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A DEDICATION TO HENRY L. STEPHENS, JR.

by Robert M. Bratton*

On June 1, 1992, Henry L. "Steve" Stephens retired as Dean of the Salmon P. Chase College of Law. His retirement marked the end of an era for Chase. During his tenure as Dean, Chase was guided through some troublesome times to the attainment of great achievements. As the youngest law school dean in the United States, his energies were diverted to quieting the threats by outside forces to eliminate a law school from the Commonwealth, while at the same time securing Chase's vitality and security for the future. His foresight, determination and dedication, both externally and internally, have made their mark on the College of Law and the Commonwealth.

Born in Bowling Green, Kentucky in 1949, Steve received his Bachelor of Arts Degree from Western Kentucky University in 1972 and his Juris Doctor degree from the University of Kentucky in 1975. Upon graduation from law school he entered private practice in Louisville as an associate with the firm of Middleton, Reuthinger and Baird. His focus of practice was environmental law and products liability defense work. Pursuing his interest in the burgeoning field of environmental law, he left private practice and became a Special Assistant Attorney General and Staff Attorney for the Kentucky Department of Natural Resources and Environmental Protection with special activity in the field of mineral law (surface mining). Building his expertise quickly in this field, Steve left the Department of Natural Resources and Environmental Protection to enter legal education where he could pursue research and further refinement of his interests in environmental law. He joined the faculty at Chase in 1979, teaching Environmental Law, Coal Law, Surface Mining and Reclamation Law as well as Evidence and Clinical Law. At the same time he became a prolific author and writer in the field of environmental law both in law review articles and in professional publications.

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In 1981 he became Associate Dean and in 1985, the Interim Dean at Chase. In 1986 he became Dean.

His activities as Dean of the College of Law are too numerous to mention in great detail. However, a few are worth mentioning as an indication of the type of accomplishments he achieved.

Most of his activities could be best described by Willie Nelson's famous song "On the Road Again." When not heading to Frankfort to quiet the movement to close a law school, he was travelling to the various parts of the Commonwealth to establish Chase Alumni chapters and raise money for scholarships for students. His successes in these endeavors are evident from the fact that during his deanship he helped establish thirteen annual scholarships for Chase students totalling over $100,000.00. His efforts to help students did not stop there. He established the Board of Visitors, the Placement Advisory Board and a Practice Intern Program at the College of Law. These efforts, plus his direct involvement in the legal communities of both Ohio and Kentucky, resulted in a higher level of student recruitment from both states.

One other area, indicative of his accomplishments for the College of Law, is directly related to the faculty. It was through his direct efforts and persistence that faculty salaries were enhanced in an effort to bring faculty salaries closer to the national average. He always encouraged and promoted faculty projects and students well-being. His success, like any leader's, depends on whom you ask. When our alumni graduates think of Chase, they think of Steve Stephens. When the judiciary inquire of Chase, they ask about Steve Stephens. When the politicians ask about Chase, they inquire about Steve Stephens. When the bar asks about Chase, they ask about Steve Stephens. Those who know him, have dealt with him and objectively evaluate what he did, and what he tried to do (with sometimes limited resources) speak well of him and Chase Law School. Thank you Steve for a job well done. Welcome back to the faculty. Excelsior!
DEDICATION FOR PROFESSOR
LOWELL SCHECHTER

by Mark Stavsky*

I am extremely pleased that the Law Review has decided to dedicate this issue to Professor Lowell Schecter upon his return to full-time teaching from his position as Associate Dean for Student Affairs. Given his dedication to Chase while serving as Associate Dean, Professor Schecter is certainly worthy of this honor.

Lowell Schecter's association with Chase began in 1981, when he was hired as a Visiting Professor to teach Constitutional Law. Although this was to be only a one-year appointment, the enormously positive impression which Lowell had upon the faculty and especially his students eventually led to his receiving a tenure-track position. Once he was here, we just could not let him leave.

Prior to Lowell's arrival at Chase, he was already an established teacher and scholar. He received his J.D. from Harvard, after which he moved to England to pursue graduate law studies at Oxford University, and teach on the Law Faculty of the University of Sheffield. After three years of teaching at Sheffield, Lowell and his family—Judy, his wife, and his children Rhonda and Stuart—returned to the United States where he resumed his teaching career. After a one-year stint as a visiting professor at Duquesne University School of Law, he spent seven years teaching at Vermont Law School.

Ever since Lowell's arrival at Chase in 1981, he has been a valuable faculty member and, later, administrator. As Associate Dean he distinguished himself through his hard work and dedication to the College of Law. Although the job of Associate Dean entails numerous responsibilities, Lowell managed to teach at least one course every semester and most summer terms. Yet even with his busy schedule, he was readily accessible to the

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students and faculty alike. Indeed, he set a standard for what an
effective Associate Dean can accomplish that will not be easily
met. Among his most notable achievements is his significant role
in the creation of the Children's Law Center, as well as his help
in the development of the Kentucky IOLTA Fund Fellowship
Program.

Good job, Lowell, and welcome back.
THE HAROLD J. SEIBENTHALER
LECTURE SERIES

The annual Harold J. Seibenthaler Lecture series was established by the Chase College Foundation in 1978. The purpose of the Lecture Series is to enrich the curriculum of the College of Law by affording it the benefit of the wisdom, scholarship, and learning of eminent persons in various fields of law.

The namesake of the Lecture Series, Harold J. Seibenthaler, was a 1914 graduate of the McDonald Institute (the predecessor institution to Salmon P. Chase College of Law). A native Cincinnatian and a founding partner in Cincinnati law firm of Frost & Jacobs, Mr. Seibenthaler provided both support and leadership for the College of Law throughout his life. Mr. Seibenthaler served for many years on the College's Board of Trustees. At the time of his death in 1988, Mr. Seibenthaler held the position of president emeritus of the Chase College Foundation.

This year's lecture was delivered on February 27, 1992, by Professor E. Donald Elliot, of the Yale Law School. Professor Elliot received his undergraduate degree in English literature from Yale College, summa cum laude. He attended Yale Graduate School as a Carnegie Teaching Fellow and earned his juris doctor from Yale Law School. Professor Elliot rejoined the Yale Faculty in 1992 after serving two years as General Counsel for the United States Environmental Protection Agency. Professor Elliot teaches torts, environmental law, constitutional law, toxic chemicals, administrative law, legislative and administrative process, energy and natural resources law, property, and complex civil litigation and procedure. He has served as Visiting Professor of Law at Georgetown and the University of Chicago.

In addition to his service with the Environmental Protection Agency, Professor Elliot served for four years as Special Litigation Counsel for the Corporate Environmental Programs at the General Electric Company. He has been consultant to such firms and organizations as the Ohio Edison Company, G.D. Searle Company, the Carnegie Commission on Science, Technology and Government, the Connecticut Medical Society, Aetna Insurance Company, Swidler and Berlin, and most recently to Fried, Frank, Harris, Shriver & Jacobson of New York and Washington.

Professor Elliot is an extremely prolific writer and presenter and has participated as a major speaker in conferences and symposiums principally in the area of environmental law, toxic torts, hazardous waste and administrative law.
I. THE IMPORTANCE OF ENVIRONMENTAL LAW

Environmental law is important for at least two reasons. Over the last decade, environmental law has probably been the single largest growth area in the law,¹ and this trend promises to continue. Today about half the total cost of government regulation of the economy is attributable to regulation to preserve and enhance the environment.² We spend about $160 to $185 billion a year on government regulation, of which something on the order of $90 to $100 billion a year is spent on environmental protection.³ Between now and the year 2000, that $100 billion is going to increase to about $155 billion, which is roughly 2.5 percent of our gross national product (GNP).⁴ To put that in perspective, 2.5 percent of GNP is just about the same proportion of gross national product that we spent on the Marshall Plan after World War II. As a commitment of social resources, then, environmental law is

¹. See generally Alain L. Sanders, Battling Crimes Against Nature, TIME, March 12, 1990, at 54 (20,000 environmental lawyers are "some of the most sought after professionals.").
². Kirk Victor, Quayle's Quiet Coup, NATIONAL JOURNAL, July 6, 1991, at 1676-77 (About half of the $185 billion annual cost of government regulation stems from environmental rules; describing operations of the President's Council on Competitiveness).
⁴. William K. Reilly, Aiming Before We Shoot: The "Quiet Revolution" in Environmental Policy, Address Before the National Press Club (Sept. 26, 1990) (summarizing results of EPA's Cost of Clean-Up Report in which EPA's economists estimate that in 1990 the U.S. private and public sectors spent more than $90 billion (in 1986 dollars) for pollution control; by the year 2000, the cost will have grown to about $155 billion annually (also in 1986 dollars), or about 2.7 percent of total GNP).
the equivalent of an annual Marshall Plan at home to clean up the environment.\footnote{5}

By pointing out that environmental law represents a very significant commitment of social resources, I do not want to be misunderstood as implying that we are spending too much on the environment. On the contrary, the percentage of our GNP that we spend on environmental protection is almost identical to what the Germans and Japanese are spending on environmental protection. The issue is not so much how much we are spending, but how we are spending it, and particularly, whether we are getting our money's worth from this very significant commitment of our scarce national resources.\footnote{6}

Not only is environmental law important as a major commitment of social resources, it is also important in its own right as a significant factor in virtually every business transaction.\footnote{7} Today, environmental law is like tax law: you cannot do a major business deal without considering the environmental implications.

But environmental law is also important for a second reason as well. Environmental law represents the state-of-the-art in the use of law to manage complex systems. After all, it is really rather remarkable that a little tiny agency like the Environmental Protection Agency, consisting of a mere 18,000 people (less than 0.3 percent of the federal government workforce) as opposed to say, the Department of Agriculture with over 100,000 people, has been able to leverage its efforts to re-direct private resources to have a tremendous effect on the economy. Environmental law is worthy of serious study not only for its own importance, but also as a case history in the use of law as an instrument of social change. Environmental law represents the state-of-the-art in using legal institutions and techniques to manage complex systems to achieve social goals.

Tonight I am going to focus on environmental law for what it can teach us about the use of legal mechanisms to transform

\footnote{6}{I have previously addressed the issue of wasting precious resources in E. Donald Elliott, Superfund: EPA Success, National Debacle?, 6 Nat. Resources & Env't 11 (1992).}
\footnote{7}{E. Donald Elliott, Foreword: A New Style of Ecological Thinking in Environmental Law, 26 Wake Forest L. Rev. 1 (1991).}
complex systems. In short, my emphasis is on the law in environmental law, on the legal techniques and institutions that have been used. My topic is not environmental policy, not what I think we ought to be doing in a substantive way in the years ahead. That is another lecture, Dean Stevens, and if you want me to give that one too, I would be delighted to come back to give it on some other occasion.

But what concerns me tonight has to do primarily with the institutions of environmental law, with the legal techniques and mechanisms that we use to make and implement our environmental policies.8

II. THE INSTITUTIONAL SIDE OF ENVIRONMENTAL LAW

In a real sense, "environmental law" as a discipline is defined by a characteristic set of legal institutions and techniques. The problems of concern to environmental law are not new. The first smoke control ordinance was passed in London in 1278, so in one sense we have had environmental laws at least since the 13th century. But what defines environmental law in the modern sense, what distinguishes it from nuisance law and other legal predecessors for regulating the relationship between human beings and the natural world, is really the institutional side.

Environmental law9 emerged as a separate discipline in the U.S. about 1970, and since that time, we have understood what we mean by environmental law in this country largely in terms of a process that I am going to call bureaucratic standard-setting. The standard-setting process that we have relied on to regulate pollution in the United States for the past two decades consists of three essential elements: (1) pollution tolerance standards, (2) set by bureaucrats through informal rulemaking, (3) enforced by citizen suits.

On a substantive level, we do not try to eliminate pollution; we try to control it to tolerable levels through "pollution tolerance

8. I have long been interested in the institutional side of environmental lawmaking. See, e.g., E. Donald Elliott, Goal Analysis vs. Institutional Analysis of Toxic Compensation Systems, 73 Geo. L.J. 1357 (1985).

9. The part of "environmental law" with which I am concerned here deals with the regulation of pollution. There is another side of the business that deals with the preservation of wilderness, and natural resources and a number of other issues. However, the pollution regulation part of environmental law accounts for a very substantial portion of the $90 billion annual commitment of social resources that I have been talking about.
standards." Typically, we set a standard, which is a bit like a speed limit. A pollution standard defines what the maximum permissible level of pollution in a particular medium can be, for example, "so many pounds of sulfur dioxide per million BTU," or "so many micrograms of trichloroethane per cubic meter," and so on.

These standards, or pollution tolerance limits, can be set in various ways. They can be set based on technology; they can be set based on health effects; they can be set based on economics; or on some combination of these factors.10 But setting standards defining the levels of various pollutants that we are willing to tolerate has been the basic method that we use for regulating pollution in environmental law.

The second element that distinguishes the legal techniques used in environmental law is the use of informal rulemaking, that is, notice and comment rulemaking under Section 553 of the Administrative Procedure Act, as a way of setting pollution tolerance standards.11 The procedural or administrative law side of environmental law has been a very important factor that I think is not often remarked enough. It is virtually impossible to imagine an EPA, or the federal pollution control statutes as we understand them, without informal rulemaking. That is clear from considering the experience of other countries, such as those in Eastern Europe. The development of detailed rules and regulation at the administrative level through informal rulemaking is one of the major factors that distinguishes U.S. environmental law from that in many other countries.

Many countries around the world, including those in Eastern Europe, have tough environmental laws at the statutory level. But without an administrative process to turn broad statutory declarations into enforceable regulations tailored to particular industries, statutory declarations have often remained just that — declarations with little effect on actual practice in the field.


Another crucial element for getting environmental law off the statutory drawing boards and actually implemented in changing behavior is the concept of citizen suits.\textsuperscript{12} Independent suits by citizens to enforce the rules, to make sure that the Government keeps its promises, are a truly American innovation, and one which is of great interest to other countries around the world that are looking for effective ways to enforce pollution standards.

Those three elements, bureaucratic standard-setting, citizen suits, and the use of informal rulemaking to develop the standards, basically constitute the outstanding features of our present system for making and implementing pollution control regulations.

These mechanisms of bureaucratic standard-setting, informal rulemaking and citizen suits are orders of magnitude more powerful than the techniques that preceded them in terms of their ability to assimilate complex information and translate it into legal controls that the regulatory system can manage. They are more powerful than case-by-case litigation before courts, which was the basic institutional system used by the common law nuisance system for regulating the environment, or even statutory regulation of the environment, of the sort that was passed during the progressive era.\textsuperscript{13}

III. SIGNS OF SYSTEM OVERLOAD

A crisis is coming in environmental law in part because our current state-of-the-art techniques for centralized legal control, for all of their extraordinary power, are simply not adequate to do the task we have set for them. In short, the basic institutional mechanisms that we use in environmental law are rapidly reaching or surpassing their limits in terms of their ability to manage complex systems. The goal we have set for environmental law is no less than to try to transform human systems, including economic systems, so that they are more compatible with the natural order.\textsuperscript{14} My central thesis is that you simply can not succeed in a mission

\textsuperscript{12} See, e.g., Adeeb Fadil, Citizen Suits Against Polluters: Picking Up the Pace, 9 HARV. ENVTL. L. REV. 23 (1985).

