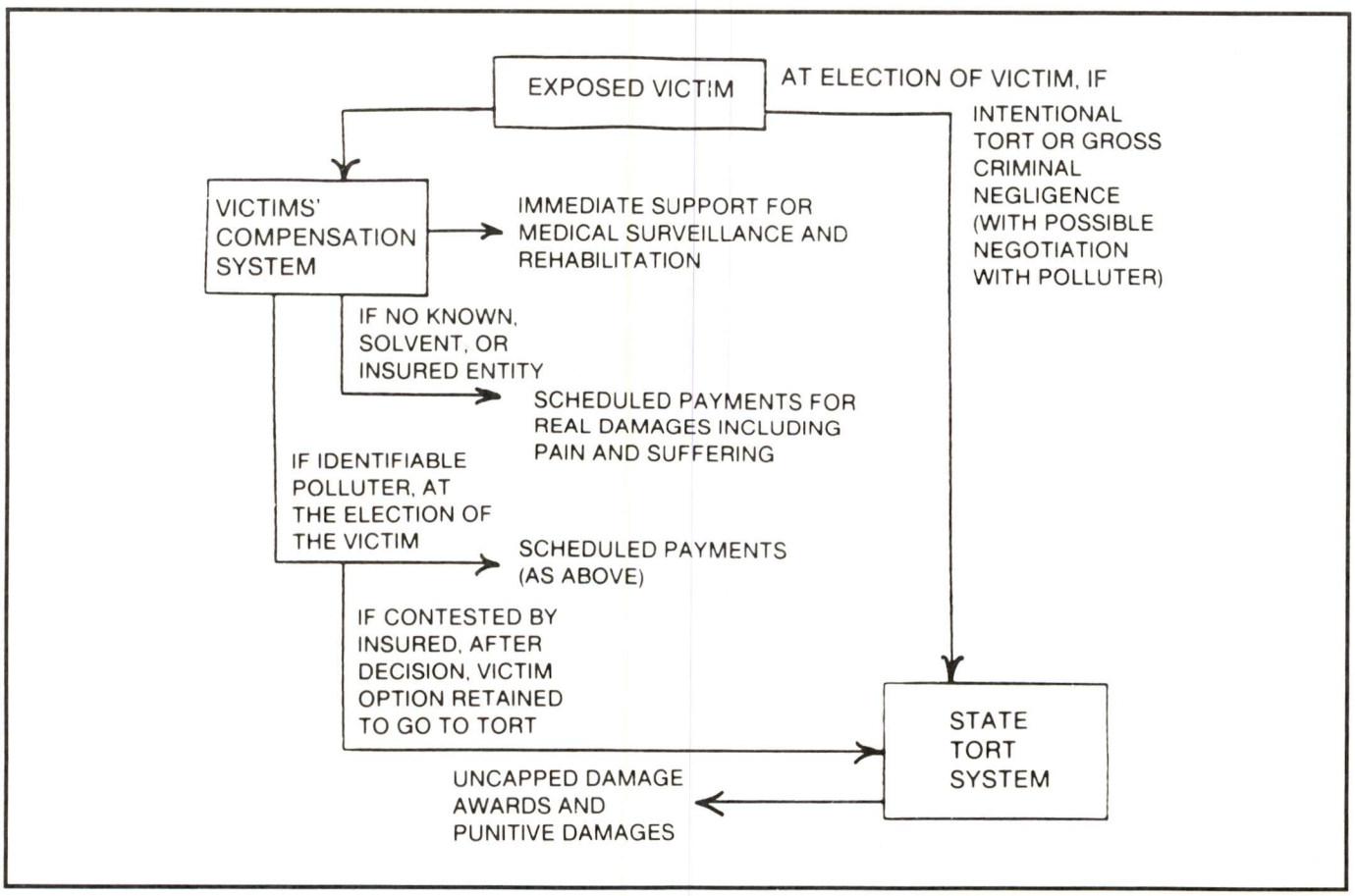


FIGURE 4.1 AN INTEGRATED SCHEDULED VICTIMS' COMPENSATION SYSTEM AND TORT SYSTEM

and suffering. These payouts would be funded from a combination of feed-stock taxes and waste-end taxes. Immediate payment for the victim, with subrogation of the Fund against first-party insurance payouts, could be a part of this scheme.

In the event that a putative insured/defendant is identifiable, the victim can at his election proceed either through the victims' compensation system (where victims' compensation insurance will pay the scheduled real damages and pain and suffering) or through the tort system as follows. If the victim can demonstrate intentional tort, gross and/or wanton disregard for public safety, or criminal intent, then the victim can proceed through the tort system as he presently can. Possible negotiation mechanisms could be established between the victim and insured/defendant to settle disputes more quickly.

If the victim chooses to elect the administrative route (either because there is strict liability/ordinary negligence — or because he would find it too difficult to prove intent or wanton disregard, etc.), payments would proceed according to a schedule discussed before.[20] However, should the insured choose to contest the administrative claim, after its resolution the victim would be free to file a subsequent claim in tort, with possible offset of the administrative remedy.

Two main differences between the payouts offered in the administrative system and the tort system are: 1) a scheduled versus possibly open-ended damage award, and 2) the existence of punitive damages in the tort system. In the administrative system it may be possible to create a multi-tiered schedule of awards. For example, where, to the satisfaction of the administrative trier-of-fact, the damage is more likely than not to have been caused by the alleged polluter, full payment for real and demonstrably objective evaluation of damages would be allowed.[21] On the other hand, for proof of a lesser nature, if the damage is shown to have been caused by the polluter by contributing a substantial factor toward the damage, full payment for out-of-pocket expenses would be provided but a proportionality rule could be applied to other items.[22]

[20] Immediate payment for the victim, with subrogation of the Fund against the insured, could be a part of this scheme.

[21] The establishment of rebuttable presumptions where, after a *prima facie* showing, the burden shifts to the putative polluter could be part of this scheme. See Section III D.1.e., *supra.*

[22] Alternative formulations are possible. For example, the proportionality rule could be applied to all damages in "substantial factor" cases or to all but out-of-pocket expenses in all cases. Another plausible variation is to pay in full according to the scheduled damages, but to offset the award by additional compensation from collateral sources in amounts up to the damages *not* provided by the proportionality rule.

The advantages of this proposal are that it offers a way to shuttle putative victims between an administrative system and a tort system in a self-correcting way which depends on both the magnitude of the scheduled payments and the behavior of the parties themselves. If the scheduled payments are too small, victims will continue to go to the tort system for relief. If the scheduled payments are too large, the putative insured/defendants will themselves seek equity in the courts, by contesting the administrative award. This scheme allows the parties and the state (through the establishment of the schedules) to participate in the outcome. The insurance companies participate in the plan by offering two different lines of insurance: 1) victims' compensation insurance to be paid through the victims' compensation insurance route, and 2) personal liability insurance available at a different premium and under different conditions. Finally, the state, through two different functions, will get the bad actors out of the chemical handling game: 1) they will issue permits for handling (through the Massachusetts Licensing Authority), and 2) they will act as arbiters of the insurance companies' decisions to deny coverage to potentially bad risks (through the Massachusetts Pollution Insurance Commission).

G. COOPERATION AMONG THE PARTIES

Throughout this study we have emphasized specific responsibilities, opportunities and tasks for the various concerned parties: the state and federal governments, the insurance industry, and the generators of the waste. The achievement of the objectives of this study by these diverse groups with their varied interests can be influenced by the degree to which they act collaboratively in going about their activities. The parties collectively need to recognize the importance of an open exchange of information, of building trust among themselves, and of treating the issues discussed in this study as ones in which each of the parties has a stake. Creation of a consensus among the parties as to the shared joint interests can be an important element in the success of the recommendations applying to the individual groups. The tasks of managing the liability and insurance aspects of hazardous waste is, in fact, an interrelated problem, in which each actor has a part to play, rather than a continuing confrontation worked out only in adversary environments of the courts and hearing rooms.

The parties could consider establishing at the outset voluntary means by which future disputes as to the achievement of the recommendations of this study will be handled. These means do not substitute for the alternate administrative-tort remedial scheme for handling actual victims claims, but rather go to improving the general environment for solving the liability problem.

BIBLIOGRAPHY

Alliance of American Insurers, "Current Issues: Civil Justice," 1986.

Alliance of American Insurers, "Statement on Availability of Pollution Liability Insurance," 1986.

All-Industry Research Advisory Committee, "Pollution Liability Claims Administration — A Survey of Insurers Writing Pollution Liability Coverages," October 1985.

All-Industry Research Advisory Committee, "Pollution Liability — The Evolution of a Difficult Market," October 1985.

All-Industry Research Advisory Committee, "Risk Assessment for Pollution Liability," December 1985.

American Insurance Association, "Hazardous Substances: A Survey of Environmental Pollution Legislation and Regulation," 1986.

Ashford, Nicholas, *Crisis in the Workplace,* 1976.

Ashford, Nicholas, *et. al. Analyzing the Benefits of Health, Safety and Environmental Regulations,* Cambridge: Center for Policy Alternatives, M.I.T., September, 1982.

Ashford, Nicholas A., Christine J. Spadafor, and Charles C. Caldart, "Human Monitoring: Scientific, Legal, and Ethical Considerations," *Harvard Environmental Law Review,* Volume 8, Issue 2, Summer, 1984, pp. 263-363.

Associated Industries of Massachusetts, "Background Report on Pollution Liability Insurance Programs," April 10, 1987.

Bardach, Eugene, and Robert Kagan, editors, *Social Regulation: Strategies for Reform,* New Brunswick: Transaction Books, 1982.

Baumol, William and Wallace Oates. *The Theory of Environmental Policy* 1975.

Bloom, Gordon, "The Hidden Liability of Hazardous Waste Cleanup," *Technology Review,* February/March 1986.

Brodeur, Paul. *Outrageous Misconduct,* Pantheon Books, 1985.

Brown, John. "Toward an Economic Theory of Liability." *The Journal of Legal Studies,* Vol. 2 (1973), pp. 323-349.

Bureau of National Affairs. "The Asbestos Claims Facility After One Year: A Novel Solution to a Litigation Crisis or a 'Colossal Disaster'?" in *Occupational Saftey and Health Reporter* (September 10, 1986), pp. 376-380.

Calabresi, Guido. *The Costs of Accidents: A Legal and Economic Analysis,* 1970.

Calabresi, Guido, and Alvin Klevorick. "Four Tests for Liability in Torts." *The Journal of Legal Studies; Critical Issues in Tort Law Reform: A Search for Principles,* Vol. 14:3 (December 1985), pp. 585-627.

Caldart, Charles C., "Testimony Before the Massachusetts Special Commission," December 5, 1986.

Caldart, Charles C., and C. William Ryan. "Waste Generation Reduction: A First Step Toward Developing a Regulatory Policy to Encourage Hazardous Substance Management through Production Process Change." *Hazardous Waste and Hazardous Materials,* Vol. 2 (1985), pp. 309-331.

Chowdhury, Jayadev, "Bhopal, A Year Later: Learning From a Tragedy," *Chemical Engineering,* Dec. 9, 1985.

Citizen's Clearinghouse for Hazardous Wastes, "Final Report on Victim Compensation," August 2, 1984.

Clean Sites, Inc., *Yearly Report,* 1986.

Coase, Ronald. "The Problem of Social Cost." *The Journal of Law and Economics,* Vol. 3 (1960), pp. 1-44.

Coffee, John. "Developments in the Law — Corporate Crime: Regulating Corporate Behavior through Criminal Sanctions." 92 *Harvard Law Review* 1227 (1979).

Coffee, John. "'No Soul to Damn: No Body to Kick': An Unscandalized Inquiry Into the Problem of Corporate Punishment." 79 *Michigan Law Review* 386 (1981).

"Comment, Criminal Safeguards and the Punitive Damages Defendant." 34 *University of Chicago Law Review* 408 (1967).

Commonwealth of Massachusetts, Hartke, Janet, "Memorandum to Hazardous Waste Facilities, Generators, and Interested Parties," May 5, 1985.

Commonwealth of Massachusetts, Pollution Liability Work Group — 21 C Hazardous Waste Advisory Committee, "Final Report to 21 C Hazardous Waste Advisory Committee," February 19, 1986.

Commonwealth of Massachusetts, Special Commission; "Interim Report — September 21, 1984"; "Second Draft of the Final Report — August 28, 1986"; "Third Draft — September 19, 1986"

Commonwealth of Massachusetts. *Fourth Interim Report of the Special Commission Established to Make an Investigation and Study of the Adequacy of Existing Common Law and Statuatory Remedies Available to Recover the Costs of Damages Caused by Release of Oil and Hazardous Materials,* December 16, 1986, ("the 21E Report").

Commonwealth of Massachusetts. "Executive Summary: Liability in Massachusetts: Toward a Fairer System." Report of the Governor's Task Force on Liability Issues (1987).

The Conference Board, "Product Liability: The Corporate Response," 1986.

Congressional Research Service, *Compensation for Victims of Water Pollution,* 1979. For the House Committee on Public Works and Transportation.

Cook, Philip J. "The Use of Criminal Statutes to Regulate Product Safety: Comment on Wheeler." 13 *Journal of Legal Studies* 619 (1984).

Cooter, Robert D. "Economic Analysis of Punitive Damages." 56 *Southern California Law Review* 79 (1982).

Cutler, Robert, "Independence and Proficiency: The Essential Elements of an Effective Environmental Auditing Program," *Environmental Analyst,* August, 1984, pp. 3-6.

Dahlman, Carl. "The Problem of Externality." *The Journal of Law and Economics,* Vol. 22 (1979), pp. 141-162.

Douglas, Mary and Aaron Wildavaky, *Risk and Culture,* 1982.

Doull, I. John; Curtis D. Klassen; and Mary O. Amdur, *Toxicology.* 2nd edition, (1980).

Ellis, Dorsey D. "Fairness and Efficiency in the Law of Punitive Damages." 56 *Southern California Law Review* 1 (1982).

EPIC. Various articles and publicity releases.

Epstein, Richard. "Products Liability as an Insurance Market." *The Journal of Legal Studies; Critical Issues in Tort Law Reform: A Search for Principles,* Vol. 14:3 (December 1985), pp. 645-669.

Ferreira, Joseph. "Promoting Safety Through Insurance," in Bardach, Eugene, and Robert Kagan, editors, *Social Regulation: Strategies for Reform,* 1982.

Gastell, Ruth, editor, "Environmental Pollution: Insurance Issues," Insurance Information Institute Data Base Reports, October 1986.

Ghiardi, G. and J. Kircher. *Punitive Damages: Law and Practice* 1981.

Gross, Hyman. *A Theory of Criminal Justice* 1979.

Hart, H.L.A. *Punishment and Responsibility* 1968.

Hayes, David J. and Conrad B. MacKerron, "Superfund II: A New Mandate," 1987, Bureau of National Affairs.

Heimer, Carol A., *Reactive Risk and Rational Action: Managing Moral Hazard in Insurance Contacts,* 1985.

Hirschhorn, Joel and Kirsten Oldenberg. "Hazardous Waste: Prevention or Cleanup," *Environmental Science Technology,* Vol. 21, No. 6, (1987).

Huber, Peter and Donnamarie McCarthy, "Singular Remedies for Plural Catastrophes," *Issues in Science and Technology,* Fall 1986, pp. 41-53.

Humpstone, Charles C., "Liabilities, Insurance and Waste Reduction," undated.

Humpstone, Charles C., Memorandum to the Commission on "Safe Haven," July 29, 1986.

Hypercept Insurance Pool, November 1985. Various releases, article.

The Institute for Civil Justice, numerous relevant publications, such as Peterson, M., "Punitive Damages: Preliminary Empirical Findings," August 1985.

The Institute for Health Policy Analysis, "Causation and Financial Compensation," February 1985.