\textsuperscript{13} For a general account of the evolution of the American legal system from common law to a system of bureaucratic regulation, see generally Bruce Ackerman, RECONSTRUCTING AMERICAN LAW (1984).

\textsuperscript{14} See Elliott, supra note 5.
that complex using the existing techniques of centralized legal control. In short, "you can't get there from here" using our present institutional techniques for making and enforcing environmental law.\(^{15}\)

The coming crisis in environmental law is really one of an overloaded law-making system. The danger signals that the present institutional structure for making and enforcing environmental laws are overloaded, stressed, and cannot keep up are all around us. One clear sign is the high cost of the present system, particularly the high transaction costs.\(^{16}\) The best illustration of the high transaction costs of the present institutional arrangement is the Superfund program, where recent estimates have been that we will spend as much as $25 billion over the next decade essentially on transaction costs for lawyers and consultants rather than actually cleaning up sites.\(^ {17}\) About twenty percent of the total is going to lawyers and consultants.

On the surface, viewed solely as wasted money, some might not be too concerned about transaction costs. They simply view having to spend that extra money as punishment that the polluters are going to have to pay for their sins. What is not often realized is that additional consequences of our high transaction cost system are the tremendous delays that we experience. One side of high transaction costs is money that is wasted; another side of that same coin is all the time that is wasted.

Again, the Superfund program exemplifies this problem. Over the decade that the Superfund program has been in effect, we have finished cleaning up only sixty-three sites. That is sixty-three out of 1200 sites that are on the National Priority List, and out of over 20,000 candidate sites that have been identified.\(^ {18}\)

One statistic crystallizes all the problems we have experienced in implementing the Superfund program. On average, it takes ten years to clean up an average Superfund site. And of that ten

\(^{15}\) See Peter Brimelow & Leslie Spencer, You Can't Get There From Here, FORBES, July 6, 1992, at 59 (quoting author and others on the point discussed in the text).

\(^{16}\) "Transaction costs" is a term drawn from economics. In this context, it means the costs of running the process, e.g. the costs of deciding what the remedy should be at a Superfund site, as opposed to the direct costs of implementing a clean-up.


\(^{18}\) Elliott, supra note 6.
years, we only spend three years in actual construction work.\textsuperscript{19} The first seven years are spent in a legalistic, bureaucratic process of arguing about what is going to be done at the site, and only the last three years are spent actually doing the work on-site.

Long delays are the price of legalistic bureaucracy, and you see similar delays in virtually every area of environmental law. Another good illustration is the problem of regulating air toxics, highly hazardous substances being put into the air. Almost a decade and a half ago, Dave Doniger, now affiliated with the environmental group, the National Resources Defense Council, wrote an interesting article about the problems of implementing the air toxics provision of the Clean Air Act.\textsuperscript{20} He complained bitterly that it was taking eight to ten years to regulate some of the most hazardous substances like benzene, asbestos or vinyl chloride.\textsuperscript{21} Unfortunately, in 1991, we are still struggling to regulate some of the very same substances; we still have not finished with asbestos, for example.

It can take ten to fifteen years to complete the job of regulating a toxic chemical under the Clean Air Act so that it will finally stand up in court. Over the twenty years since the Clean Air Act was passed, we have regulated exactly eight air toxics under the federal Clean Air Act and that is out of a list of 189 candidate substances that Congress wrote into the statute out of frustration in 1991.

Another illustration of the difficulties that we encounter under the present system of legalistic bureaucracy is EPA’s asbestos ban rule. Recently, after almost a ten year process and developing a 100,000 page record, EPA banned all uses of asbestos in certain areas.\textsuperscript{22} Asbestos is a substance that has been known for many years to cause a number of health hazards in high doses. As early as 1918, many life insurance companies stopped writing insurance policies on asbestos workers because of the “assumed health-injurious conditions” in the asbestos industry.\textsuperscript{23} To be sure, as time has gone on, we have learned more about various effects of

\textsuperscript{19} Id.
\textsuperscript{21} Id.
\textsuperscript{22} 54 Fed. Reg. 29,460 (1989).
asbestos, and controversy remains concerning the extent of risks at low levels of exposure. But asbestos is hardly a new substance that we only recently learned was hazardous.\textsuperscript{24} Despite a ten year process concerning one hazardous substance about which a great deal is known, and a 100,000 page record, EPA's rule was recently set aside in court for an inadequate record.\textsuperscript{25}

Like the long delays and high transaction costs that we experience in the Superfund program, and the fact that it takes many years to regulate airborne toxic chemicals, another sign of the stress on our lawmaking system in the environmental area is that we have only dealt with a few out of a very large set of potentially hazardous chemicals. There are over 600,000 substances on the EPA chemical inventory, with roughly 50,000 of them in general use. We probably only have data on about somewhere from 20,000 to 40,000 of the 600,000 substances that are out there,\textsuperscript{26} and we have only regulated a handful.\textsuperscript{27}

Long delays, and spotty coverage — with over-regulation in some areas, under-regulation (or no regulation at all) in other areas — as well as high transaction costs are the indirect, less obvious costs of our cumbersome, legalistic system of regulation.

The classic description of the source of these problems is in an article by Doug Costle, the Administrator of EPA during the Carter Administration, called \textit{The Future Regulatory History of Phlogiston.}\textsuperscript{28} It is a great article, one that ought to be required reading in all administrative law and environmental law courses. Written in 1981, shortly after Costle left EPA, the article is a

\textsuperscript{24} To be sure, as time has gone on, we have learned more about the hazards of asbestos, and controversy remains concerning the effects of low-levels of exposure.

\textsuperscript{25} Corrosion Proof Fittings v. EPA, No. 89-4596, 947 F.2d 1201 (5th Cir. 1991).

\textsuperscript{26} Alyson Flournoy, \textit{Legisitating Inaction: Asking the Wrong Questions in Protective Environmental Decisionmaking}, 15 HARV. ENVTL. L. REV. 327, 330 (1991) (No toxicity information exists for over "eighty percent of the 48,000 chemical substances in general commercial use.").

\textsuperscript{27} For an excellent article that describes the problems of our present regulatory structure from an information perspective like that in the text, see John S. Applegate, \textit{The Perils of Unreasonable Risk: Information, Regulatory Policy, and Toxic Substances Control}, 91 COLUM. L. REV. 261 (1991). See also Flournoy, supra note 26; Howard Latin, \textit{Good Science, Bad Regulation, and Toxic Risk Assessment}, 5 YALE J. ON REG. 89 (1988) (describing difficulties of marshalling information sufficient to satisfy present regulatory standards); Elliott, supra note 8 (arguing that design of regulatory systems should be fitted to available information).

kind of modern epic poem, written by a fellow who had recently “due-processed to death.” On page after page, Costle runs through an imaginary history of all the steps in the regulatory process that would be necessary if EPA were to attempt to regulate a substance like phlogiston. It is a funny article. But it is black humor, the anguished cry of someone who has found it very frustrating to be caught inside the cumbersome, legalistic process that we have created for making rules about the environment.

One should not be too pessimistic about our present lawmaking system in this area. A couple of years ago Barry Commoner, an environmentalist, created quite a stir when he wrote an article with the provocative title The Failure of the Environmental Effort. EPA: A Qualified Success is a much fairer assessment. We have made measurable progress in virtually every area that we regulate. And when you step back and compare the environmental effort to many of the other domestic policy efforts like the housing program, the war on poverty, education in the United States over the last decade, it looks pretty good by comparison. It has been relatively more successful than many of our other domestic initiatives. So I do not want to be misunderstood as saying that everything is black.

But I think that the simple reality is that the basic techniques that we use to regulate pollution in the United States today — the “command and control” system in which bureaucrats through informal rulemaking set standards on a substance-by-substance basis — is just not going to be adequate to deal with the problems that lie ahead.

My colleague in the government, Dick Stewart, who formerly taught environmental law at Harvard, once referred to our basic approach to environmental protection in the United States as a version of Soviet-style central planning. And I think it is subject to some of the same difficulties that Soviet-style central planning has experienced in many other areas of the world. In particular

31. See Brimelow & Spencer, supra note 15.
these sorts of techniques of bureaucratic planning and regulation, I think, are going to prove very difficult to use in the years ahead, in part because we have been cream-skimming: we have dealt with most of the easy sources: the large coal-fired utility boilers, the large chemical plants, the refineries. Most of the large, easily-regulated sources of pollution have already been subjected to very substantial pollution control requirements. The problems that we must face in the future have a very different profile: they are large numbers of small, diffuse sources that will prove very difficult to regulate using traditional techniques.\textsuperscript{33}

The pattern of large numbers of small sources applies to many pollutants today. One example is water pollution of surface streams. Over half the water pollution that is going into surface rivers now comes not from factories and sewage treatment plants, but from so-called “non-point sources,” agricultural runoff, and other small sources.\textsuperscript{34} It is going to be very difficult if not impossible to use the command-and-control techniques of centralized bureaucracy that we have used in the past to deal with large numbers of small sources. We are going to need to begin to deal with thousands of small sources, from the composition of consumer products to small businesses like dry cleaners. Even alkaline batteries, and other household products that contain small amounts of hazardous substances, can create problems when disposed of in municipal trash. Increasingly, we are going to have to deal with large numbers of small sources that simply are not amenable to bureaucratic control without ham-stringing the economy. Pogo’s great line, “We have met the enemy and he is us,” really describes the problems that we are going to face in the environmental area in the years ahead.

IV. ENVIRONMENTAL INCENTIVES AND THEIR PROBLEMS

Criticizing the present system is easy. Talking about what we ought to do in the future is the hard part.

One way to predict the future is to observe emerging trends and project them. Perhaps the most significant trend in environmental law today is the increasing use of incentives as opposed

\textsuperscript{33} Francis S. Blake, The Economic Impacts of Environmental Regulation, 5 NAT. RESOURCES & ENV’T 23 (1990).

\textsuperscript{34} See Non-point Sources Seem to Play a Greater Role in Degrading Water Quality, EPA Report Says, ENV’T REP., Nov. 13, 1987, at 1740.
to command-and-control regulation as a way of dealing with environmental problems. By incentives, I do not simply mean economic systems, like the trading system under the Clean Air Act for acid-rain. I am thinking about positive incentives and information incentives like the toxic release inventory as well as economic ones. But the future that I see in environmental regulation is one that is going to rely much more on incentive systems, diverse systems, and markets and much less on centralized command-and-control regulation.

Another major trend that I see developing is the so-called “pollution prevention movement,” the notion that it is cheaper and better to prevent pollution by re-thinking the nature of products and systems rather than to clean it up after the fact or to slap a pollution control device at the end of the line. And a major incentive for pollution prevention has been the use of information as a regulatory technique. EPA has had a voluntary program called the “33/50 Program” in which companies have been asked to make a commitment to reduce their emissions of toxics into the environment by 33 percent by the end of the year 1992 and by 50 percent by the year 1995. And already, that voluntary program has over 500 companies signed up to make those commitments for reductions. The amount of pollution, that is, the amount of toxics that will not be going into the air and the water, is far in excess, I think, through that program of what we prevented through the regulatory system over twenty years.

Another major trend that I see is the notion of least cost pricing that is taking hold in California and also in Japan. The basic idea of least cost pricing is that our price signals do not fully reflect all of the costs, all of the potential externalities. So you go into the store and you buy an alkaline battery rather than a rechargeable battery because the alkaline only costs half as much as the rechargeable battery. But of course, it is not built into the cost of the alkaline battery that someday somebody may have to dig up the landfill which that alkaline battery and a hundred thousand others went into.

What California is trying to do, particularly in the utility area, is to try to figure out all of the costs of one option as opposed to another and build those all into the prices. Again, we can use incentives and markets to try and get some of the right signals. But unfortunately, incentive systems alone will not solve our problems.
V. IN SEARCH OF THE MORAL DIMENSION

Something more fundamental is at stake in environmental law than merely getting the price signals right for efficient use of resources; there is also an important moral dimension to environmental law that is often overlooked in much of the academic discourse.

Some of the most important aspects of environmental problems are the ones that we find very difficult to talk about, the moral issues that lurk just beneath the surface. This unspoken level can be glimpsed by considering some of our conversational taboos in the way that we talk about environmental issues. We frequently talk about environmental problems in ways that do not fully capture our real concerns.

Consider the Endangered Species Act. Some people will tell you that they want to protect endangered species from extinction because it might turn out that in some endangered species someplace there is the unknown cure for cancer, or something else that will be of great benefit to human beings. But imagine a typical law professor's come-back: "Suppose that we could preserve a few examples of the species, one or two of them in a museum someplace, so that if we decided we really needed them we could reproduce a lot of them; would that satisfy you?" (I call that the Noah hypothetical.) Or: "Suppose you could program some of their genes into a computer so that you could duplicate them."

My experience is that students get angry at those hypothetical suggestions. I submit to you that the reason they get angry is because they do not really want to preserve endangered species just because they might turn out to be useful to human beings at some later date. There is something more basic, there is something more fundamental, behind their desire to preserve endangered species that they do not really feel comfortable talking about.

This is another, more subtle cost of the way we have approached environmental law. One of the consequences of the bureaucratic, standard-setting process is that it has impoverished our public dialogue about environmental issues by converting moral issues into technical ones. As we think about reforming the way we

make and implement environmental law, we also have to think about developing a process that facilitates public dialogue about the real issues. There is no question that this dialogue must be informed by "good science," but it must also get to the level of the deeper values that underlie our attitudes toward the environment.

I want to maintain that the underlying problem is that our conventional understanding of what we really mean by "pollution," is insufficient. I do not mean it is wrong; I mean it just is not enough. It covers part of the problem, but it does not really tell us the whole story.

The conventional theory of what we mean by pollution, at least in the law schools, has been based on the problem of the commons, the famous article by Garrett Hardin about over-grazing. Because people only bear a portion of the cost and they get all the benefits of putting an additional cow on the common, there is supposedly a tendency for them to put more and more cows on the common until the range is destroyed and everyone suffers. This basic metaphor, essentially an economic metaphor, based on the free-rider, market-failure problem, has become the basic paradigm that many of us have used to think about why pollution is a problem.

This economic view of pollution is very useful in some ways. But like all models, it brings certain aspects of a complex problem into focus by suppressing other facets of the problem. The economic definition of pollution captures the facet of the problem of the environment as a resource with many competing uses. It focuses on the environment as a scarce economic resource, a good, to be utilized by human beings. That is undoubtedly an important part of the story, but it is not all of the story. The economic view is useful, but it is also insufficient and I want to suggest a couple of reasons why it is insufficient.