Insurance Information Institute, Michael Lenz, Jr., "Environmental Pollution: Liability and Insurance," February 1982.

Insurance Services Office, "Insurance Profitability — The Facts," February 1986.

Kanner, Allan, "Emerging Conceptions of Latent Personal Injuries in Toxic Tort Litigation," *Toxic Law Reporter,* July 29, 1987, pp. 251-263.

Katzman, Martin T., "Chemical Catastrophes and the Courts," *The Public Interest,* No. 82, Winter 1986.

Kennedy School of Government, "Automobile Insurance: Curriculum Development Project on Risk Spreading and Insurance," 1982.

Keystone Center, "Potential Approaches for Toxic Exposure Compensation: A Report on the Conclusions of a Keystone Center Policy Dialogue," January 1985.

Kleindorfer, Paul, and Howard Kunreuther, "Insuring and Managing Risks: From Seveso to Bhopal and Beyond — Executive Report," April 1986.

Kunreuther, Howard. "The Role of Insurance and Compensation in Environmental Pollution Problems: Executive Summary," May 15, 1986.

Kunreuther, Howard. "Gridlock in Environmental Insurance, *Environment,* Vol. 29, No. 1 (January/February 1987), pp. 18-35.

Landes, William M., and Richard Posner. "Joint and Multiple Tortfeasers: An Economic Analysis." *The Journal of Legal Studies,* Vol. 9 (1980), pp. 517-549.

Landes, William M., and Richard Posner. "Tort Law as a Regulatory Regime for Catastrophic Personal Injuries." *The Journal of Legal Studies; Catastrophic Personal Injury,* Vol. 13 (1984), pp. 417-434.

Landes, William M., and Richard Posner. "A Positive Economic Analysis of Products Liability." *The Journal of Legal Studies; Critical Issues in Tort Law Reform: A Search for Principles,* Vol. 14:3 (December 1985), pp. 535-567.

Lewis, Sanford, "MassPIRG Briefing Paper on the Interim Report of Special Legislative Commission on Hazardous Material Liability," September 5, 1984.

Mallor and Roberts. "Punitive Damages: Toward a Principled Approach." 31 *Hastings Law Journal* 639 (1980).

Manson, David. "More Research on Waste Sites Urged," *Chemical and Engineering News,* December 27, 1986.

McKenna, Conner, and Cuneo, "Toxic Tort Theories and Defenses," *Toxic Law Reporter,* March 18, 1987, pp. 1156-1170.

Miller, Lynne M., "Environmental Risk Assessment and Audit Principles," 1986. Pre-publication copy, from a forthcoming book.

Moehrke, Anton T., "Insurance Claims for Hazardous Materials Liability," November, 1984 for Hazardous Materials Regulation and Litigation, MCLE, Inc.

NACC. Various articles and publicity releases.

National Association of Insurance Commissioners, "Report of the NAIC Advisory Committee on Environmental Liability Insurance," September 1986.

National Conference of State Legislatures, "Liability Insurance: Federal Jurisdiction and Initiatives," March 1986.

National Insurance Consumers Organization, "Testimony of Robert Hunter Before the House Committee on Public Works and Transportation, Subcommittee on Investigation and Oversight," January 22, 1986.

National Insurance Consumers Organization, "Testimony of Jay Angoff Before the Senate Committee on Commerce, Science, and Transportation on Premium Increases and Refusals to Deal in the Property/Casualty Insurance Industry," February 19, 1986.

National Insurance Consumers Organization, "Testimony of Robert Hunter Before House Submcommittee on Monopolies and Commercial Law, Committee on the Judiciary — The Liability Crisis in Insurance," March 19, 1986.

National Insurance Consumers Organization, "Fact Sheet on Inefficiencies in the Legal System," and "How to Make the Legal System More Efficient," Undated.

National Insurance Consumers Organization, "How to Tame the Insurance Industry Cycle and Make the Legal System More Efficient: A Suggested Legislative Agenda for 1987," August 1986.

National Legal Center for the Public Interest, "Health-Related Claims: Can the Tort and Compensation Systems Cope?" 1983.

National Legal Center for the Public Interest, "The Legal System Assault on the Economy — Volume I: The High Cost and Effect of Litigation," 1986.

National Legal Center for the Public Interest, "The Legal System Assault on the Economy — Volume II: Congress, The Courts, and the Regulatory System: Into the Abyss and Out Again?", 1986.

National Science Foundation, *Compensation for Victims of Toxic Pollution — Assessing the Knowledge Base,* March, 1983.

New Jersey Department of Insurance, Survey on Environmental Impairment Liability Insurance, conducted July 1986. Unpublished.

O'Connell, Jeffery, "Neo No-fault Insurance," *Issues in Science and Technology,* Fall 1986, pp. 49-55.

O'Neill, Brian, "The Insurance Institute for Highway Safety: Research Arm of the U.S. Insurers and Servant of the Public," *Transport Reviews.* 1987, Vol. 7, No. 1, pp. 83-94.

Owen, David G. "Punitive Damages in Products Liability Litigation." 74 *Michigan Law Review* 1257 (1976).

Owen, David G. "Civil Punishment and the Public Good." 56 *Southern California Law Review* 103 (1982).

Owen, David G. "Problems in Assessing Punitive Damages Against Manufacturers of Defective Products." 49 *University of Chicago Law Review* 1 (1982).

Owen, David G. "The Intellectual Development of Modern Products Liability Law: A Comment on Priest's View of the Cathedral's Foundations." *The Journal of Legal Studies; Critical Issues in Tort Law Reform: A Search for Principles,* Vol. 14:3 (December 1985), pp. 529-533.

Pfenningstorf, Werner. *Compensation for Environmental Harms: Possibilities and Limitations,* draft 1985.

Pollution Liability Insurance Association, assorted literature, 1985 and 1986.

Posner, Richard. "A Theory of Negligence." *The Journal of Legal Studies,* Vol. 1 (1972), pp. 29-96.

Posner, Richard. *Economic Analysis of Law.* 2nd Edition, 1977.

Posner, Richard. *The Economics of Justice* 1983.

Priest, George L. "Punitive Damages and Enterprise Liability." 56 *Southern California Law Review* 123 (1982).

Priest, George L. "The Invention of Enterprise Liability: A Critical History of the Intellectual Foundations of Modern Tort Law." *The Journal of Legal Studies; Critical Issues in Tort Law Reform: A Search for Principles,* Vol. 14:3 (December 1985), pp. 461-527.

Prosser, W., *Law of Torts,* 4th edition, 1971.

The Rand Corporation, "Civil Justice: A Bibliography of Selected Rand Publications," (August 1986).

Redden, K. *Punitive Damages* 1980.

Reinsurance Association of America, "Statement of the R.A.A. Before the Committee on Water Resources of the House Subcommittee on Public Works and Transportation," July 24, 1985.

Robinson, Glen O., "Probabilistic Causation and Compensation for Tortious Risk," *Journal of Legal Studies,* December 1985, pp. 779-799.

Rosenberg, David. "The Causal Connection in Mass Exposure Cases: A 'Public Law' Vision of the Tort System." *Harvard Law Review,* Vol. 97 (1984), pp. 851-929.

Schmalz, Richard A., "On the Financing of Compensation Systems," *Journal of Legal Studies,* December 1985.

Schuck, Peter H. *Agent Orange on Trial: Mass Toxic Disasters in the Courts,* The Belknap Press of Harvard University Press: Cambridge, Massachusetts, 1986.

Schwartz, Alan, "Products Liability, Corporate Structure, and Bankruptcy: Toxic Substances and the Remote Risk Relationship," *Journal of Legal Studies,* December 1985.

Schwartz, Gary T. "Deterrence and Punishment in the Common Law of Punitive Damages: A Comment." 56 *Southern California Law Review* 133 (1982).

Shavell, Steven. "Strict Liability vs. Negligence." *The Journal of Legal Studies,* Vol. 9 (1980), pp. 1-25.

Shavell, Steven. "An Analysis of Causation and the Scope of Liability in the Law of Torts." *The Journal of Legal Studies,* Vol. 9 (1980), pp. 463-481.

Shavell, Steven. "On Liability and Insurance." *The Bell Journal of Economics,* Vol. 13 (1982), pp. 120-132.

Soble. "A Proposal for the Administrative Compensation of Victims of Toxic Substances Pollution: A Model Act," 14 *Harvard Journal on Legislation,* 1977.

Society for Risk Assessment, Annual Meeting Proceedings, November 9 - 11, 1986, unpublished.

Trauberman, Jeffery, "Compensating Victims of Toxic Substance Pollution: An Analysis of Existing Federal Statutes," *The Harvard Environmental Law Review,* Volume 5, No. 1, 1981.

Trauberman, Jeffrey. "Statutory Reform of Toxic Torts: Relieving Legal, Scientific, and Economic Burdens on the Chemical Victim." *The Harvard Environmental Law Review,* Vol. 7, No. 2 (1983), pp. 177-296.

Tweedy, David A., and Daniel G. Tracy, "Surviving the Pollution Liability Crisis," *Risk Management,* October 1985.

United States Government, Hearing Before the House Subcommittee on Commerce, Transportation and Tourism on Hazardous Substance Victim Compensation Legislation, June 29, 1983.

United States Government, Office of Technology Assessment, "From Pollution to Prevention," June 1987.

United States Government, Senate Committee on Environment and Public Works, 96th Congress, 2nd Session, *Six Case Studies of Compensation for Toxic Substances Pollution: Alabama, California, Michigan, Missouri, New Jersey, and Texas,* 1980.

United State Government, Senate Committee on Environment and Public Works, 96th Congress, 2nd Session, "Health Effects of Toxic Pollution: A Report From the Surgeon General and a Brief Review of Selected Environmental Contamination Incidents With Potential for Health Effects." 1980.

United States Government, Environmental Protection Agency, File of 148 Documents Received in Response to Request Concerning the Revision of Financial Responsibility Requirements. Request Issued August 21, 1985, 50 FR 33902.

United States Government, Environmental Protection Agency, Office of Policy Planning and Evaluation, "Availability and Cost of Third Party Liability Insurance for Permitted Hazardous Waste Disposal Sites," February 20, 1980.

United States Government, Environmental Protection Agency, Office of Solid Waste, "Residual Market Mechanisms and Their Applicability to the Hazardous Waste Insurance Market," 1983.

United States Government, Environmental Protection Agency, "Background Document — RCRA Subtitle C — Hazardous Waste Management, Section 3004, Parts 264 and 265, Subpart H, Financial Requirements," December 31, 1980.

United States Government, Senate Committee on Environment and Public Works, 97th Congress, 2nd Session, *Injuries and Damages From Hazardous Wastes — Analysis and Improvement of the Legal Remedies,* 1982, a.k.a. "The Grad Report" or "The 301(e) Report."

United States Government, Department of the Treasury, *The Adequacy of Private Insurance Protection Under Section 107 of the CERCLA of 1980,* June 1983.

United States Government, Environmental Protection Agency, Office of Solid Waste and Emergency Response, Notice Concerning Pollution Liability Insurance, and Comments Received in Response Thereto, Federal Register, August 21, 1985.

United States Government, Report of the Tort Policy Working Group on the Causes, Extent and Policy Implications of the Current Crisis in Insurance Availability and Affordability, authored by Attorney General's Tort Policy Working Group, February 1986.

United States Government, National Conference of State Legislatures, "Liability Insurance: Federal Jurisdiction and Initiatives," March 1986.

United States Government, General Accounting Office, "Liability Insurance: Changes in Policies Set Limits on Risks to Insurers," GAO/HRD-87-18BP, November, 1986.

Weinrib, Ernest. "The Insurance Justification and Private Law." *The Journal of Legal Studies; Critical Issues in Tort Law Reform: A Search for Principles,* Vol. 14:3 (December 1985), pp. 681-687.

Wheeler, Malcolm E. "The Constitutional Case for Reforming Punitive Damage Procedures." 69 *Virginia Law Review* 593 (1983a).

Wheeler, Malcolm E. "The Role of Punitive Damages in Health Claims" in Health-Related Claims: Can the Tort and Compensation System Cope? (Sixth National Conference sponsored by the National Legal Center for the Public Interest), 1983b.

Wheeler, Malcolm E. "The Use of Criminal Statutes to Regulate Product Safety." 13 *Journal of Legal Studies* 593 (1984).

Zagaski, Chester A., "Reviving the EIL Market," *Risk Management,* April 1985.

Zagaski, Chester A., "A Legislative Solution to the Pollution Liability Crisis," prepared as an independent report on the Pollution Liability Work Group and submitted to the 21C Committee and 21E Commission, March 27, 1986.

Zoll, David, "Some Principles for Success in Managing Toxic Torts," delivered September, 1986 to BNA Conference on Corporate Liability: Managing Toxic Wastes.

Wallace & Wallace
Business Investments
480 Adams Street, Milton, Ma., 02186 (617) 698-9300

February 26, 1988

Andrew H. Card, Jr.
George Bush For President
733 15th Street, N.W.
Suite 800
Washington, D.C. 20005

Dear Andrew,

Just a quick reminder of who I am - the last time we spoke was at the McCabe's cocktail party in Biddeford Pool last summer. You may recall my strongly advocating Howard Baker for vice presidential candidate.

The purpose of this letter is to congratulate you on the behalf of my associate, Dave Bergers, and myself, on your accomplishment in New Hampshire. Your work has literally sealed the nomination for George Bush. You should be very proud of a job well done.

If there's anything we can do, don't hesitate to call. If not, we'll see you in New Orleans in August.

Sincerely yours,

Tom Wallace

note sent 5/9/88

SUPERB VICTORY!
KEEP the VP healthy
Give him fresh nuts + fruit --

Feb. 18, 1988

L. C. Lagasse
90 Elm St.
Goffstown, NH 03045

not sent
5/9/88
AHC

Dear Cindy,

How nice of you to mail a beautiful souvenir of G. Bush's picture.

It's great to be first in the nation, but when you leave, there's a vacuum and I'm despondent at the thought of the heavy schedule which takes you all farther away for the next (gmax).

Fact, it reminds me of my 6 pregnancies — the results were always worthwhile. And so, it will be when G. Bush becomes our President.

I will continue, in a personal way, to help promote him in the minds of the Democrats.

I had wished to talk over the campaign which just ended so that the Fall one could be even better engineered. "Windmills" do not make people change their minds, it's substance which convinces.

Many people are turned off by noise. As accoutrements at a rally - parade or other public display the energy of the young is valuable, but on a daily basis, informed people carry more weight in a service call than voluminous survey calls.

It was great meeting you & Ron - Will Abbott & Craig Fatter. The 4 of you are solid. I found Dave Colman able to express himself well in behalf of the V.P.

Thanks again & warm regards to all.

Lucien C. Lagasse

Dear Mr Card,

Thank you for the picture of Vice President Bush and myself. I sure worked on the greek people as our Mass. friend ~~tried~~ to take them all over. My Prayers go with him. Good luck

Evelyn Tsiatsios
15 Elm St
Manchester N. H.
03103

INTERNATIONAL BROTHERHOOD OF TEAMSTERS
CHAUFFEURS • WAREHOUSEMEN & HELPERS
OF AMERICA
25 LOUISIANA AVENUE, N.W. • WASHINGTON, D.C. 20001

OFFICE OF
GOVERNMENTAL AFFAIRS
• PAUL R. LOCIGNO •
DIRECTOR

(202) 624-6919
Telex: 230-89628 (IBOFTDCWSH)

May 5, 1988

The Honorable Andrew H. Card, Jr.
Deputy Assistant to the President for
Intergovernmental Affairs
The White House
Washington, D.C. 20500

Dear Mr. Card: Andy

On behalf of the nearly two million members of the International Brotherhood of Teamsters, I am writing to congratulate you on your recent appointment to be Special Assistant to the President of Public Liaison. His is certainly a position of honor and distinction and one which you are well qualified to serve. I am confident you will perform your duties for the President and the nation with their best interests at heart.