One anomaly in the economic approach is that it views the environment as just another resource to be consumed by human beings. It is a necessary implication of the economic concept of pollution, that you can have too little pollution. If you think about

37. See Richard L. Stroup & John A. Baden, NATURAL RESOURCES: BUREAUCRATIC MYTHS AND ENVIRONMENTAL MANAGEMENT 87 (1983) ("If the law required that pollution be at a level where marginal pollution control costs exceed marginal damages, then society would lose because a more desired activity is being restricted too much. For instance, if eliminating
pollution solely as a problem of the mis-allocation of resources, then you can have too little pollution. Aggregate public welfare would be increased by trading a little more pollution for something else that would give society more utility. And yet the notion that there can be too little pollution does not really capture the intuitive sense that most of us feel. It is a deeply unsatisfying way to think, to imagine that the purposes of environmental law is to get just the right amount of pollution — not too much, and not too little.

Another way to see that the economic theory of pollution is inadequate is in terms of the Coase parable. Coase’s parable starts out with the example of a farmer and a rancher who live next door to one another, and focuses on the question of who ought to have to build the fence between the two. The point is that, in the absence of transaction costs, it will not matter whether the law puts the obligation to build the fence on the rancher or the farmer. In a case of efficient bargaining, you will get just as many fences built either way, because if it is worthwhile for the cattle rancher to have a fence built, he or she will pay the farmer next door to do it. One of the deeper points of Coase’s parable is that from an economic perspective, it does not make sense to say that either the farmer or the rancher is causing the problem. The concept of a single cause just does not apply to two different competing uses of a single resource.

The Coasean analysis works pretty well when you are talking about two activities like cattle ranching and farming that are on the same level. The second example, though, which Coase gives in his article is of a polluter and the person next door who wants to breathe the air. In that case, I think that the notion that these are just two competing uses, two equally valid competing demands to use the resource, just does not work nearly as well. This is a point that Bill Rodgers, who teaches environmental law at the University of Washington, has made. Most of us would not feel that the right to breathe the air exists on the same normative level as the right to use the air as a garbage dump.

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one unit of pollution reduces pollution damages by $10 but the cost of controlling that unit is $15, then pollution has been reduced too much.

39. Id. See also Frank Michelman, Pollution as a Tort, 80 YALE L.J. 647 (1971).
As we begin to understand the empirical and biological factors that underlie moral norms, it is increasingly apparent that some uses of resources have a higher normative value than others, that they are more likely to command mutual respect from the human community. The simple truth is that some uses of resources stand on something of a higher or more fundamental level than other competing uses of those resources. And this idea has found its way into our law in lots of areas. For example, in water law there has always been a preference for domestic use. There are a number of other areas where some uses are more equal than others.

What I draw out of these examples is that the use of the environment as a resource, the use of the environment as a good, the use of the environment as something that can be bought and traded in markets is certainly part of the story, but it is not everything that is going on. It is crucial that we understand the environment and pollution not just in resource terms as an economic good. The prevailing academic attitude stops there. We must also recognize that there are moral, and I want to suggest, even religious issues, that underlie our society's concerns about protecting the environment.

By "moral" I mean a normative commitment to certain entitlements, particularly the right to life and health. We do not protect people against theft only where it is cost effective to do so. We do not protect people against theft because aggregate efficiency will be enhanced or a mis-allocation of resources would occur. We protect them against theft because we think they have an entitlement not to have their property taken by other people. And I believe that much of the same logic underlies many of our commitments in the environmental law area.

The notion that people have certain minimal entitlements to a safe or clean environment became very clear in the debates in Congress over Title III of the Clean Air Act Amendments of 1990. Title III is the portion of the 1990 Clean Air Act that deals with air toxics. There was a clear commitment in the 1990 legislation, particularly in the Senate bill, that Congress was going to write in a minimum tolerable level of risk. They suggested a lifetime risk of death of one in a million. And they very clearly stated in that

legislation, at least in the Senate version of it, that even if a single person was exposed to a risk greater than ten to the minus six, risk of death from toxic emissions, that the plant ought to be shut down.

Now I think that was a somewhat extreme legislation and I am glad it did not pass in quite that form, but I think that what was being expressed there is the notion that there are fundamental, moral, entitlements to a safe environment. And I think the law as it actually exists carries over many of those kinds of commitments in a somewhat more moderate form. It is EPA policy, as expressed in a ruling about benzene, that the goal of environmental protection ought to be to guarantee everyone that their risks are no greater than ten to the minus four, and to get as many people as you can down to a risk of one in a million. So I think there is the notion that there is a level of risk that is simply intolerable. In other words, what I am saying on the moral level is that I see not only a commitment to environmental protection as a resource or an economic matter, but also as a moral matter for some of the same reasons that we do not allow people to sell their kidneys or sell their children. We do not think it is appropriate that people should be involuntarily exposed to risks greater than a certain level. That is what I mean by the moral dimension.

The religious dimension is even tougher to pin down. I am using the term “religious” in a somewhat odd way because I do not have in mind a religion that is based necessarily on God or the notion of a Supreme Being, but it is a kind of deistic view. What I mean by religion is really that it is a theory that posits the role of human beings in the cosmos. It is a vision of who we are and what our obligations are and what our nature is. And in that sense I think environmentalism really is a religion.

There was a good article by McKibben in The New Yorker a couple of years ago about the meaning of nature. In that article, he proposes that the fundamental thing about nature is its independence - That nature is not something that we can control, but that it is independent of us.

That is a step in the right direction, but I do not think it goes quite far enough. The fundamental thing about nature is not only its independence of us, but also our dependence on it. That vision of the proper relationship between human beings and nature brought to the fore very clearly in some of the current debates about global warming.

I was at a conference in Berlin a couple of weeks ago and one of my American colleagues, Fred L. Smith, argued that global warming is actually a good thing, that it is going to bring about substantial benefits. He argued that as we increase carbon dioxide in the atmosphere, this will be good for plants, so agriculture is going to blossom and we are going to be able to feed the starving masses in the world and therefore, we should not be so concerned about global warming; we should welcome it. As you might imagine, the audience hooted, just as some of you did. Their minds absolutely rebelled from these ideas.

Another friend of mine suggested to me recently that there is a scientific theory that an ice-age comes to North America every 10,000 years because the earth wobbles on its axis, and when it tilts a certain way, an ice-age comes. According to this theory, we are just about due for another one, so global warming is actually a good thing, because it will give us another thousand years before the glaciers come, during which we can learn to populate the other planets.

Again, the mind rebels. My point is not whether these theories are true or not. My point is really that our minds rebel from even considering them. We just do not care whether they are true or not. Our real grounds for being concerned about global warming have very little to do with whether or not our best prediction is that global warming will create net benefits or net costs.

What is scary to many people about the thought of global warming is the very idea of human beings transforming the world's climate. We just do not think it is our business as a species to alter something as fundamental as the world's climate.

That is the underlying strand of environmentalism that I want to describe as fundamentally religious. Many of our western religions, from the Greek notion of hubris through the Garden of Eden, through the Bonfire of the Vanities, have as a central tenet that human beings just are not smart enough to think of everything, so they should not try to run the cosmos.

The fundamental notion that underlies the vision of environmentalism is the relationship between human beings and the
environment. In a brilliant book called *New World, New Mind*,” Robert Ornstein and Paul Ehrlich argue that human beings evolved to be able to deal with large sudden changes in their environment. When we were hunter-gatherers and you suddenly heard a noise in the bushes it might be a saber-toothed tiger. What our perceptions are not really set up to do is to deal with very small changes that take place very slowly in large systems.

One of the ways to understand what environmental protection has been about is to try to develop social institutions that compensate for the shortcomings in our individual perceptions so that we can begin to deal with some of those small and subtle changes in complex systems.

But I think it makes us very, very uncomfortable, it goes against the grain, it is something that we just do not feel is our place to do. I have recently written an article which I call *Against Ludditism*45 and in that article I argue that those who would deal with this problem by trying to preserve things as they are, are really engaged in a fool’s errand. I do not really think that is an option.

My colleague at Yale, Bill Cronon, an environmental historian, has written a brilliant book called *Colonists and the Land* that shows that human beings going back to the native Americans have dramatically changed the environment of the continent through their practices.

What history really teaches us about the future is that it is going to happen, whether we want it to or not. We do not have much alternative as a species but to be in the business of trying to manage the global environment. Our track record in dealing with these kinds of problems counsels modesty as we undertake these decisions.

To illustrate how difficult it is for human beings to manage complex systems, I sometimes ask my students why they do not think it is a good idea to have all corn plants have exactly the same genetic make-up. That is easy. They all understand the concept of genetic diversity, and they say, “What if the environment changes?” We are not smart enough to design a perfect corn

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plant. If the environment changes in some way that we did not foresee, it could all be wiped out.

And that is what I mean by counseling modesty and diversity. Let me over-simplify what the energy policy of the United States has been over the past twenty years. In the 1960's we converted all of our coal-fired powerplants to oil. And then in the 1970's after the Arab oil embargo, we converted all of our oil-fired powerplants to coal. And then because of the acid rain problem in the 1980's, we are now engaged in converting all of those coal-fired powerplants to natural gas. Do you see any pattern here? Human beings are going to have great difficulty coming up with a single centralized vision of what we ought to do that is sufficiently smart enough and that we are comfortable with in the kind of management choices that we are going to face in the years ahead.

VI. TOWARD HYBRID INSTITUTIONS IN ENVIRONMENTAL LAW

So that is my diagnosis. Not only is the current system cumbersome, slow, expensive, and does not do a very good job of setting priorities, I do not think it captures a lot of the underlying sense that made us interested in preserving the environment in the first place.

To deal with a large number of sources of pollution, to set rational priorities among them, we are much more likely to rely on incentive-based systems in the future. But those incentive systems cannot be just economic. They also have to take into account the moral and religious dimensions of environmental protection. For that reason I think it is no coincidence that as far as I am aware, we have never adopted, to date, a pure incentive-based system for regulating the environment. It seems to me unacceptable that people can buy and sell the right to cause harm to other people.46

We will probably continue in the future to have a hybrid system.47 Where we have the information available to set a health


based standard, we will probably do that. But we will probably provide a system of incentives over and above the standards to try to provide an incentive to develop better technologies, to go further, to not just do the minimum that the law requires.

It seems to me to be no coincidence that the first major statute to use an incentive-based system for regulating pollution, namely the Acid Rain Trading System in the 1990 Clean Air Act, was this kind of a hybrid system, which did not replace the pre-existing system of standards but rather was built on top of it to provide a system of incentives to go further.

Focusing on the religious level as well as the economic level, I think any system for regulating pollution is going to have to be much more sensitive to uncertainties. I think the fundamental problem that we have in the environmental area is that it is terrorizing for us to acknowledge how little we really understand. We have to come face to face with the unknown, or fear of the unknown. In designing systems of regulation, we need to be much more sensitive than we have been in the past to building in incentives for developing better information in the future.

Well, the implication of these ideas is that basically we will have to continue to use standards where we have enough information to identify health risks that are really unacceptable. But the system will also have to be supplemented with incentives that provide dynamic incentives to reduce pollution where it is possible to do that and to develop better technologies to eliminate pollution, or to substitute one method of making a product or service for another, which is less harmful to the environment. The final criteria is to set sensible priorities, to allow trade-offs between one set of risks and another set of risks. It is a pretty tall order.

The system that I think meets those criteria best would be a system of charges for the substances that are being put into the environment. Such charges would be set in a rough-and-ready way based on categories. We could put the substances into relatively large categories and then associate charges that were relatively good proxy for the amount of environmental harm that those releases are causing would be. Then we would be making at least a step in terms of creating some incentives in the long run.

The other advantage of a system of environmental charges is that it gives people an incentive to make a decision as to whether or not it is worthwhile to develop better information. If you use some rough-and-ready charges, then you can say to people out in
industry or elsewhere, if we have got it wrong for this chemical, and it is really worthwhile, you develop the information and show us that the charge ought to be 2.5 rather than 3.7. So it provides dynamic incentives for people to decide where it is worthwhile to develop better information.

Talking about a system of standards and a system of charges or other incentives is not to suggest that is the whole solution. On the contrary, what we do in the legal system is probably only the tip of the iceberg. The rest of the iceberg is information and education. If we only obeyed the traffic signals when there was a police officer nearby, we would have chaos. We have forgotten that basic insight to some extent in the environmental area.

Developing and reinforcing a normative view that it is wrong to expose people involuntarily to risks in the environment where we can prevent it is a crucial part of the mission of environmental law. The notion that it is unwise and immoral for people to pollute the environment, are things that I think are very important for the legal system to cultivate.

VII. CONCLUSION

Let me close by suggesting that there can be no final answer to these problems. One of the things that makes environmental law interesting and significant is that it is a never ending quest to perfect the relationship between human beings and the world around them. Environmental law is one of the most ambitious uses of the legal process that human beings have ever tried to make, and increasingly this quest is taking place on a global level. The fundamental mission of environmental law is ultimately to make human systems more compatible with the fundamental order of the universe on which all human activity, including economic activity, depends.
ARTICLES

NATURAL RESOURCE DAMAGES UNDER CERCLA: A NEW BEGINNING?

by Carl W. Breeding and Lloyd R. Cress, Jr.*

INTRODUCTION

Due to tremendous public outcry in the late 1970's, Congress enacted the Comprehensive Environmental Response Compensation and Liability Act (CERCLA)1 to address the ever-increasing problems caused by the careless, and many times ignorant, disposal of hazardous substances. CERCLA has two principle remedial purposes: "to clean up abandoned waste disposal sites and to compensate the public for damage to natural resources from releases of hazardous substances."2 CERCLA seeks to accomplish these purposes by requiring the parties responsible for releases of hazardous substances to bear the cost of the cleanup and the damages to natural resources caused by the release.3 To this end,

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3. 42 U.S.C. §§ 9607(a) and (f) read, in pertinent part:
(a) Covered persons; Scope . . . Notwithstanding any other provision or rule of law, and subject only to the defenses set forth in subsection (b) of this section—
(1) the owner and operator of a vessel or a facility,
(2) any person who, at the time of disposal of any hazardous substance owned or operated any facility at which such hazardous substances were disposed of,
(3) any person who by contract, agreement, or otherwise arranged for disposal or
the responsible party may conduct the cleanup itself, or, the
government may conduct the cleanup using Superfund monies,
then sue the responsible parties for the government's response
costs. In 1986, Congress reemphasized the importance of contin-
uing the clean up of hazardous waste disposal sites and protecting
human health and the environment in enacting the Superfund
Amendments and Reauthorization Act (SARA). This article will
discuss the natural resource damage provision of CERCLA, par-
ticularly addressing the assessment of damages to natural re-
sources due to releases of hazardous substances.