Best wishes for success in your endeavors. If we may every be of assistance to you, Please call on me.

With best wishes, I am

Sincerely,

Paul R. Locigno
Director
Governmental Affairs

PRL/kmk

Good Luck!

mtg. held 5/9/88 AHC

STATE OF FLORIDA
Washington Office
444 NORTH CAPITOL STREET
WASHINGTON, D.C. 20001
(202) 624-5885

BOB MARTINEZ
GOVERNOR

LYNDA C. DAVIS
DIRECTOR

May 5, 1988

Mr. Andy Card
Deputy Assistant to the President and
Director of the Office of Intergovernmental Affairs
The White House
1600 Pennsylvania Avenue, N. W.
Washington, D.C. 20500

Dear Mr. Card: Andy

It is with great pleasure that I join the Governor in congratulating you on your appointment as Intergovernmental Affairs Director. Your years of experience with the states and your commitment to their concerns will serve the President well in these last critical months of the administration.

Please let me know if Florida can assist you in any of your efforts either through the Washington Office or Tallahassee.

Sincerely,

Lynda

Lynda C. Davis, Ph.D
Director

not sent 5/7/88 ALC

National Conference of State Legislatures

Hall of the States
444 North Capitol Street, N.W.
Washington, D.C. 20001
202/624-5400

May 5, 1988

Dear Andy,

Congratulations on your recent, well-deserved appointment as Deputy Assistant to the President for Intergovernmental Affairs. Your hands-on experience as a state legislator and as a special assistant for Intergovernmental Affairs makes you particularly qualified to serve as the President's liaison with state and local officials.

Andy, I was very pleased to hear the news of your appointment, and I look forward to working with you throughout my term as President of the National Conference of State Legislatures. All the best in this new endeavor.

Sincerely,

Ted Strickland
President
Colorado Senate
President, NCSL

Mr. Andrew H. Card, Jr.
Deputy Assistant to the President and
Director, Office of Intergovernmental Affairs
The White House
Washington, DC 20500

Note Answ 5/9/88 AHC

Alan J. Sewell
New England College
Office of Student Affairs
Henniker, NH 03242

February 22, 1988

Mr. Andrew H. Card, Jr.
Senior Advisor
George Bush for President
733 15th Street, N.W.
Washington, D.C. 20005

Dear Mr. Card, Jr.:

Enclosed is my resume. As you may remember, I recently told you that I would be extremely interested in a position related to my field of study in public relations with the Bush administration. I will graduate from New England College in May of this year, and could easily relocate to the Washington area.

You and your staff have a lot to be proud of the dedicated work you completed here in New Hampshire. I appreciate your thoughtfulness to send me another photograph the Vice-President and myself. I thoughly enjoyed working with you and the entire campaign staff over the last eight months and gained an enormous amount of experience. I would be excited to assist you or your staff again at anytime. Please contact me if you would like to schedule an appointment for an interview. Again, I appreciate your thoughtfulness throughout the campaign.

I look forward to hearing from you soon.

Sincerely yours,

Alan J. Sewell

rec'd 3/9/88

May 22, 1988
589 Belmont St.
Belmont, MA. 02178

Dear Andy,

A great thanks goes out to you from all of us for whatever it was you had to do to get us into the White House for our special tour. For you to have accomplished this ... working with our large group with basically 2-3 days notice ... is something just short of a miracle for which we are all appreciative.

We enjoyed our visit to Washington & learned much about our Nation's Capital.

Again, thank you so much for your help in getting us into the White House. And thanks, too, for taking the time away from an important meeting on drugs to come out and meet with us.

For the Belmont Girl Scouts, Troop 1912.
Donna David

MOUNT VERNON, EAST FRONT

From a watercolor by Dalrymple

MOUNT VERNON LADIES' ASSOCIATION

MOUNT VERNON, VIRGINIA 22121

May 24-

Andy,

Thanks so very much for hosting our 'birthday breakfast' in the Mess. It's a long way from North Capitol Street + FERC to the White House in many respects, and its a special treat to be invited there.

George Bush is fortunate to have you on the team!

Sincerely,

Judy Moseta

Hallmark

STATE OF UTAH
Lieutenant Governor

203 STATE CAPITOL BUILDING
SALT LAKE CITY, UTAH 84114

W. Val Oveson
LIEUTENANT GOVERNOR

May 26, 1988

Andrew H. Card, Jr.
Deputy Assistant to the President
Director of the Office of Intergovernmental Affairs
The White House
Washington, D.C.

Dear Andy:

Congratulations on your new assignment as the Deputy Assistant to the President and Director of the Office of Intergovernmental Affairs. It is nice to have you back involved in this area. I look forward to working with you.

If there is anything I can do to be of assistance to you here in the west or on a state level, please don't hesitate to call on me.

Sincerely,

W. VAL OVESON
Lieutenant Governor

WVO:jd

STATE OF FLORIDA

OFFICE OF LIEUTENANT GOVERNOR BOBBY BRANTLEY

May 27, 1988

Mr. Andrew H. Card, Jr.
Deputy Assistant to the President and
Director of Intergovernmental Affairs
White House
Washington, D. C. 20500

Dear Mr. Card:

I would like to add my heartiest congratulations to the many you must be receiving for your appointment to be Deputy Assistant to the President and Director of the Office of Intergovernmental Affairs.

I wish you the greatest possible success!

Cordially yours,

Bobby Brantley

Lieutenant Governor

mm

GEORGE A. SINNER
GOVERNOR

State of North Dakota

OFFICE OF THE GOVERNOR
BISMARCK, NORTH DAKOTA 58505
(701) 224-2200

NORTH DAKOTA CENTENNIAL

May 31, 1988

Mr. Andrew H. Card, Jr.
Deputy Assistant to the President
Director of the Office of Intergovernmental Affairs
1600 Pennsylvania Avenue, Northwest
Washington, D.C. 20500

Dear Andy,

Welcome back! You have done your work well. It will be nice to have you there. Obviously, we will miss Gwen, but having you there will certainly be a reassurance to many of us who have known and worked with you.

I know this will, in some ways, be a tough time at the end of an era, but I want to assure you that there is a great deal to do in Intergovernmental Affairs, and Democrats and Republicans alike must run their states and the government must go on. I know you will see that this is taken care of properly.

Best personal regards. Again, my congratulations.

Sincerely,

George A. Sinner
Governor

GAS:lk

State of Rhode Island and Providence Plantations
EXECUTIVE CHAMBER, PROVIDENCE

Edward D. DiPrete
Governor

AC

May 25, 1988

Mr. Frank J. Donatelli
Assistant to the President
for Political and Intergovernmental
Affairs
The White House
Washington, D.C.

Dear Frank:

Thank you for your recent letter regarding Andy Card's return to the White House. I look forward to a continued association with him in the area of Intergovernmental Affairs.

I greatly appreciate your thoughtfulness in writing.

Warm regards.

Sincerely,

Ed D. Prete

Edward D. DiPrete
Governor

COMMONWEALTH of VIRGINIA

Office of the Governor

Richmond 23219

Gerald L. Baliles
Governor

May 24, 1988

AC

The Honorable Frank J. Donatelli
Assistant to the President for Political and
Intergovernmental Affairs
The White House
Washington, D. C. 20006

Dear Mr. Donatelli:

Governor Baliles has asked me to thank you for your letter of May 19 announcing the appointment of Andrew H. Card, Jr. to be Deputy Assistant to the President and Director of the Office of Intergovernmental Affairs.

The Governor appreciated having this information. We look forward to working with Mr. Card.

Many thanks for your letter.

Sincerely,

H. Benson Dendy, III
Special Assistant

jw

Cape Cod Tech

BARNSTABLE • MASHPEE
BREWSTER • ORLEANS
CHATHAM • PROVINCETOWN
DENNIS • TRURO
EASTHAM • WELLFLEET
HARWICH • YARMOUTH

CAPE COD REGIONAL TECHNICAL HIGH SCHOOL
PLEASANT LAKE AVENUE RFD #4 HARWICH, MA 02645
(617) 432-4500 (617) 771-2600

WILFRED E. HEARDEN, JR.
SUPERINTENDENT-DIRECTOR

TIMOTHY CARROLL
ASSISTANT SUPERINTENDENT-DIRECTOR
PRINCIPAL

May 23, 1988

Dear Andy:

I am going to be in Washington, D.C. on June 17th 1988 to meet with official from China re the China Project with Cape Cod Tech.

See enclosed article as you can see things are starting to shape up. Please call me at 617-477-1272 x22 or 617 394-5863

It would mean a lot if you can join us on June 17th at 7PM for Dinner. Please let me know

Mic

not sent 6/1/88 MC

Mike called 6/1 - I said we would try to meet 6/18.

STATE OF TEXAS
OFFICE OF THE GOVERNOR
AUSTIN, TEXAS 78701

WILLIAM P. CLEMENTS, JR.
GOVERNOR

June 8, 1988

Mr. Andrew H. Card
Deputy Assistant to the President
and Director of the Office of
Intergovernmental Affairs
The White House
Washington, D. C. 20500

Dear Mr. Card:

I was so glad to learn of your recent appointment as Deputy Assistant to the President and Director of the Office of Intergovernmental Affairs. Please accept my heartiest congratulations.

Your dedication and commitment to the President will help this nation continue the growth and prosperity we have enjoyed during his administration.

I look forward to working with you. Once again, congratulations and best wishes.

Sincerely,

W. P. Clements, Jr.

William P. Clements, Jr.
Governor

TERRY E. BRANSTAD
GOVERNOR

OFFICE OF THE GOVERNOR
STATE CAPITOL
DES MOINES, IOWA 50319
515 281-5211

June 1, 1988

Andrew H. Card, Jr.
Deputy Assistant to the President
The White House
Washington, D.C.

Dear Mr. Card:

Congratulations on your recent appointment as Deputy Assistant to the President. I enjoyed working with Ms. King and look forward to a good working relationship with you in the final months of the Reagan administration.

Please let me know how I can be of assistance to you.

Sincerely,

Terry E. Branstad

Terry E. Branstad
Governor

STATE OF NEW YORK
EXECUTIVE CHAMBER
ALBANY 12224

GERALD C. CROTTY
SECRETARY TO THE GOVERNOR

June 8, 1988

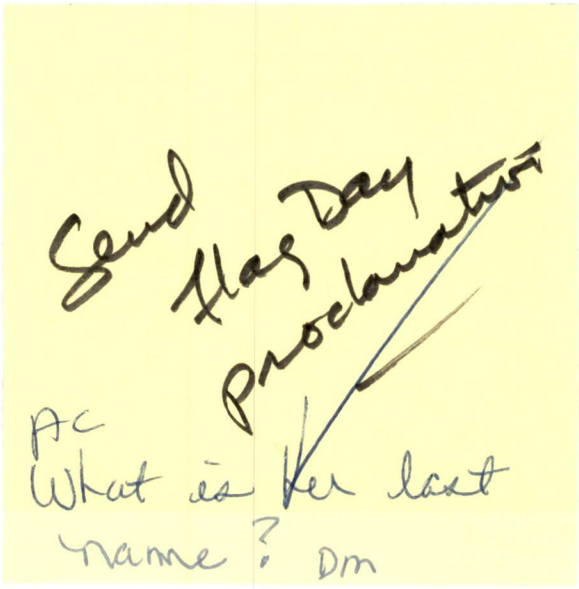
Dear Mr. Donatelli:

Governor Cuomo has asked me to thank you for your letter of May 19 advising of the appointment of Andrew H. Card, Jr. as Deputy Assistant to the President and Director of the Office of Intergovernmental Affairs.

Sincerely,

Gerald C. Crotty

Mr. Frank J. Donatelli
Assistant to the President
for Political and
Intergovernmental Affairs
The White House
Washington, D. C. 20500



Document Originally
Attached to
Following Page

Tippi Harrison
c/o

hold for Schedule
6/14

South School
719 SOUTH FRANKLIN STREET
HOLBROOK, MASSACHUSETTS 02343
Telephone (617) 767-0211
767-0218

JOSEPH F. CIRIGLIANO
Principal

Hi Andy
Well its time again - Flag Day!
Next year I know it will be on the White House lawn - but this year it will be here at school - 9:30 -
I know how busy you are - Have you people ever put a campain together! Congratulations. Of course I tell everybody its Andy Card! Please feel free to bring the vice president (Right in Dukakis' back yard). But if he can't make it I hope you can! Its not the same without you!
Only news I can think of - is Therese Doherety is retiring. (We're giving her a flag - like we gave you)
Gerry & Dany have honeymooned all winter in Has.
I went to Ireland in Feb. Have a bank account in

the bank of Ireland - the manager of the bank invited me for tea - He seems to think after the election - the dollar will straighten out - He is hoping G. Bush wins. He also says he thinks the people of Ireland would have difficulty accepting Jackson -

I guess I told you we have another new principal - Joe Cugliano - real good guy!

Well take care of yourself & give my best to the family -

Hope to see you soon -

Love,

Tippi

not to scout 5/31/88 AHC

MM - ? Tyler call

May 21, 1988

Dear Mrs. Card,

My name is Bonnie Bell and I have a girl scout troop in Holbrook, Ma. Our troop will be visiting D.C. June 23-25 with Lakeland Tours. I was wondering if you could arrange a special tour of the White House for us.

We will arrive about 9:30 am Thurs. June 23 and leave 5:30 pm Sat. June 25. We are scheduled for a tour of the F.B.I. June 23 at 1:40 pm. Other than this appointment, our schedual is flexible. There will be 40-50 in our group.

The girls have been saving and earning money for this trip for 3 years and we are getting very

excited about going. I was talking to your sister at the library and she suggested I write. We would appriciate any assistance in making our trip more successful.

Thank you,

Bonnie Bell
112 Sycamore St.
Holbrook, Ma. 02343
767-0150

Call Lahl to reschedule lunch — or breakfast

Breakfast this Thurs 6/16 at 7:30 WH Mess

Document Originally
Attached to
Following Page

Thurs. A.M

Bill McNutt III

I thought you might find this article of interest.

Bill

Andy,

Looking forward to lunch tomorrow. I will come by your office about 12:15 -

file

pc

of interest
—Ruth McCurdy

Thatcher Captures Moral Initiative

By Paul Johnson

Not content with inflicting three successive defeats on Britain's Labor Party and forcing it to scrap its commitment to full-blooded socialism, Margaret Thatcher has now embarked on a long-term campaign to swing the country's church leaders behind her efforts to establish democratic capitalism as the national ideology.

Mrs. Thatcher has always, by instinct and conviction, related political aims to moral purpose and insisted that her beliefs about the way the country should be run are firmly rooted in Christian teaching. In this respect she is not a typical leader of the Conservative Party, but more in the evangelizing tradition of the great 19th-century Liberal statesman, William Ewart Gladstone. It is true that British Conservatives are traditionally the "Church and King" party, and most of their leaders, including the Jewish-born Benjamin Disraeli, have been Anglicans. But in modern times Conservative prime ministers have tended to keep their religious views strictly for private life and to base their appeal to the public entirely on their practical governing skills. As one of them put it to me, "We leave moralizing to those Labor fellows."

But Margaret Thatcher is not prepared to leave moral issues to her opponents. Brought up in a God-fearing Methodist household, converting to Anglicanism as a student at Oxford, she has never been able, or wished, to separate her strong religious convictions from her equally strong political ones. In her mind they are indivisible, springing as they do from the teachings of her father, a storekeeper and local councilor in the small town of Grantham, whose maxims constitute the bedrock both of her spiritual beliefs and her public conduct.