A GENERAL OVERVIEW OF CERCLA NATURAL
RESOURCE DAMAGES

Liability for damage to natural resources under CERCLA is
separate and distinct from liability for response costs. Liability
for response costs involves the costs of removal and remediation
"incurred by the United States Government or a State or an
Indian tribe," or a private party, along with other necessary
treatment, or arranged with a transporter for transport for disposal or treatment,
of hazardous substances owned or possessed by such person, by any other party
or entity, at any facility or incineration vessel owned or operated by another party
or entity and containing such hazardous substances, and
(d) any person who accepts or accepted any hazardous substances for transport to
disposal or treatment facilities, incineration vessels or sites selected by such person,
from which there is a release, or a threatened release which causes the occurrence
of response costs, of a hazardous substance, shall be liable for—
A. all costs of removal or remedial action incurred by the United States Government
or a State or an Indian tribe ...;
B. any other necessary costs of response incurred by any other person ...;
C. damages for injury to, destruction of, or loss of natural resources, including the
reasonable costs of assessing such injury, destruction, or loss ...; and
D. the costs of any health assessment or health effects study ....
(f) Sums recovered by the United States Government as trustee under this sub-
section shall be retained by the trustee, without further appropriation, for use
only to restore, replace, or acquire the equivalent of such natural resources. Sums
recovered by a State as trustee under this subsection shall be available for use
only to restore, replace, or acquire the equivalent of such natural resources by the
State.

42 U.S.C. ch. 103). See also, Superfund Amendments and Reauthorization Act, 1986
6. This article focuses on the impact of CERCLA only; other federal environmental
laws, including the Federal Water Pollution Control Act, 33 U.S.C. §§ 1251-1387 (1988),
also contain Natural Resource Damages provisions.
7. Stanley Pierce, Charlotte Biblow, and Martin O. Klein, NRD Claims Set to Become
costs of response,\textsuperscript{9} in cleaning up a hazardous substance release.\textsuperscript{10} Liability for damage to natural resources, though, is based on the destruction of natural resources caused by a release of a hazardous substance, not the cost of cleanup.\textsuperscript{11}

Section 107(f) of CERCLA\textsuperscript{12} is the provision defining liability for natural resource damages. That section states, in relevant part:

In the case of an injury to, destruction of, or loss of natural resources ... liability shall be to the United States Government and to any State for natural resources within the State or belonging to, managed by, controlled by, or appertaining to such State and to any Indian tribe .... The President, or the authorized representative of any State, shall act on behalf of the public as trustee of such natural resources to recover for such damages.\textsuperscript{13}

Hence, the United States government, the states, or Indian tribes, as trustees, may recover for damage to natural resources owned, managed, or controlled by them. Any money recovered by the trustees are required to be used to restore, replace, or acquire the equivalent of the damaged natural resources.\textsuperscript{14}

I. WHO MAY SUE UNDER SECTION 107(f)

Section 107 of CERCLA identifies the particular persons who may recover for damages to natural resources.\textsuperscript{15} The President of the United States is authorized to designate those federal officials who would act as public trustees for all the natural resources under federal trusteeship.\textsuperscript{16} Those agencies that the President has designated as federal trustees include the Department of the Interior (DOI), the Department of Commerce, the Department of Agriculture, and the Department of Defense.\textsuperscript{17}

\textsuperscript{9} 42 U.S.C. § 9607(a)(4)(B).
\textsuperscript{10} 42 U.S.C. § 9607(a).
\textsuperscript{11} 42 U.S.C. § 9607(f)(1).
\textsuperscript{12} 42 U.S.C. § 9607(f).
\textsuperscript{13} 42 U.S.C. § 9607(f)(1).
\textsuperscript{14} Id. Section 101(16) of CERCLA defines “natural resources” as “land, wildlife, biota, air, water, groundwater, drinking water supplies, and other ... resources.” CERCLA § 101(16), 42 U.S.C. § 9601(16).
\textsuperscript{15} 42 U.S.C. § 9607(f)(2).
\textsuperscript{17} 40 C.F.R. § 300.600 (1991).
As for state trustees, the Governor of each state is required to designate state officials to act on behalf of the public as trustees for natural resources subject to the state's trusteeship. Environmental Protection Agency regulations indicate that tribal chairmen or heads of tribes are to act as trustees for Indian tribes.

Recovery of natural resource damages may be pursued only by these federal, state, and Indian trustees. Recent decisions indicate that municipalities may not recover for damages to natural resources under section 107(f), even though they represent the public. The rationale for excluding municipalities is that CERCLA specifically allows only states, Indian tribes, and the federal government to sue to recover for natural resources damages. It appears that by listing only these persons, CERCLA was intended to exclude recovery by other public entities. Moreover, section 107(f) does not provide for a private right of action for natural resource damages.

Unless more aggressive action by existing trustees is taken in the future, this narrow construction of the potential plaintiffs allowed by CERCLA may prove to be a major flaw in the natural resource damages scheme. The blame lies not with the courts which have been called upon to interpret and apply the statute.
NATURAL RESOURCE DAMAGES

but with the drafters of the statute, who apparently intended to exclude suits by those other than the enumerated trustees.

II. METHODS OF RECOVERY FOR NATURAL RESOURCE DAMAGES

There are two methods through which trustees may recover for damage to natural resources. The first is a direct suit against potentially responsible parties (PRP's). The second is to recover directly from Superfund.

A. Suits Against PRP's

Those PRP's who cause "injury to, destruction of, or loss of natural resources," as a result of releases of hazardous substances, are subject to liability for the damages they cause, including reasonable assessment costs. As set out in section 107(a), potentially responsible parties include the current owner and operator of a facility, past owners and operators of a facility at the time of disposal of hazardous substances, generators of hazardous substances, and others who arranged for the disposal of hazardous substances who selected the disposal or treatment sites. Furthermore, the United States, a state, or a local government are all included in the list of whom may be considered a responsible party under section 107(a).

From CERCLA's inception through the mid-1980's, natural resource damage claims were not vigorously pursued, despite the abundance of sites with potential natural resource damage. An informal survey conducted by the office of the Colorado Attorney General in 1990 indicated that only thirteen out of thirty-seven states which responded to the survey have ever filed a CERCLA

27. 24 U.S.C. § 9601(21) reads:
The term "person" means an individual, firm, corporation, association, partnership, consortium, joint venture, commercial entity, United States Government, State, municipality, commission, political subdivision of a State, or any interstate body.
28. Woodward and Hope, supra note 2, at 192. There are over 1000 sites contaminated enough to be included on the National Priorities List (NPL) and a possible 31,000 other sites to be investigated for inclusion on the NPL, all of which could be the subject of natural resource damage investigations. Id.
natural resource damage claim.\textsuperscript{29} This survey unveiled several possible reasons for the low number of filings, including little precedent to guide trustee action, difficulty in valuation of resources, complacency in developing assessment regulations, and the lack of financial resources necessary to assess damages.\textsuperscript{30} For many of the same reasons, federal trustees have also been reluctant to file natural resource damage actions.\textsuperscript{31}

Recently, however, several natural resource trustees have been active in pursuing compensation for damage to natural resources. A Department of Justice (DOJ) official stated that more emphasis will be placed on natural resource damage suits as federal trustees for the resources "are gearing up for work."\textsuperscript{32} Several state and federal trustees have recently brought suit seeking natural resource damages.\textsuperscript{33} The following cases represent interesting trends in natural resource damage litigation.

In mid-1990, the National Oceanic and Atmospheric Administration (NOAA) filed suit against several companies and the Los Angeles County Sewer District for allegedly discharging polychlorinated biphenyls (PCB's) and dichlorodiphenyltrichloroethane (DDT) into the Pacific ocean off of the southern California coast.\textsuperscript{34} The complaint sought damages for injury to aquatic life along the coast.\textsuperscript{35} In March of 1991, the case against the defendants was dismissed on the natural resource damage issue, but time was given for DOJ to file an amended complaint.\textsuperscript{36} The basis for the dismissal was that DOJ failed to adequately allege what pollutant from which defendant caused injury to a particular natural resource.\textsuperscript{37} DOJ amended its complaint and refiled the suit in August of 1991.\textsuperscript{38} A short time later, the DOJ proposed a

\begin{itemize}
  \item \textsuperscript{29} Id.
  \item \textsuperscript{30} Id. at 192-93.
  \item \textsuperscript{31} Id. at 191.
  \item \textsuperscript{32} Stewart Reflects on DOJ's Status, Limits in Environmental Enforcement Litigation, 21 Envtl Rep. (BNA) 1564, 1565 (Dec. 14, 1990).
  \item \textsuperscript{34} United States v. Montrose Chemical Corp., 788 F. Supp. 1485 (1992).
  \item \textsuperscript{35} Id.
  \item \textsuperscript{37} Id.
  \item \textsuperscript{38} Justice Department Files Revised Complaint in California Natural Resource Damage Case, 22 Envtl Rep. (BNA) 1189 (Aug. 30, 1991).
\end{itemize}
settlement of $12 million with two defendants. The proposed settlement was not finalized until May 14, 1992. This left eight defendants remaining in the case.

A major blow to the pursuit of natural resource damages by all trustees was dealt through the Montrose Chemical decision. The opinion states that CERCLA requires all trustees to allege what natural resources have been injured, the specific location where such injury occurred, when each such injury occurred, and which defendant's releases of what substances were the sole or substantially contributing factor in the injury. This is a much more stringent burden of proof placed on the trustees than the usual strict liability for CERCLA response costs. Trustees will be forced into the tremendously difficult task of tracking particular substances released through various media all the way to their final resting place. The most difficult task, though, will be for trustees to prove the time period when the injury occurred. If the contamination has been ongoing for several years, the original injury may have to be traced back through generations of several natural resources. It is possible, however, that future courts may interpret this proof complication in a manner which will only affect the amount of damages recoverable, rather than the cause of action itself.

Another recently filed natural resource damage case, United States v. Seattle, involves a cleanup in the Seattle area. In March of 1990, the City of Seattle and the Municipality of Metropolitan Seattle (Metro) were sued by NOAA for the alleged discharge of several hazardous substances into a local river and embayment. Following an unsuccessful attempt to have the suit dismissed under CERCLA's three year statute of limitations, the parties proposed a consent decree requiring the payment of $24.25 million to clean up sediment and restore natural resources in the city's

40. Id.
42. Id.
44. Id.
This result demonstrates the vulnerability of municipalities as defendants in natural resource damage suits.

Another interesting issue in natural resource damage litigation is whether any action may be maintained for damages resulting from releases occurring prior to 1980, the effective date of CERCLA, that is, whether the statute has retroactive application. Section 107(f)(1) states "There shall be no recovery under the authority of this section where such damages and the release of a hazardous substance from which such damages resulted have occurred wholly before December 11, 1980."[47]

Unanswered questions remain regarding damages that begin before that date and continue thereafter, and thus, have not wholly occurred before that date. In re Alleged PCB Pollution of Acushnet River and New Bedford Harbor ("Acushnet V")[48] provides an authoritative position on this scenario. There, the court held that where damage to natural resources is readily divisible, there can be no recovery for those damages incurred prior to the enactment of CERCLA.[50] However, where the damages to natural resources are indivisible, and the damages were incurred both before and after the enactment of CERCLA, there may be recovery for the entire, indivisible amount of damages.[51]

To illustrate the magnitude of this decision, it should be applied to the facts of the Montrose Chemical[52] case. If NOAA could prove specific damages dating back decades, and that the damages were indivisible, the defendants could be required to pay for contamination of the entire southern California coast. Although far-fetched, this example illustrates the possible catastrophic damage amounts which could be awarded in natural resource damage cases.

46. NOAA, Tribes, State Settle with Seattle on Cleanup, Restoration of Elliott Bay Area, 22 ENV'T REP. (BNA) 1413 (Oct. 4, 1991). This dollar figure, to date, is the largest amount recovered for marine contamination under CERCLA.
50. In re Alleged PCB Pollution, 716 F. Supp. at 685.
51. Id. at 686.
It should be noted that there are certain statutorily enumerated exceptions to liability for damage to natural resources.\textsuperscript{53} One such exception is that there shall be no recovery for natural resource damages based on federally permitted releases.\textsuperscript{54} This defense, however, was interpreted in a subsequent opinion in the \textit{Acushnet} dispute as being only available for the permitted portion of the release.\textsuperscript{55} If part of the release was not permitted, the defendant is liable for those damages to natural resources attributable to the unpermitted portion.\textsuperscript{56}

A second exception, related to the first, is that there shall be no liability for damages caused by releases which occur due to the implementation of a plan for which an Environmental Impact Statement (EIS) is prepared.\textsuperscript{57} The reason for this exception is that "in certain instances Federal officials make decisions in which resource trade-offs must necessarily be made, and in such cases liability for resource damage under this legislation should be limited .... [W]here the specific resource trade-offs are understood and anticipated ... then no liability under [CERCLA] will accrue ...."\textsuperscript{58} For the defense to apply, the EIS must clearly and unambiguously communicate the idea that the project entails the destruction of natural resources.\textsuperscript{59}

Other potential defenses include failure to provide sixty days notice,\textsuperscript{60} statute of limitations,\textsuperscript{61} pre-enactment releases (as pre-
viously discussed), and the narrow section 107(b) defenses.\(^6\)

**B. Recovery from Superfund**

Under CERCLA, as originally enacted, Superfund monies could be used to satisfy claims for natural resource damage asserted by the Federal Government, Indian tribes or a state.\(^6\) The 1986 Amendments to CERCLA, however, have greatly changed this. Section 111(b)(2)(A) now states that “[n]o natural resource claim may be paid from the Fund unless the President determines that the claimant has exhausted all administrative and judicial remedies to recover the amount of such claim from persons who may be liable under ... this title.”\(^6\) The essence of this provision is that, for recovery from Superfund, there must be no solvent potentially responsible party from whom the trustee may recover for damages to the natural resources.\(^6\)

**C. Citizen Suits to Compel Trustee Action**

As addressed earlier, CERCLA, as presently written and construed by courts, does not provide for a private citizen action to recover for injuries to natural resources. CERCLA, however, does provide a citizen with the authority to compel trustee action. Section 310(a)(2)\(^6\) provides that:

> any person may commence a civil action on his own behalf ... against the President or any other officer of the United States ... where there is alleged a failure of the President or of such other officer to perform any act or duty under this chapter ... which is not discretionary with the President or such other officer.\(^6\)

The main issue under this provision is whether maintaining actions for injury to natural resources is a mandatory duty or is

\(^{62}\) See generally, Marten and McFarland, supra note 31.


\(^{65}\) This section indicates a distinct preference for the use of suits against potentially responsible parties over the use of Superfund monies and appears to be a clear directive from Congress to trustees that they must pursue potentially responsible parties to the fullest extent before falling back on the fund.

\(^{66}\) 42 U.S.C. § 9659(a)(2) (1988)(emphasis added); see supra note 25 for the definition of “person”.

a discretionary decision of the trustee. A solid indication that trustees do not have discretion is found in section 107(f) itself. Within that provision, it is stated that "[t]he President ... shall act on behalf of the public as trustee of such natural resources to recover for such damages." This would seem to indicate that Congress did not intend to give trustees discretion in pursuing damages for injury to natural resources. Hence, it would not be unreasonable to assert that Congress intended to give citizens the right to compel trustee action. However, case law is void of any indication that any such action has been taken by a private citizen.