The Protestant Ethic

Her father's code was simplicity itself: There are real and absolute distinctions between good and evil. Everyone has a personal responsibility to choose the good. This applies equally to private and public life. Choosing the good means working hard to better ourselves and our families and to serve the community. Deal honestly and keep the spirit as well as the letter of the law. Borrow only when absolutely necessary, and repay promptly. Save systematically for the future. Give generously. In public life, apply exactly the same high standards as in your private dealings. Remember at all times that you are accountable not merely to the voter in this life, but to Almighty God in the next—and God sees into our secret hearts and judges our motives as well as our actions.

There was never any question of Mrs. Thatcher keeping morals out of politics. When she first became leader of the Conservatives, in 1975, she brooded furiously on the way the Labor Party, with its cults of welfare socialism and its image of the "Three Cs"—caring, compassionate and concerned—had been allowed to occupy the moral high ground of politics.

To her, Labor was a party of moral fraudulence: It was compassionate with other people's money and it bribed its way into office by expensive schemes of public provision which, once installed, it was obliged to abandon since it could not generate the wealth to pay for them. Even in those days she reiterated the point: "The Good Samaritan first has to *earn* the means to be generous." I remember her saying to me: "I am determined to capture the moral initiative from Labor—and keep it."

She certainly achieved this objective. She had no difficulty in turning trade-union reform into a moral issue, for everyone could see that the destructive and selfish way British unions behaved in the 1970s constituted a national scandal. But she gave her campaign an additional ethical dimension by insisting that in curbing the power of union leaders she was "giving the unions back to their members" and, in 1982-83, she dramatized her moral crusade by fighting a successful battle against Arthur Scargill, the hard-left leader of the militant coal miners.

She gave the Falklands War a moral purpose too: the need to reverse an unprovoked and brutal aggression by a military dictatorship against a defenseless, pastoral people. She turned the campaign against terrorism, dramatized by her sensational escape from the Irish Republican Army's attempt to blow up a Brighton hotel where she was staying, into a national moral duty. She even presented her highly successful privatization campaign as a righteous effort to transform grotesquely inefficient public corporations, run by bureaucrats in the interests of the work force and its union bosses, into real national assets, owned by millions of small shareholders. And she successfully argued that the property-owning democracy she was creating, where the percentage of families owning their own homes has risen to 65% and where the number of individual shareowners has jumped from 2.5 million to more than nine million, is a huge moral advance on the traditional industrial society, with its majority proletariat owning nothing but its labor.

To her, Labor was a party of moral fraudulence: It bribed its way into office by expensive schemes of public provision which, once installed, it abandoned since it could not pay for them.

The difficulty Mrs. Thatcher found herself in, after three electoral victories, was that her very success undermined her position of moral advantage. In 1988 there is no doubt that the economic policies she has pursued with such obstinacy since 1979 are bearing fruit. The economy is booming, unemployment is falling rapidly, inflation is low, productivity and real wages are rising. In this year's budget, Chancellor Nigel Lawson was able to cut taxes on all incomes, raise welfare spending modestly and still achieve a balance. It was the most triumphant budget of modern times.

But was it too triumphant? It cut the top tax rate to 40% from 60%, a move that will almost certainly increase the yield from higher incomes. But it is seen as a huge concession to the well-off at a time when there is still much visible poverty in Britain and when the country's sacred cow, the National Health Service, the one institution Mrs. Thatcher has not yet dared to reform, is clamoring for more cash.

The budget brought to the surface a feeling, irrational but powerful and pervasive, that Thatcherite prosperity, widely spread as it is, threatens to turn Britain into a nation of materialists—greedy, selfish and heartless. This feeling has been eagerly fanned by radical churchmen of all denominations.

The ecclesiastical criticism has been vociferously echoed by the Labor Party, which has pounced on what it sees as the perfect opportunity to regain the moral initiative it lost to Mrs. Thatcher in the years after 1979. The result has been Mrs. Thatcher's moral counteroffensive, in which she has deliberately and systematically described the religious principles on which her political beliefs rest and her government acts. She began it with a powerful speech on Christian values to the annual meeting of the Presbyterian clergy in Scotland last month. She hammered home her belief in the essential moral need to work and produce: "It is not the creation of wealth that is wrong, but the love of money for its own sake. The spiritual dimension comes in when deciding what one does with the wealth." She also repeatedly stressed the moral centrality of personal responsibility: "Intervention by the state must never become so great that it effectively removes personal responsibility."

She followed this address by another hard-hitting statement of her ethics at the Conservative Women's Conference. She quoted John Wesley, founder of Methodism: "Gain all you can. Save all you can. Give all you can." She stressed the moral theme in magazine and newspaper interviews. There are more "moral issue" speeches on the way. Her counteroffensive has received enormous publicity and aroused much critical comment from her clerical opponents.

The Moral Majority

But starting a public debate on the moral issues of politics is exactly what Mrs. Thatcher wants. She believes she can win it by reiterating a simple proposition that everyone can grasp: It is deeply immoral to promise benefits without taking positive steps to create the wealth to pay for them—and that means an effective capitalist system. Capitalist efficiency and public morality go hand in hand. That is the message at the heart of her campaign. There is an uneasy feeling in the Labor Party that she is beginning to get it across.

The moral majority in Britain is less vocal than in America. The established churches, all of which are dominated by left-liberal oligarchies, have an absolute stranglehold on religious discussion on British TV; new or dissident church groups are not allowed to own TV or cable stations or even to buy air time. But a moral majority exists nonetheless, and Mrs. Thatcher speaks for it. Frank Field, one of the shrewder and more independent-minded Labor politicians, told his colleagues last week not to underestimate Mrs. Thatcher's ability to win the moral argument: "She has a wonderful nose for gathering votes in the middle ground of England," he said. "There is a fundamentalism sweeping the world—and Mrs. Thatcher will strike a chord."

Mr. Johnson is a British journalist and historian.

ROGER LEA MACBRIDE
SUITE 14
2401 ARLINGTON BOULEVARD
CHARLOTTESVILLE, VIRGINIA 22903
804-296-4115

June 23, 1988

Mr. Andrew H. Card, Jr.
Deputy Assistant to the President
The White House
Washington, D.C.

Dear Andrew:

I'm giving another party on the 23rd of July at the same place. An invitation will be coming to you; if you're in or near the area at the time won't you come?

All the best,

Roger

Roger Lea MacBride

RLM/bsf

not sent 6/29/88

1-13
To: Chase Untermeyer
Fr: Andy Card

THE WHITE HOUSE

WASHINGTON

January 11, 1989

MEMORANDUM FOR ANDY CARD

FROM: JOHN C. TUCK

SUBJECT: White House Detailees

Attached is a list of departments and agencies that have detailed personnel assigned to the White House. Now that it has been approved for certain White House employees to remain on the payroll until February 3, 1989, I am requesting pursuant to our discussion on January 10th that you inform the agency heads-designate that non-career SES and Schedule C appointments detailed to the White House might also be kept on their respective payrolls through that date.

Thank you for your assistance in this matter.

Attachment

OK - do/now - ASAP -
Chase to get the
word to Department heads.
Andy Card

CURRENT LIST OF AGENCIES AND DEPARTMENTS
THAT HAVE DETAILEES WITHIN
THE WHITE HOUSE OFFICE

Reimbursable and Non-Reimbursable

U. S. Department of Agriculture

Agency for International Development

U. S. Department of Commerce

U. S. Department of Defense

U. S. Department of Education

U. S. Department of Energy

Environmental Protection Agency

General Services Administration

U. S. Department of Health and Human Services

U. S. Department of Housing and Urban Development

U. S. Department of the Interior

U. S. Department of Justice

U. S. Department of Labor

Office of Personnel Management

Small Business Administration

U. S. Department of State

U. S. Department of Transportation

U. S. Department of Treasury

Veterans Administration

Non-Reimbursable Only at This Time

United States Information Agency (we are having difficulty with this agency regarding a detailee in Marlin Fitzwater's Office)

THE WHITE HOUSE
WASHINGTON

1/12

NOTE TO ANDY CARD:

Andrew, could I ask you to do two things for me:

- Find out who Adm. Watkins will/wants to have on his transition team. I'd like to lead it or at least be a part of it. It occurs to me that I have several advantages, including a working knowledge of most subject areas and a nuclear Q clearance as well as a WH clearance.