ASSESSMENT OF NATURAL RESOURCE DAMAGES

CERCLA requires the promulgation of regulations concerning the assessment of damages to natural resources. The DOI is the agency responsible for establishing the standards. CERCLA provides the time period within which the standards must be issued, and sets out the type of regulations to be promulgated. Under this facially plain mandate, it would seem that there should be no difficulty in promulgating and implementing standards relating to assessment of natural resource damages. However, as will be seen, due to administrative complacency and adverse judicial decisions, the process of assessing damages to natural resources has been left in a state of disarray. The remainder of this article will discuss the various methods used to assess natural resource damages and the treatment given them by the courts.

I. STATUTORY PROVISIONS

CERCLA section 301(c) is the enabling provision for assessment of natural resource damages. That section states:

(1) The President ... shall study and, not later than two years after December 11, 1980, shall promulgate regulations for the assessment of damages for injury to, destruction of, or loss of natural resources resulting from a release of oil or a hazardous
substance .... Notwithstanding the failure of the President to promulgate the regulations required under this subsection on the required date, the President shall promulgate such regulations not later than 6 months after October 17, 1986.\textsuperscript{72}

In turn, the President delegated the responsibility for promulgating these regulations to the DOI.\textsuperscript{73} Even though these regulations were originally required to be completed by December 11, 1982,\textsuperscript{74} the regulations were not promulgated until 1986 and 1987 by DOI.\textsuperscript{75} Section 301(c)(2) of CERCLA required promulgation of two types of regulations, "Type A" and "Type B."\textsuperscript{76}

"Type A" rules were to be "standard procedures for simplified assessments requiring minimal field observation, including establishing measures of damages based on units of discharge or release or units of an affected area."\textsuperscript{77} "Type B" rules were to specify "alternative protocols for conducting assessments in individual cases to determine the type and extent of short and long-term injury, destruction, or loss [of natural resources]."\textsuperscript{78} The significance of these assessment procedures and the weight they carry is clearly set out in CERCLA: "[a]ny determination or assessment of damages to natural resources ... made by a Federal or State trustee in accordance with the regulations promulgated under Section 9651(c) of this title shall have the force and effect of a rebuttable presumption on behalf of the trustee in any administrative or judicial proceeding ...."\textsuperscript{79} Although the assessment procedures set out by DOI are not mandatory, they must be followed to obtain CERCLA's rebuttable presumption.\textsuperscript{80}

\textsuperscript{72} Id.


\textsuperscript{74} 42 U.S.C. § 9651(c)(1).

\textsuperscript{75} See infra, notes 81 and 94.

\textsuperscript{76} 42 U.S.C. § 9651(c).

\textsuperscript{77} 42 U.S.C. § 9651(c)(2)(A). These rules were intended to govern most minor spills and releases. S. Rep. No. 848, 96th Cong., 2d Sess. 86 (1980).


\textsuperscript{80} 43 C.F.R. § 11.10 (1991).
II. DEPARTMENT OF THE INTERIOR REGULATIONS

A. "Type B" Rules

The DOI promulgated the "Type B" rules on September 2, 1986,\textsuperscript{81} which establish a four-phase process for individualized assessments. The first phase is the "pre-assessment phase." In this phase, the trustee makes an initial determination whether there is a reasonable probability of making a successful claim before monies and efforts are expended in carrying out an assessment.\textsuperscript{82} If it is determined that relevant natural resources are at risk, for which response actions will not remedy, and there is sufficient data to pursue an assessment, a natural resource damage assessment will be implemented.\textsuperscript{83}

If further action is warranted, the second phase requires the trustee to prepare an assessment plan.\textsuperscript{84} The purpose of the plan is to ensure that the assessment is conducted in a planned, cost-effective, and systematic manner.\textsuperscript{85}

Execution of the assessment follows approval of the plan.\textsuperscript{86} This is the third phase. Three steps are involved: (1) injury determination, in which it is established whether natural resources have, in fact, been injured;\textsuperscript{87} (2) injury quantification, where the trustee quantifies the extent of the injury;\textsuperscript{88} and (3) damage determination, which seeks to ascertain the actual dollar amount of damages caused by the release.\textsuperscript{89}

The final phase for individual assessments is post-assessment.\textsuperscript{90} In this phase, a Report of Assessment is prepared and a written demand for a sum certain is made upon PRP's.\textsuperscript{91} The PRP is given 60 days to acknowledge and respond to the demand.\textsuperscript{92} All monies received from PRP's must be placed either in an account

\textsuperscript{81} 51 Fed. Reg. 27,674 (1986)(codified at 43 C.F.R. Part 11 (1991)).
\textsuperscript{82} 43 C.F.R. \S\S 11.20-.25 (1991). This phase includes notification of trustees concerning releases, performance of necessary emergency action, the taking of limited field samples, and a preliminary identification of resources at risk.
\textsuperscript{83} 43 C.F.R. \S 11.23(e) (1991).
\textsuperscript{84} 43 C.F.R. \S\S 11.30-.35 (1991).
\textsuperscript{85} 43 C.F.R. \S 11.30(b) (1991).
\textsuperscript{86} 43 C.F.R. \S\S 11.60-.90 (1991).
\textsuperscript{87} 43 C.F.R. \S\S 11.61-.64 (1991).
\textsuperscript{88} 43 C.F.R. \S\S 11.70-.73 (1991).
\textsuperscript{89} Id.
\textsuperscript{90} 43 C.F.R. \S\S 11.90-.93 (1991).
\textsuperscript{91} 43 C.F.R. \S 11.91(a) (1991).
\textsuperscript{92} 43 C.F.R. \S 11.91(d) (1991).
of the trustee or in an account payable, owned by the potentially responsible party, in trust to the trustee.\textsuperscript{93}

\textbf{B. \textit{"Type A"} Rules}

DOI "Type A" regulations became effective April 20, 1987.\textsuperscript{94} These rules for simplified assessments currently apply only to coastal and marine environments.\textsuperscript{95} The same four-phase process established in the "Type B" rules is used for "Type A" assessment. However, the assessment phase of the process is done by the use of the Natural Resource Damage Assessment Model for Coastal and Marine Environments (NRDAM/CME), a computer model which incorporates various site-specific factors to determine physical fates, biological effects, and economic damages related to hazardous substance releases.\textsuperscript{96} Up to this point, DOI has not developed a computer model for environments other than coastal and marine environments.\textsuperscript{97}

\textbf{C. Valuation Methodologies for Damaged Natural Resources}\textsuperscript{98}

DOI regulations identify particular methodologies which should be used to place a value on damage to natural resources. These rules require that damage to natural resources be valued at "the lesser of: restoration or replacement costs; or diminution of use values . . ."\textsuperscript{99} According to the DOI regulations, when dealing with methods involving "use-values," recovery is limited to the diminution in the market value of the resource, unless the trustee determines that the market for the resource is not "reasonably competitive."\textsuperscript{100}

If the market is not competitive, an appraisal to estimate market value "shall be used if sufficient information exists."\textsuperscript{101}

\footnotesize
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\bibitem{95}43 C.F.R. § 11.41(a) (1991).
\bibitem{96}43 C.F.R. § 511.41 (1988); see also Ward, supra note 18.
\bibitem{97}Ward, supra note 18.
\bibitem{100}43 C.F.R. § 11.83(c) (1991).
\end{thebibliography}
Non-market based values may be used only if an actual market value or an accurate appraisal is not available. One such non-market based alternative method authorized by DOI regulations is the contingent valuation methodology. This is commonly referred to as the "Market Value Hierarchy." Also, DOI regulations require a trustee, when considering use-values, to consider only "committed uses." Committed uses include "either: a current public use; or a planned public use of a natural resource for which there is a documented, legal, administrative, budgetary, or financial commitment before the ... release of a hazardous substance is detected." The purpose of this requirement is to prevent purely speculative uses of the injured resource from being considered in the estimation of damages.

III. EFFECT OF DISTRICT OF COLUMBIA CIRCUIT COURT DECISIONS

Soon after the DOI issued its regulations concerning the assessment of damages to natural resources, the regulations were challenged. The result of this litigation was to completely overhaul the regulatory scheme pertaining to natural resource damage assessments.

A. Ohio v. Department of the Interior

The Ohio case was a consolidated case in which "10 states, three environmental organizations ("State and Environmental Petitioners"), a chemical industry trade association, a manufac-

103. 43 C.F.R. § 11.83(d)(5)(i) (1991). This method "includes all techniques that set up hypothetical markets to elicit an individual's economic valuation of a natural resource." Id.
104. See Olsen, supra note 98.
108. Ohio v. United States Dep't of the Interior, 880 F.2d 432 (D.C. Cir. 1989) (challenging "Type B" rules); Colorado v. United States Dep't of the Interior, 880 F.2d 481 (D.C. Cir. 1989) (challenging "Type A" rules); see also Ward, supra note 18; Olson, supra note 98; and Kopp, supra note 98. The regulations were challenged by environmental groups, trade associations, and many states. The states and environmental groups argued the regulations were too lenient, while the trade associations claimed they were too restrictive.
turing company, and a utility company ("Industry Petitioners") challenged the validity of DOI's "Type B" regulations relating to individual assessments of natural resource damages.\footnote{10} In reviewing the DOI regulations, the court first determined that the proper standard of review was that set forth in \textit{Chevron, U.S.A., Inc. v. Natural Resource Defense Council, Inc.},\footnote{11} because the issues presented dealt with an agency's interpretation of a statute — in enacting CERCLA's natural resource damage provisions, DOI's interpretation of CERCLA.\footnote{12} The court held that Congress had an express intent and that DOI's regulations would be struck down if not consistent with that intent.\footnote{13}

\subsection{The "Lesser-of" Rule}

One of the key issues in \textit{Ohio}, with regard to the valuation of damages to natural resources, was whether the DOI properly valued natural resource damages to be equal to the "lesser-of" restoration or replacement costs and diminution of use-values.\footnote{14} State and environmental parties argued "that CERCLA requires damages to be at least sufficient to pay the cost, in every case, of restoring, replacing, or acquiring the equivalent of the damaged resources."\footnote{15} According to those parties, if the use-value methodology were used, the particular resources would be under valued; hence, damages would not be sufficient to place the resources in a pre-injury position.\footnote{16}

DOI defended its rule, arguing that CERCLA does not provide a "floor" for damages but instead accords DOI discretion in deciding what damages should be.\footnote{17} After a thorough survey\footnote{18}

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\begin{itemize}
\item[110.] Id. at 438.
\item[111.] 467 U.S. 837 (1984). In sum, that standard of review is to first determine whether Congress has directly spoken to the precise question at issue. If so, the agency must give effect to Congressional intent. If the statute is ambiguous or Congress has not spoken on the issue, the court must defer to the agency's interpretation of the statute as long as it is reasonable and consistent with the statutory purpose. \textit{Id.}, at 842-43.
\item[112.] \textit{Ohio}, 880 F.2d at 441.
\item[113.] Id.
\item[114.] Id. at 441. "The most significant issue in this case concerns the validity of the regulation providing that damages for despoilment of natural resources shall be 'the lesser of: restoration or replacement costs; or diminution of use values.'" \textit{Id.} citing 43 C.F.R. § 11.35(b)(2) (1987).
\item[115.] \textit{Ohio V. United States Dep't of the Interior}, 880 F.2d 432, 442 (D.C. Cir. 1989).
\item[116.] Id.
\item[117.] Id.
\item[118.] Id. The \textit{Ohio} court laboriously explained the assessment provisions found in the statute and regulations promulgated pursuant thereto.
\end{itemize}
}
of the natural resource provisions of CERCLA, the court held that Congress "established a distinct preference for restoration cost as the measure of recovery in natural resource damage cases"\(^{119}\) and thus, the "lessor-of" rule is "directly contrary to the expressed intent of Congress."\(^{120}\)

According to the court, the precise question presented in the case was "whether DOI [was] entitled to treat use-value and restoration cost as having equal presumptive legitimacy as a measure of damages."\(^{121}\) Key to the analysis was where DOI drew the line as to whether restoration cost or use-value would be used.\(^{122}\) DOI drew the line where restoration cost exceeds use-value.\(^{123}\) According to the court, Congress preferred restoration costs; therefore, DOI should have drawn the line where restoration becomes practically impossible or where the cost of restoration would be "grossly disproportionate" to the use-value of the resource.\(^{124}\) Hence, it appears the DOI regulation would have been upheld had DOI given substantial preference to the use of restoration cost over use-value, reserving the right to use the use-value methodology only in those rare cases where restoration cost was grossly disproportionate to use-value. However, because DOI chose to draw that line on a "which costs less" basis, the regulation was invalid under Chevron's "Step One" as being directly in conflict with Congressional intent.\(^{125}\)

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\(^{119}\) Id. at 459. The court also noted DOI is not precluded from establishing cases to which a different standard would be appropriate.

\(^{120}\) Id. at 442. To illustrate the practical differences between the use-value methodology and the restoration cost methodology, the court offered an interesting hypothetical situation:

[Imagine a hazardous substance spill that kills a rookery of fur seals and destroys a habitat for seabirds at a sea life reserve. The lost use value of the seals and seabird habitat would be measured by the market value of the fur seals' pelts (which would be approximately $15 each) plus the selling price per acre of land comparable in value to that on which the spoiled bird habitat was located. Even if, as likely, that use value turns out to be far less than the cost of restoring the rookery and seabird habitat, it would nonetheless be the only measure of damages eligible for the presumption of recovery under the Interior rule. Id.]

\(^{121}\) Id. at 443.

\(^{122}\) Id.

\(^{123}\) Id.

\(^{124}\) Id. at 444.

\(^{125}\) Id. at 442-43. Even though DOI's regulation seems preferable to economists, (see Kopp, supra note 98), it is obvious that it would not provide natural resource trustees with sufficient funds "to restore, replace, or acquire the equivalent of" the natural resources that were damaged, as Congress intended.
ii. The "Committed Use" Requirement

A second aspect of the regulation dealt with in Ohio was the "committed use" requirement. Environmentalists objected to DOI's requirement that a resource have a "committed use" before it can be considered for damages under CERCLA. Their grounds for objection lie in the fact that few resources, especially those in remote areas, have documented existing uses, especially before a release occurs. The court, however, did not accept this contention.

The court held that DOI's "committed use" requirement was reasonable but noted the limited circumstances in which it applies. The key to this concept's validity is that it only applies to the calculation of use-values. According to the court, the "committed use" requirement was a reasonable construction of CERCLA because it avoids the need for unreliable, and likely self-serving speculation regarding future possible uses. Congress mandated that DOI use the "best available" methodologies and this requirement, as applied to use-value, was determined to meet this mandate for damages determination.

iii. The Market Value Hierarchy of Assessment Methods

The Market Value Hierarchy regulations were also attacked in Ohio by environmental groups who claimed that the regulations were not a reasonable interpretation of CERCLA, even though Congress had not spoken on the issue.

In agreeing with the environmental petitioners' argument, the court found that, even though market value is one factor, it is unreasonable to consider market value as the exclusive factor in valuing natural resources. As a matter of fact, the court recognized that many natural resources owned, operated, or man-

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127. Id. at 461.
128. Id.
129. Id. at 462.
130. As was earlier indicated, this method may only be used when restoration costs are not the proper valuation methodology, supra note 102 and accompanying text.
131. Ohio, 880 F.2d. at 462.
132. Id. (citing 42 U.S.C. § 9651(c)(2)).
133. Id. at 462 (noting this argument goes to the second prong of the Chevron test. See supra note 111 and accompanying text.).
134. Id. "From the bald eagle to the blue whale and snail darter, natural resources have values that are not fully captured by the market system." Id. at 462-63.
aged by the government have no market at all. According to the court, the contingency section appended to DOI's hierarchy, providing for non-market methodologies as a "last chance method" for valuation, did not satisfy the fatal problem. There would still be a strong presumption in favor of using market-based analyses, which defeats the intent of Congress in finding the best available procedures for determining natural resource damages.

iv. Contingent Valuation Method.

The Contingent Valuation Method (CV), which is a non-market based valuation methodology, was next attacked in Ohio. The CV Method can be used for many purposes. For instance, such a method could be used "to determine how much individuals would be willing to pay to have the option to enjoy viewing a natural resource they are not now using ... ("option value"). [This method] may also be used to determine how much people would pay to know that a [certain natural resource] exists for the benefit of current and future generations, even though they themselves do not intend to see or enjoy the resource personally ("existence value")."

Trade association petitioners attacked this method claiming that it amounts to nothing more than a public opinion poll, which fosters speculative values and overestimation in contravention of CERCLA. The court disagreed stating that DOI's decision to adopt the CV Method as a "best available procedure" for valuing natural resources was cautiously and intelligently made after careful design and pretesting. Therefore, the CV Method is consistent with CERCLA.

v. Status of "Type B" Regulations

In Ohio, the court upheld DOI regulations relating to the "committed use" methodology, the adoption of contingent valua-

135. Id. at 463.
136. Id.
137. Id. at 463-64. Congress intended to fully capture all aspects of natural resource losses.
138. Id. at 474-81.
139. Olson, supra note 98.
141. Id. at 476.
tion methodology, and other miscellaneous regulations relating to natural resource damages.\textsuperscript{142} As to these, DOI is permitted to apply these methods in accordance with CERCLA. However, the court remanded to DOI, for further consideration, those regulations relating to the "lesser of" rule and the Market Hierarchy of Assessments methodology.\textsuperscript{143} On April 29, 1991, DOI published a notice of proposed rulemaking seeking comments on proposed amendments to the "Type B" regulations.\textsuperscript{144} However, the regulations are yet to be finalized.

B. Colorado v. Department of the Interior\textsuperscript{145}

\textit{Colorado v. Department of the Interior}\textsuperscript{146} was the sister case of \textit{Ohio v. Department of the Interior}.\textsuperscript{147} The District of Columbia Circuit in \textit{Colorado} addressed the validity of the Department of the Interior's "Type A" regulations.\textsuperscript{148} The issue was whether DOI's regulations, intended to provide "standard procedures for simplified assessments" as required by CERCLA, actually comply with that enabling provision.\textsuperscript{149}

DOI promulgated "Type A" rules to deal only with relatively small releases affecting coastal and marine environments. The rules require the use of a computer model, which uses databases containing general chemical, biological, and economic information to determine, quantify, and assess economic damages to natural resources.\textsuperscript{150} The computer model incorporates many aspects of DOI's "Type B" rules, including the "lesser-of" rule.

Parties opposed to DOI's "Type A" rules claimed that the regulations were invalid for two reasons. First, they asserted

\begin{itemize}
  \item \textsuperscript{142} Id. at 481. The court also upheld "Type B" regulations dealing with; (a) adoption of a ten percent discount rate, (b) treatment of PRP's, (c) limitation on recovery of assessment costs, (d) acceptance criterion, (e) audit requirements, and (f) unavailability of punitive damages. \textit{Id.}
  \item \textsuperscript{143} Id.
  \item \textsuperscript{144} 56 Fed. Reg. 19752 (Apr. 29, 1991).
  \item \textsuperscript{145} 880 F.2d 481 (D.C. Cir. 1989).
  \item \textsuperscript{146} Id.
  \item \textsuperscript{147} Id. at 483.
  \item \textsuperscript{148} Id.
  \item \textsuperscript{149} Id. (citing 42 U.S.C. § 9604(c)(2)(A)).
  \item \textsuperscript{150} Natural Resources Damages Assessments Model for Coastal and Marine Environments (NRDAM/CME). 43 C.F.R. § 11.41(a)(1) (1991).
  \item \textsuperscript{151} See 43 C.F.R. §§ 11.30-84 (1991).
\end{itemize}
that, since the regulations have such limited applicability, these regulations are arbitrary, capricious, an abuse of discretion, and not in accordance with law. The second challenge was that, since the "Type A" rules share the same flaws as the "Type B" rules held invalid in Ohio, the "Type A" rules should likewise be remanded.

As a threshold matter, the court held that CERCLA does not offer as thorough a directive for "Type A" rules as it did for "Type B" rules. Therefore, the analysis focused on whether the agency's action was reasonable and consistent with CERCLA.

The court determined that Congress intended "Type A" rules to be used to deal with "most minor" release sites, including those involving coastal and marine environments and thus, held that DOI's decision to narrow the scope of its "Type A" rules to coastal and marine environments was a reasonable interpretation of CERCLA. According to the court, studies support DOI's decision, indicating that the majority of "small" hazardous substance releases occur near coastal and marine environments. Moreover, the court was satisfied with DOI's explanation for promulgating rules dealing only with these environments. These environments were chosen as the subject for the first "Type A" procedure because much more extensive information was available on the fate and effects of discharges or releases of oil or hazardous substances in these environments than for other ecosystems and natural resources. Therefore, the use of NRDAM/CME and its limited applicability were upheld.

However, the "Type A" rules were remanded to the DOI for further consideration in light of the ruling in Ohio. On remand,

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152. Colorado v. United States Dep't of the Interior, 880 F.2d. 481, 485 (D.C. Cir. 1989). "Type A" regulations only deal with narrow class of discharges to coastal or marine environments.
153. Id.
154. Id.
155. Id. at 486-87 (citing 42 U.S.C. § 9651(c)(2)).
156. This is "Step Two" of the Chevron test. See supra note 111 and accompanying text.
159. Id. at 486. Petitioners referenced DOI's own report that only 15 to 20% of said releases occur in the targeted environments.
160. Id. at 490.
162. Colorado, 880 F.2d at 489-90.
163. Id. at 491.
DOI was instructed to follow Congressional intent and "to develop standard procedures for simplified assessments of natural resource damages."\textsuperscript{164}

CONCLUSION

The statutorily-mandated liability for injury to, destruction of, or loss of natural resources under section 107(f) of CERCLA is a necessary response to a difficult situation. Response costs under CERCLA 107(a) are designed to facilitate clean ups and prevent further damage created by releases of hazardous substances, along with compensating those saddled with the unfortunate burden of cleaning up those releases. If that were the only remedy identified by the statute, natural resources would fall victim to releases of hazardous substances, because the only compensation for that loss would consist of reimbursement for the costs incurred in cleaning them up. However, an additional remedy has been provided; section 107 supplements the action to recover response costs with the mandate that damaged natural resources be restored or replaced with the pre-injury equivalent.

The system will not be executed properly, however, unless those placed in charge of recovering for injury to natural resources take frequent action when the opportunity presents itself. The recent trend toward trustee action is a step in the right direction. Each and every release of a hazardous substance that affects publicly owned property has the potential to cause some sort of injury to natural resources; these potential threats to our resources must be pursued.

However, one must keep in mind that damages for injury to natural resources may be extremely costly. Since the costs are high, it is necessary to exact a high burden of proof on the trustee. There is no room for mistake in imposing such large damages. A responsible party should be required to pay for the restoration of damaged resources; a "probable" responsible party should not. The standards required in the Montrose Chemical\textsuperscript{165} case serve to ensure that the tremendous burden of restoring natural resources is placed on the shoulders of correct parties.

\textsuperscript{164} Id. The revised regulations are yet to be promulgated.

In the past, natural resource damages under CERCLA have not been pursued as vigorously as Congress intended. The entire blame, however, should not be placed on natural resource trustees. It is very difficult to maintain any type of action when the method of calculating damages is so unsettled. Even though DOI's amended regulations relating to the assessment of damages to natural resources will soon be promulgated, pursuant to the guidance provided by the District of Columbia Circuit, they are sure to be challenged. With this future in mind, it is necessary for Congress to step in and provide additional guidance for the measure of damages. Congress should specifically set out in CERCLA what the standards for the measurement of damages to natural resources should be. Although statutes are general by nature, a specific delineation of damages is necessary to prevent further questions as to what is required to replace injured natural resources. It is highly significant that the methodology prescribed by Congress to determine the value of damaged natural resources be extremely accurate and inflexible. Emotions tend to cloud the minds of some when it comes to fighting "what is right." Assessing the value of natural resources should not become a method of levying punitive damages; rather, it should be a true and accurate reflection of what it would cost to replace those resources.
I. INTRODUCTION

Two years after the Bankruptcy Code was revamped, Congress promulgated the Comprehensive Environmental Response, Compensation and Liability Act. Although the two statutes represented major legislative initiatives and were promulgated close in time, some significant tensions exist which reflect conflicting statutory goals. The Bankruptcy Code is designed to provide the debtor with a "fresh start" by either discharging or discounting most of the debtor's liabilities. This massive discharge of liability is achieved by according a broad reading to the term "claim" so as to encompass even remote, contingent legal obligations. On the other hand, CERCLA casts a broad net over all parties responsible for contributing to the contamination of a hazardous waste site by imposing strict, joint and several liability for the costs, both past and future, associated with cleaning up the site. In addition to requiring the polluter to pay, Congress intended to delay litigation until after the site had been cleaned up. The tension between these two statutes exists, therefore, because the Bankruptcy Code is designed to discharge even the most remote liabilities.
liability while CERCLA is designed to impose liability upon every polluter, no matter how remote the connection between the polluter and the site might have been.

II. APPLICABLE STATUTORY PROVISIONS

A. The Bankruptcy Code

The Bankruptcy Reform Act of 19784 codified much of the common law that had been developed under the Bankruptcy Act of 1898.5 The entity seeking bankruptcy relief is now referred to as a “debtor,”6 as the former term “bankrupt” was thought to have negative connotations.7 The Bankruptcy Code affords debtors an opportunity to select from a variety of bankruptcy relief, depending on the nature of the debtor’s finances, liabilities, and legal status. Chapters 7, 11, and 13 of the Code represent the three most frequently encountered types of bankruptcy relief in which issues relating to environmental liabilities arise. These chapters are governed by the generally applicable provisions contained in Chapters 1, 3, and 5 of the Bankruptcy Code. Although filed in federal court, bankruptcy actions also implicate certain state laws, including the Uniform Commercial Code, the state common law pertaining to various subjects, and other state statutory and common law.

Chapter 7 is entitled “Liquidation”8 and applies to traditional or “straight” bankruptcy cases involving liquidation of all of the

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6. The Code defines a “debtor” as a “person or municipality concerning which a case under this title has been commenced.” 11 U.S.C. § 101(13). The Code has provided a broad definition for “person,” including corporations and partnerships within the ambit of debtor: “person” includes individual, partnership, and corporation, but does not include governmental unit, Provided, however, that any governmental unit that acquires an asset from a person as a result of operation of a loan guarantee agreement, or as receiver or liquidating agent of a person, will be considered a person for purposes of section 1102 of this title[.]
debtor's non-exempt property in return for a discharge of indebtedness. The debtor in a Chapter 7 bankruptcy surrenders the non-exempt portion of its real and personal property to the trustee. The trustee for the bankruptcy estate then "liquidates" or sells the property and pays the proceeds of the sale to creditors in pro-rata shares, which may or may not be de minimis.

Chapter 11, entitled "Reorganization," is designed to enable a financially troubled debtor to continue operations while restructuring its debt. Chapter 11 reorganizations bring to mind the industrial giant restructuring its debts in complex and commercially sophisticated proceedings. Indeed, some of America's largest corporations including Texaco, Johns-Manville, LTV Steel, Baldwin United, Federated Department Stores, Sunbeam Corporation, and Wheeling-Pittsburgh Steel Corporation have enjoyed successful reorganizations under Chapter 11. This image, however, is only partially accurate. Each year thousands of small business concerns also file for Chapter 11 relief. Should reorganization efforts fail, as they do in about seventy-eight percent of the filings, the action may be converted to a Chapter 7 liquidation.

Chapter 13 is entitled "Adjustment of the Debts of an Individual with Regular Income" and allows the partial payment or restructuring of an individual's debts over time in return for a discharge of indebtedness. The debtor in a Chapter 13 action surrenders a portion of its disposable income to a Chapter 13 trustee on a weekly or monthly basis for a period not to exceed five years. In return, the debtor receives a very comprehensive discharge of indebtedness. As with Chapter 11 actions, the debtor under Chapter 13 is entitled to convert the action to a Chapter 7 liquidation.

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9. In bankruptcy cases involving individuals, both state and federal law provide certain exemptions from the reach of the trustee. This property is "exempt" and may be kept by the Debtor for his own use. See 11 U.S.C. § 522.
13. Id.
17. 11 U.S.C. § 1328.
B. Environmental Statutory Provisions

Bankruptcy courts typically encounter issues related to environmental liabilities in situations where the debtor has generated, stored, transported, or disposed of hazardous substances or wastes on or near the debtor's real property. These environmental issues often implicate the Resource Conservation and Recovery Act (RCRA)\textsuperscript{19} and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA),\textsuperscript{20} two federal environmental statutes which were promulgated close in time to the Bankruptcy Reform Act of 1978.

The Resource Conservation and Recovery Act establishes a regulatory scheme to identify hazardous wastes, to track these wastes from generation to final disposal, and to develop and implement new storage, treatment, and disposal techniques.\textsuperscript{21} This "cradle to grave" tracking mechanism is designed to minimize the generation of hazardous wastes and to ensure that hazardous wastes are disposed of in an environmentally sound manner.\textsuperscript{22} One mechanism for effectuating the goals of RCRA is a provision enabling the Environmental Protection Agency (EPA) to compel responsible parties to clean up hazardous waste sites which are found to pose an "imminent and substantial hazard to public health."\textsuperscript{23}

\begin{itemize}
\item [20.] Supra note 2.
\item [21.] RCRA, 42 U.S.C. §§ 6920-6939b.
\item [22.] Id.
\item [23.] RCRA, 42 U.S.C. § 6973. This section provides, in relevant part:
\begin{itemize}
\item [a] Authority of [EPA]
\end{itemize}
\begin{itemize}
\item Notwithstanding any other provision of this chapter, upon receipt of evidence that the past or present handling, storage, treatment, transportation or disposal of any solid waste or hazardous waste may present an imminent and substantial endangerment to health or the environment, the [EPA] may bring suit on behalf of the United States in the appropriate district court against any person (including any past or present generator, past or present transporter, or past or present owner or operator of a treatment, storage, or disposal facility) who has contributed or who is contributing to such handling, storage, treatment, transportation or disposal to restrain such person from such handling, storage, treatment, transportation, or disposal, to order such person to take such other action as may be necessary, or both . . . .
\end{itemize}
While RCRA allows the federal government to monitor the industry practices of the generation, handling, storage, treatment, transportation, and disposal of both solid and hazardous wastes, RCRA does not deal effectively with the problem of inactive or abandoned waste sites. Additionally, the statute “only applies when the site's owner is ascertainable, responsible for the facility, and financially capable of paying for the site's clean up costs.” Thus, RCRA was designed to regulate hazardous waste management both in the present and in the future. Legislation was needed, therefore, to rectify the inadequate hazardous waste management practices of the past.