- Help me to make certain that the Admiral is aware of my interest in the Asst. Sec (Cong, IGA and Public Affairs) slot. I am told that I have received all of the necessary clearances at the transition.

Many thanks.

CB

I'm glad to do all I can. I'll make some calls.
Andy

CRISTENA L. BACH
Special Assistant to the President for Intergovernmental Affairs
456-7150

CRISTENA LYNN BACH
4845 W. Braddock Road
Alexandria, Virginia 22311
(Home) 703 845-1422
(Office) 202 456-7150

Curriculum Vitae Summary: Extensive experience in the functioning of governments at the federal, state and local levels; working knowledge of Capitol Hill; and an ability to build coalitions with the public and private sectors that generate support for ideas, policies and programs.

Special Assistant to the President
For Intergovernmental Affairs
The White House
Washington, DC

December 1985 - Present

Serve as President Reagan's liaison to the Nation's locally elected officials and American Indians. Responsibilities include: promoting the President's policies and programs to constituents; preparing briefing materials and talking points for the President; extensive public speaking; representing constituent interests and concerns to White House Senior Staff; assisting constituents as a conduit to the federal government; responding to constituent correspondence to the President; supporting the Assistant to the President with special projects, including those of a sensitive political nature, and providing issue analysis in the areas of energy, natural resources and the environment.

Special Assistant to the Secretary
US Department of the Interior
Washington, DC

February 1985 - December 1985

Managed the Secretary's intergovernmental relations program; served as the Department's White House and political liaison; assisted in the management of the Secretary's Cabinet activities; assisted in the management of the Department's constituent outreach/public liaison activities; speech writer for the Secretary; supervised scheduling activities and travel briefing material.

Special Assistant to the Secretary
US Department of Energy
Washington, DC

November 1983 - February 1985

Department liaison to state and locally elected officials/organizations; coordinated intergovernmental, congressional and press efforts for the Secretary's constituent outreach programs; White House liaison; prepared research/policy papers for the Secretary on major departmental policies and

programs; developed issue management strategies for departmental issues; speech writer for the Secretary.

Special Assistant to the Secretary — **May 1983 - November 1983**
US Department of the Interior
Washington, DC

Department liaison to state and locally elected officials and organizations; White House liaison; prepared research and policy papers on Cabinet-related issues for the Secretary; constituent liaison; speech writer for the Secretary.

Program Coordinator — **June 1982 - April 1983**
US Environmental Protection Agency
Washington, DC

Traveled with the Administrator; served as traveling press secretary; prepared issue briefing books for the Administrator; coordinated speeches.

Press Secretary — **September 1981 - April 1982**
Patterson for Governor Campaign
Detroit, Michigan

Spokesman and writer for Republican gubernatorial candidate; directed volunteer press staff; surrogate speaker for the candidate.

Press/Media Coordinator — **September 1980 - November 1980**
Reagan–Bush Committee of Michigan
Detroit, Michigan

Press secretary for the state; spokesman and writer; developed, planned and implemented local radio and media buying; scheduled and advanced all national surrogate speakers.

Press Aide — **June 1979 - September 1980**
Governor William G. Milliken
Lansing, Michigan

Served as an aide on the Governor's press staff originally as an intern and then as a paid staff member; speech writer for the Governor; traveled with the Governor.

Education: **Michigan State University**
Bachelor of Arts Degree in Journalism
East Lansing, Michigan

References available upon request.

1/12/89
Done

Proposed Draft

January 12, 1989

Mr. Mike Ruehling – Exec. Director, Joint Cong. Cmte on Inaug. Ceren
Title
Address 408 Russell Bldg.
Washington, DC 20510

Dear Mike:

This letter should serve to formally introduce and to request full clearances for Mr. Mel Stuart and Mr. Sig Rogich, who will serve to oversee the White House video crew during the Inaugural period.

The film, depicting many of the behind-the-scenes moments up-to- and including the Official Inaugural ceromonies, will be distributed to schools everywhere thoughout America, free of charge.

It is our intention to make this non-partisan video presentation among the most memorable of its kind in American history.

In that regard, Steve Stoddard, Chairman of the Inaugural Committee has selected Mr. Stuart, who produced the critically acclaimed Theodore White series, entitled "The Making of the President," to direct the film project.

Mr. Rogich, who has worked very closely with President-elect George Bush, has been asked to serve as Executive Producer for the one-hour presentation.

Inasmuch as this project was late in gaining final approval, any assistance that you can provide by way of access and clearances, will be greatly appreciated.

Sincerely yours,

John Keller
Title

Jim Hooley
Title

January 11, 1988

To: Patty Presock

Andy Card answered this letter on behalf the President-elect. Per the instructions on the yellow "sticky," attached is a copy for the President-elect if you think he would want to see it.

Thanks.

Linda

Linda Gambatesa

OFFICE OF THE PRESIDENT-ELECT
WASHINGTON, D.C. 20270

January 10, 1989

The Honorable Barber B. Conable
The World Bank
1818 H Street, N.W.
Washington, D.C. 20433

Dear Mr. Conable:

On behalf of the President-elect, thank you for your letter of December 22, 1988, regarding the Independent Sector and its importance to the private sector initiatives effort.

Please know that I have passed along your letter to Greg Petersmeyer for his review and immediate attention. Your input is always appreciated.

If I can be of any help to you, please do not hesitate to let me know.

Sincerely,

Andrew H. Card, Jr.

Greg Petersmeyer will be handling "National Service," the 1,000 point of light, for the White House. I'll make sure your interest is made part of Greg's planning.

Rec'd WW
12/28

BARBER B. CONABLE
1818 H Street, N.W.
Washington, D.C. 20433

December 22, 1988

Dear George:

In connection with your plans for private sector initiatives and such related activities as your Youth Entering Service proposal, I want to urge you to work closely with Independent Sector. This organization, of whom John Filer is the Chairperson and Brian O'Connell the President, represents the entire nonprofit private sector, foundations and 501-C3s, and has been doing excellent research and coordinating work for many years. I will modestly add that I was one of its founders, along with John Gardner and Brian O'Connell and a few foundation heads.

To be successful in private sector initiatives, you will need the enthusiastic support of many of the voluntary agency and foundation leaders who make up the membership of Independent Sector. Starting with their experience, you will not have to reinvent any wheels, but can begin your effort with maximum velocity and support. They are interested to get in touch with the right people on your team, and if someone could call Brian O'Connell at the Independent Sector headquarters in Washington (223-8100), I assure you he is anxious to be of assistance.

Sincerely,

Barber Conable

The Honorable George H. W. Bush
President-Elect of the United States of America
The White House
Washington, D.C. 20500

Mrs. Mozley,

Please log -- original to ? (ask Tom?) and copy to the Vice President.

Thanks.

Action Summary/Card
cc: VP

linda
12/29

OFFICE OF THE PRESIDENT-ELECT
WASHINGTON, D.C. 20270

January 10, 1989

Dear Jennifer:

Thank you for your letter of January 9th enclosing a copy of your resume and indicating your wish to stay on with the Bush Administration.

I will be happy to pass along your interest in working in the Offices of Intergovernmental or Cabinet Affairs to the appropriate people.

Again, thanks for your interest. Your request will be given every consideration.

Sincerely,

Andrew H. Card, Jr.

Ms. Jennifer Meeker
801 North Pitt Street, #414
Alexandria, Virginia 22314

1/10
Gave to Linda Casey. LS

OFFICE OF THE PRESIDENT-ELECT

1/9/89

Peter –

I'll pass on your request for a handwritten letter from President Bush to the man himself.

Keep in touch.

Andy

OFFICE OF THE PRESIDENT-ELECT
WASHINGTON, D.C. 20270

Official Business

George Bush

The Honorable Peter Forman
One Mt. Pleasant Street
Plymouth, MA 02360