In 1980, Congress passed CERCLA. By authorizing the EPA to regulate present releases of hazardous substances from closed or abandoned waste sites, CERCLA supplemented RCRA and thereby strengthened the federal government's approach to hazardous waste management. CERCLA established a $1.6 billion "Superfund" to provide funding for the cleanup of hazardous substances. This Superfund was significantly augmented by the 1986 Superfund Amendments and Reauthorization Act which established a Superfund of $13.6 billion.

25. Id.
27. CERCLA was promulgated to effectuate two essential purposes: First, Congress intended that the federal government be immediately given the tools necessary for a prompt and effective response to the problems of national magnitude resulting from hazardous waste disposal. Second, Congress intended that those responsible for problems caused by the disposal of chemical poisons bear the costs and responsibility for remedying the harmful conditions they created. To give effect to these congressional concerns, CERCLA should be given a broad and liberal construction.

29. 42 U.S.C. § 9611. This section provides, in relevant part:
For the purposes specified in this section there is authorized to be appropriated from the Hazardous Substance Superfund established under Subchapter A of chapter 96 of Title 26 not more than $8,500,000,000 for the 5-year period beginning on October 17, 1986, and not more than $5,100,000,000 for the period commencing October 1, 1991, and ending September 30, 1994, and such sums shall remain available until expended. The preceding sentence constitutes a specific authorization for the funds appropriated under title II of Public Law 99-160 (relating to payment to the Hazardous Substances Trust Fund)....
CERCLA provides two mechanisms for accessing the Superfund; it may be assessed through EPA-directed response actions or through privately initiated civil actions. Under the statutory scheme, the EPA is authorized to respond directly to a release or threatened release of hazardous substances at a facility. The EPA may then "remove or arrange for the removal of, and provide for remedial action relating to such hazardous substance." The EPA will typically respond directly if it is unable to locate the responsible parties or if the release requires immediate action and the responsible parties are reluctant to comply. CERCLA also authorizes the EPA to either seek an injunction or issue an Administrative Order to compel the responsible parties to pay for or perform the removal and remediation themselves.

If the EPA conducts a response action using Superfund monies, it is authorized to institute a cost-recovery action against "responsible parties" to recoup the costs associated with the response action. These cost-recovery actions are brought by the United States government on behalf of the EPA. CERCLA au-

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32. It is important to note that CERCLA applies to a "release or a threatened release" of hazardous substances. This language is significant when discussing environmental and bankruptcy issues because it has become a term of art in the environmental arena while "discharges" and "releases" are terms of art, with different meanings, in the bankruptcy context.
33. 42 U.S.C. § 9604. This section provides, in relevant part:
   Whenever (A) any hazardous substance is released or there is a substantial threat of such a release into the environment, or (B) there is a release or substantial threat of release into the environment of any pollutant or contaminant which may present an imminent and substantial danger to the public health or welfare, the [EPA] is authorized to act, consistent with the national contingency plan, to remove or arrange for the removal of, and provide for remedial action relating to such hazardous substance, pollutant, or contaminant at any time (including its removal from any contaminated natural resource), or take any other response measure consistent with the national contingency plan which the [EPA] deems necessary to protect the public health or welfare or the environment.
34. 42 U.S.C. § 9604(a)(1).
36. 42 U.S.C. § 9607(a)(4)(A). The phrase "responsible parties" is the source for the frequently-used acronym "PRP" (Potentially Responsible Party) which applies to those individuals falling within the ambit of Section 107 (42 U.S.C. § 9607) of CERCLA.
Authorizes the recovery of "all costs of removal or remedial action incurred by the United States Government or a State ... not inconsistent with the national contingency plan." As such, the EPA is entitled to recover not only the Superfund monies expended, but other costs such as attorneys' fees.

If a private party voluntarily assumes the cost of a clean up action, that party may either seek reimbursement through Superfund or file a private cost recovery action seeking contribution from another responsible party. A private party seeking reimbursement from the Superfund is required to demonstrate that the clean up action involved a site on the National Priorities List (NPL) and that the clean up action was consistent with the National Contingency Plan (NCP).

38. 42 U.S.C. § 9607(a)(4)(A). The National Oil and Hazardous Substances Pollution Contingency Plan, better known as the National Contingency Plan (NCP) is defined as "the national contingency plan published under section 1321(c) of Title 33 [The Federal Water Pollution Control Act, more commonly known as the Clean Water Act] or revised pursuant to section 9605 of this title." 42 U.S.C. § 9601(31). Section 1321(c)(2) of the Clean Water Act provides that:


[Clontemplates that those responsible for hazardous waste at each site must bear the full cost of cleanup actions and that those costs necessarily include both direct costs and a proportionate share of indirect costs attributable to each site.

R.W. Meyer, 889 F.2d at 1504.


42. The National Priorities List (NPL) is a list of sites targeted for Superfund response.
A private cost recovery action, the alternative to seeking reimbursement from the Superfund, may proceed against any and all responsible parties.\textsuperscript{44} Section 107, the liability provision of CERCLA, identifies four main groups of potentially responsible parties (PRPs):

(1) an owner or operator of a vessel or a facility,
(2) any person who at the time of disposal of any hazardous substance owned or operated any facility at which such hazardous substances were disposed of,

actions. As noted by the court in In Re National Gypsum Co., 139 B.R. 397 (N.D. Tex. 1992):

The NPL is intended to prioritize releases or threatened releases throughout the United States for the purpose of taking remedial action. See 42 U.S.C. \$ 9605(a)(8)(A).

The criteria for establishing priorities is set by statute and takes into account the population at risk, the hazard potential of the substances, potential of contaminating drinking water supplies and ambient air, and potential for destruction of ecosystems, among a number of other factors.

In Re National Gypsum Co., 139 B.R. at 401 n.4.

Local sites on the NPL include: Arcanum Iron & Metal (Drake County, Ohio); United Scrap Lead Co., Inc. (Troy, Ohio); Miami County Incinerator (Troy, Ohio); Chem-Dyne (Hamilton, Ohio); A.L. Taylor Valley of Drums (Brooks, Kentucky); Brantley Landfill (Island, Kentucky); Summit National (Deerfield Township, Ohio); Industrial Excess Landfill (Uniontown, Ohio); Bowers Landfill (Circleville, Ohio); Nease Chemical (Salem, Ohio); Allied Chemical & Ironon Coke (Ironton, Ohio); Ormet Corp. (Hannibal, Ohio); South Point Plant (South Point, Ohio); Fields Brook (Ashtabula, Ohio); Distler Brickyard (West Point, Kentucky); Fort Hartford Coal Co. Stone Quarry (Olaton, Kentucky); Also Annaconda (Gnadenhuttten, Ohio); Lee’s Lane Landfill (Louisville, Kentucky); Fultz Landfill (Jackson Township, Ohio); Coshcohton Landfill (Franklin Township, Ohio); Red Penn Sanitation Co. Landfill (Peewee Valley, Kentucky); TRW, Inc.’s Minerva Plant (Minerva, Ohio); Newport Dump (Newport, Kentucky); Howe Valley Landfill (Howe Valley, Kentucky); Laskin/Poplar Oil Co. (Jefferson Township, Ohio); Old Mill (Rock Creek, Ohio); Zanesville Well Field (Zanesville, Ohio); Sanitary Landfill Co./IWD (Dayton, Ohio); Pristine, Inc. (Reading, Ohio); Buckeye Reclamation (St. Clairsville, Ohio); Distler Farm (Jefferson County, Kentucky); E.H. Schilling Landfill (Hamilton Township, Ohio); Caldwell Lace Leather Co., Inc. (Auburn, Kentucky); Tri-City Disposal Co. (Shepherdsville, Kentucky); Aireco (Calvert City, Kentucky); Van Dale Junkyard (Marietta, Ohio); B.F. Goodrich (Calvert City, Kentucky); General Tire/Rubber (Mayfield, Kentucky); Smith’s Farm (Brooks, Kentucky); Maxey Flats Nuclear Disposal (Hillsboro, Kentucky); Powell Road Landfill (Dayton, Ohio); Reilly Tar & Chemical (Dover, Ohio); New Lyme Landfill (New Lyme, Ohio); Big D Campground (Kingsville, Ohio); Skinner Landfill (West Chester, Ohio); Republic Steel Corp. Quarry (Elyria, Ohio); and Green River Disposal, Inc. (Maceo, Kentucky).

The following federal facilities are also on the NPL: Wright-Patterson Air Force Base (Dayton, Ohio); Feed Materials Production Center/USDOE (Fernald, Ohio); and Mound Plant/USDOE (Miamisburg, Ohio).

43. \textit{Supra} note 39.

44. CERCLA section 113 provides that: “Any person may seek contribution from any other person who is liable or potentially liable under section 9607(a) of this title . . . .” 42 U.S.C. \$ 9613(f)(1).
(3) any person who ... arranged for disposal or treatment ... of hazardous substances ... at any facility ..., an

d(4) any person who accepts or accepted any hazardous substances for transport to disposal or treatment facilities, from which there is a release, or a threatened release which causes the incurrence of response costs, of a hazardous substance, shall be liable for—

(A) all costs of removal or remedial action incurred by the United States Government or a State ... [and]

(B) any other necessary costs of response incurred by any other person consistent with the national contingency plan. 

Courts have noted that Congress misdrafted this section and clearly intended the italicized portion to relate not only to Section 107(a)(4), the provision to which the phraseology is appended, but to Sections 107(a)(1)-(3) as well. As the language in Section 107(a)(4)(A) indicates, responsible parties are liable to the plaintiff in a private party cost recovery action for “any ... necessary costs of response incurred by [the plaintiff] consistent with the national contingency plan.” If a person is found to fall within the ambit of Section 107(a)(1)-(4), that person is strictly liable for the costs incurred in responding to the release of hazardous substances at the facility. 

CERCLA has been interpreted by Congress and the courts as imposing strict, joint and several liability on a responsible party.

45. 42 U.S.C. § 9607(a) (emphasis added).


47. 42 U.S.C. § 9607(a)(4)(A). CERCLA liability for response costs in a private cost recovery action attaches upon a showing that the defendant from whom costs are sought: (1) is a responsible party under section 107(a)(1)-(4) (42 U.S.C. § 9607(a)(1)-(4)); (2) that the site in question is a “facility” as that term is defined in section 101(9) (42 U.S.C. § 9601(9)); (3) that there has been a “release” (as defined at 42 U.S.C. § 9601(22)) of a “hazardous substance” (as defined at 42 U.S.C. § 9601(14)) at the facility or that such a “release” is threatened; that the plaintiff has incurred “response” costs (as defined at 42 U.S.C. § 9610(25)); and (5) that the response costs incurred are consistent with the NCP.


49. United States v. Chem-Dyne Corp., 572 F. Supp. 802 (S.D. Ohio 1983). Although both the House and the Senate deleted provisions imposing joint and several liability from their respective versions of the 1980 legislation, such deletions did not signal an intention to reject the imposition of joint and several liability.

Rather, the term was omitted in order to have the scope of liability determined under common law principles, where a court performing a case by case evaluation
Thus, if the damage caused by a site is indivisible, an ascertainable responsible party could be held jointly and severally liable for the entire cost of the clean up, even if that party was only slightly at fault. Consequently, the available defenses are very limited.

III. THE AUTOMATIC STAY

Section 362(a) of the Bankruptcy Code, the automatic stay, provides that the filing of a petition operates to stay a wide range of legal proceedings against the debtor. The policy behind this provision is two-fold. First, it provides the debtor with the breathing room necessary to formulate a reorganization plan or to liquidate. Second, the stay establishes a setting in which the interests of all of the creditors, secured and unsecured, are treated with fairness and equity. The automatic stay effectively stops most legal proceedings initiated against the debtor, including suits by government entities, subject to the exception discussed below. While post-petition claims resulting from post-petition activity are not subject to the automatic stay, post-
petition claims, even when not discovered until post-petition, are subject to the automatic stay if they are found to arise from pre-petition activity.53

Congress, however, created a police and regulatory power exception to the automatic stay. Subsections 362(b)(4)-(5) provide that the filing of a petition does not operate as a stay:

(4) ... of the commencement or continuation of an action or proceeding by a governmental unit to enforce such governmental unit's police or regulatory power; [or]
(5) ... of the enforcement of a judgment, other than a money judgment, obtained in an action or proceeding by a governmental unit to enforce such governmental unit's police or regulatory power.54

The legislative history behind the police power exception indicates an intention to permit governmental units to carry out their regulatory functions in an unfettered manner despite the pendency of a bankruptcy proceeding.55 The police power exception applies to government-initiated proceedings involving the enforcement of statutes or regulations that have been promulgated pursuant to the state's police power.56 In promulgating the police power exception, Congress recognized "that enforcement of the environmental protection laws merits a higher priority than the debtor's rights to a 'cease fire' or the creditors' rights to an orderly administration of the estate."57

55. The legislative history provides, in part:
Paragraph (4) excepts commencement or continuation of actions and proceedings by governmental units to enforce police or regulatory powers. Thus, where a government unit suing a debtor to prevent or stop violation of fraud, environmental protection, consumer protection, safety or similar police or regulatory laws, or attempting to fix damages for violation of such law, the action or proceeding is not stayed under the automatic stay.
While a governmental unit is not precluded from pursuing an administrative or judicial proceeding against a debtor under Section 362(b)(4), the enforcement of a money judgment is subject to the automatic stay under Section 362(b)(5). Therefore, any effort by the government to clean up the debtor's facility pursuant to CERCLA falls within the police power exception to the automatic stay. The governmental unit may also pursue administrative or judicial proceedings to the point of obtaining a judgment against the debtor. The creditor cannot begin execution proceedings based upon the judgment, however, unless and until the stay is lifted, because the judgment will then be treated as a money judgment and actions to enforce money judgments are not excepted from the stay.

In evaluating the applicability of the automatic stay to a particular proceeding, the governmental interest sought to be protected and the nature of the proceeding should be assessed. The police power exception was intended to "permit governmental units to pursue actions to protect the public health and safety and do[es] not apply to actions by a governmental unit to protect a pecuniary interest in property of the debtor or property of the estate." The courts have therefore applied the public policy and pecuniary purpose tests in determining whether an action falls within the ambit of the police power exception. Under this analysis, a governmental unit's action relating to matters of public health and safety will fall within the statutory exception to the automatic stay. On the other hand, if such an action relates primarily to a protection of the government's pecuniary interest in the debtor's property, then the action will be subject to the automatic stay.

59. Id. at 275.
60. Id.
63. See City of New York v. Exxon Corp., 932 F.2d 1020 (2nd Cir. 1991)(CERCLA cost-recovery action not subject to the automatic stay); United States v. Nicolet, Inc., 857 F.2d 292 (3rd Cir. 1988)(prosecution of an action to recover past and future cleanup costs under CERCLA not subject to the automatic stay); In re Commerce Oil Co., 847 F.2d 291 (6th Cir. 1986)(state's action for injunctive relief and for assessing or fixing civil fines
If the proceeding is one where the state is "seeking a monetary sum merely as collection of a debt or as compensation for reclamation it had already performed," then the state's action is subject to the automatic stay. The result is less clear where the state is seeking injunctive relief in the form of a cease and desist order, a claim for penalties or fines, or a clean up order. The debtor in such actions will frequently argue that the relief sought is tantamount to an action to enforce a money judgment and, as such, falls within the exception to the exception enumerated in Subsection 362(b)(5). Determining whether an action for injunctive relief is, in substance, an action to enforce a money judgment has been the subject of considerable litigation.

The Court of Appeals for the Third Circuit addressed this question in Penn Terra Ltd. v. Department of Environmental Resources. The Pennsylvania Department of Environmental Resources (DER) issued thirty-six citations to Penn Terra, a mining operation, for the violation of various state environmental statutes. DER and Penn Terra then entered into a consent order whereby Penn Terra agreed to rectify the infractions. The consent order required Penn Terra to engage in reclamation efforts, using its own equipment. Penn Terra subsequently filed

and penalties under environmental laws not subject to the automatic stay: "[P]unishing wrongdoers, deterring illegal activity, recovering remedial costs of damage to the environment, providing for the costs of administration and weighing the social and economic value of a discharge source are exercises of the state's regulatory power to effectuate public policy and are not actions based upon the state's property interest." In re Commerce Oil Co., 847 F.2d at 296; Matter of Commonwealth Oil Refining Co., 805 F.2d 1175 (5th Cir. 1986), cert. denied, 483 U.S. 1005 (1987); EPA actions requiring compliance with environmental laws not subject to the automatic stay; Penn Terra Ltd. v. Department of Envtl. Resources, 733 F.2d 267 (3rd Cir. 1984); action seeking to enforce consent order requiring debtor to engage in reclamation efforts to both restore the environment and prevent future harm to the environment not subject to the automatic stay). See also Ohio v. Kovacs, 469 U.S. 274 (1985); In re Dant. & Russell, Inc., 853 F.2d 700 (9th Cir. 1988); United States v. Jones & Laughlin Steel Corp., 804 F.2d 348 (6th Cir. 1986); United States v. Mattiace Indus., 73 B.R. 816 (E.D.N.Y. 1987); In re Norwesco Dev. Corp., 68 B.R. 123 (W.D. Pa. 1986); United States v. Gregory & Sons, Inc., 58 B.R. 390 (W.D. Pa. 1986); United States v. Standard Metals Corp., 49 B.R. 623 (D. Colo. 1985); In re Lenz Oil Serv., Inc., 65 B.R. 292 (N.D. Ill. 1984).

64. Commerce Oil Co., 847 F.2d at 295.
65. See note 60 herein.
66. 733 F.2d 267 (3d Cir. 1984).
67. Id. at 269.
68. Id.
69. Id. at n.2.
a Petition for Bankruptcy Relief under Chapter 7 of the Code.\textsuperscript{70} DER brought an equitable action in state court seeking to enforce the consent order and the court granted the preliminary injunction.\textsuperscript{71} In response to the filing of Penn Terra's petition for contempt in the Bankruptcy Court alleging that DER's injunction was subject to the automatic stay, the Bankruptcy Court enjoined the enforcement of the state court order.\textsuperscript{72} The decision of the Bankruptcy Court was affirmed by the district court, which held that DER's action was subject to the automatic stay because it represented an effort to enforce a money judgment.\textsuperscript{73} The Court of Appeals for the Third Circuit reversed, holding that the relief sought by DER was a legitimate exercise of the police power, not an effort to enforce a money judgment.\textsuperscript{74} As such, DER's action fell within the police power exception to the automatic stay.

In analyzing the police power exception to the automatic stay, the Third Circuit noted that although the general exception should be broadly construed, the exception to the exception should be narrowly construed.\textsuperscript{75} The court found additional support for reading the police power exception to the automatic stay in favor of the state by pointing to the availability of alternative relief under Section 105 of the Code.\textsuperscript{76}

The relief sought by DER, enforcement of the consent order, was held to be a legitimate exercise of the police power,\textsuperscript{77} rather than an effort by DER to protect a pecuniary interest in Penn Terra's property.\textsuperscript{78} In so holding, the court sought to define the phrase "enforcement of a money judgment" in order to determine

\textsuperscript{70} Id. at 270.
\textsuperscript{71} Id.
\textsuperscript{72} Id.
\textsuperscript{73} Id. The district court reasoned that: "[T]he effect of [DER's] action [seeking to enforce the consent order], in light of the disparity between the costs and funds available to do the reclamation work, was to collect a money judgment against Penn Terra." Id.
\textsuperscript{74} Id. at 278-79.
\textsuperscript{75} Id. at 272-73.
\textsuperscript{76} Id. at 273. Section 105 of the Code arguably affords the Bankruptcy Court with the equitable power to stay an action that would otherwise be exempted from the automatic stay. 11 U.S.C. § 105.
\textsuperscript{77} Penn Terra Ltd. v. Department of Envtl. Resources, 733 F.2d 267, 274 (3rd Cir. 1984)("No more obvious exercise of the State's power to protect the health, safety, and welfare of the public can be imagined.")
\textsuperscript{78} Id. at 274 n.6.
whether the relief requested by DER was subject to the automatic stay. The court reasoned that a money judgment consisted of two elements: "(1) an identification of the parties for and against whom judgment is being entered[: and (2) a definite and certain designation of the amount which plaintiff is owed by defendant." The entry of such a money judgment by a governmental unit is not subject to the automatic stay; Congress only prohibited the enforcement of the money judgment.

The court found that DER's action was not an attempt to "enforce a money judgment because the proceeding could never have resulted in the adjudication of liability for a sum certain." In addition, the court noted that the consent order was designed to restore the environment and prevent future harm to the environment. Because the goal of the relief sought was the prevention of future harm, an action which is incapable of being reduced to a "sum certain," this was held to fall outside the definition of an action to "enforce a money judgment." In determining whether an action was one to enforce a money judgment, the court appeared to focus on the nature of the injuries sought to be redressed and the nature of the requested remedy. If the requested remedy is one seeking compensation for past damages, then the government's claim will be subject to the automatic stay. On the other hand, if the injunction is seeking

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79. Penn Terra, 733 F.2d at 274.
80. Id. at 275.
81. Id. at 275.

The paradigm for such [an enforcement] proceeding is when, having obtained a judgment for a sum certain, a plaintiff attempts to seize property of the defendant in order to satisfy that judgment. It is this seizure of a defendant-debtor's property, to satisfy the judgment obtained by a plaintiff-creditor, which is proscribed by Subsection 362(b)(5).

Id. (footnotes omitted).
82. Penn Terra, 733 F.2d at 275.
83. Id. at 278.
84. Id. at 276-78. The court noted that in looking to the substance of the instant action, the mere onus on the debtor to make expenditures in order to comply with an order is insufficient to render that order a money judgment. Most injunctions require either expenditures or losses of money. Significantly, "the mere payment of money ... could not satisfy the Commonwealth Courts direction to complete the back filling, to update erosion plans, to seal mine openings, to spread topsoil, and to implement plans for erosion and sedimentation control." Id. at 278.
to prevent future harm, the government action will be exempted from the stay.\textsuperscript{86}

Another important feature of Section 362 of the Code is the exception relating to criminal proceedings.\textsuperscript{87} Subsection 362(b)(1) provides that the filing of a bankruptcy petition does not operate as a stay "of the commencement or continuation of a criminal action or proceeding against the debtor."\textsuperscript{88} This exception is of particular significance given the increased enforcement of environmental laws emphasized by the current administration.

In most cases, debtors will try to obtain the benefits of the automatic stay with respect to as many enforcement proceedings as possible. To do so, they will seek to characterize enforcement proceedings as attempts to collect money from the estate, to the detriment of the other creditors. While each case turns upon its own facts and equities, it seems likely that actions to prevent or alter future conduct have a good chance of being excepted from the stay, even if they force the debtor to spend money. It is also probable that most attempts to compel the debtor to redress old wrongs by paying for cleanup are within the scope of the stay. The truly difficult cases involve the combination of these two varieties of actions.

IV. DISCHARGEABILITY OF CLAIMS

A. Generally

The Bankruptcy Code provides a mechanism whereby a debtor's obligations may be discharged to an extent dependent upon the nature of the bankruptcy filing. Section 727 mandates that "[t]he court shall grant the debtor a discharge[,]" subject to certain enumerated exceptions.\textsuperscript{89} "This section is the heart of the fresh start provisions of the bankruptcy law."\textsuperscript{90} Section 1141 provides that the confirmation of a reorganization plan discharges the Chapter 11 debtor from certain pre-confirmation obligations.\textsuperscript{91}

\textsuperscript{86} Id.
\textsuperscript{87} 11 U.S.C. § 362(b)(1).
\textsuperscript{88} Id.
\textsuperscript{89} 11 U.S.C. § 727(a).
\textsuperscript{91} 11 U.S.C. § 1141(d)(1)(A).
The discharge provision applicable to Chapter 13 debtors is Section 1328.92 All discharges under the Code are subject to the exceptions to discharge enumerated in Section 523.93

These discharge provisions are significant when environmental liabilities are at issue, for only "claims" are dischargeable under the Code. A debtor will thus argue that any and all environmental liabilities are "claims," and therefore, subject to discharge. Because the Bankruptcy Code has adopted a very broad definition of "claim,"94 little dispute has resulted from the question: "What is a claim?" A resolution to the question: "When does a claim arise?" has been much more troubling to the courts.

In Chapter 11 cases, the issue of when the claims arise is often determinative of the rights and duties of the parties. Chapter 11 will not protect a debtor from liability for claims arising postpetition, and as to such claims, the debtor is responsible for full payment. Chapter 11 does allow debtors to pay only a fraction of their liabilities on prepetition claims, and allows them to do so over time, with or without interest. Obviously, Chapter 11 debtors will seek to treat as many claims as possible as prepetition claims, to obtain the benefits of the automatic stay and the right to pay only a portion of the claim amounts.

B. The Timing of Claims

The most recent case to closely analyze the question of when an environmental claim arises for bankruptcy purposes was In re National Gypsum Co.95 The case involved a Chapter 11 petition filed by National Gypsum and its parent corporation, Aancor Holding Inc.96 The United States filed a proof of claim on behalf

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94. Section 101(5) provides that:
   "claim" means —
   (A) right to payment, whether or not such right is reduced to judgment, liquidated, unliquidated, fixed, contingent, matured, unmatured, disputed, undisputed, legal, equitable, secured or unsecured; or
   (B) right to an equitable remedy for breach of performance if such breach gives rise to a right to payment, whether or not such right to an equitable remedy is reduced to judgment, fixed, contingent, matured, unmatured, disputed, undisputed, secured, or unsecured;
96. Both National Gypsum Co. and Aancor Holding Inc. will be hereinafter referred to collectively as "the debtors."
of the EPA and the Department of Interior. The proof of claim listed seven sites at which the debtors were alleged to have disposed of hazardous substances. Also at issue were potential CERCLA claims associated with at least thirteen additional sites. While these sites were not listed on the United States' proof of claim, the United States did reserve its right to assert CERCLA claims as to the unlisted sites.

The court noted that the EPA had taken some action and incurred costs as to each of the seven sites, each of which had been listed on the NPL. As to some of the sites, the EPA also conducted Remedial Investigation and Feasibility Studies, issued Records of Decision, issued Administrative Consent Orders, and/or incurred response costs. The United States asserted insufficient information and "other reasons within the

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97. National Gypsum, 139 B.R. at 399-400.
98. Id. at 400.
99. Id.
100. Id. at 402.
101. Id.
102. Id.

Once a site has been placed on the National Priorities List (following a preliminary assessment and public notice and comment), a Remedial Investigation and Feasibility Study is conducted "to determine the nature and extent of the threat presented by the release and to evaluate proposed remedies." 40 C.F.R. § 300.68(d) 42 U.S.C. § 9604(a).

National Gypsum, 139 B.R. at 402 n.11.


After completion of the Remedial Investigation and Feasibility Study, EPA selects an appropriate remedy from among the range of alternatives considered for the site. See 40 C.F.R. §§ 300.68(a)-(j). The remedial decision is based upon the administrative record developed during the Investigation and Study, and must satisfy the statutory cleanup standards, which include all "applicable" and "relevant and appropriate" federal[,] state and local laws. See 42 U.S.C. § 9621(d). CERCLA requires EPA to publish notice of any proposed remedial plan and afford an opportunity for public comment before adopting the plan. See [Id. § 9617. EPA embodies its final remedy selection in a Record of Decision. See 40 C.F.R. § 300.68.

National Gypsum, 139 B.R. at 402 n.12.


After EPA issues a Record of Decision, it can solicit or compel potentially responsible parties to perform the removal or remedial action. Section 106(a) of CERCLA authorizes EPA to issue an Administrative Order directing responsible parties to perform the EPA-selected remedy. See 42 U.S.C. § 9606. Additionally, CERCLA authorizes the Attorney General to seek judicial relief to compel responsible parties to perform the remedy. See 40 C.F.R. § 300.68.

National Gypsum, 139 B.R. at 402 n.13.

prosecutorial discretion of the United States" as the bases for not listing the additional sites on its proof of claim. Nonetheless, the United States did not challenge the debtors' contention that, at all of the sites not listed on the proof of claim, "the alleged conduct occurred pre-petition, a release or threat of release existed pre-petition, and the first response costs were incurred pre-petition." 

In assessing whether future response costs and future natural resource damage costs at sites listed on the United States' proof of claim were "claims" subject to discharge, the court in National Gypsum adopted a "fair contemplation" test. The court concluded that the timing of a "claim," for purposes of the bankruptcy proceeding, was dependent upon whether the pre-petition conduct by the debtors resulted in a release or threatened release of hazardous substances at the site that could have been fairly contemplated by the parties at the time the bankruptcy petition was filed. According to the court, any conduct that could be fairly contemplated by the parties at the time of the bankruptcy gives rise to a dischargeable claim.

The Court of Appeals for the Second Circuit provided the backdrop for the "fair contemplation" test in In re Chateaugay Corp. Chateaugay also involved a determination of whether future CERCLA response costs were "claims" subject to discharge. The Second Circuit looked to both tort and contract law to determine when a "claim" arose. Under tort law, tortious pre-petition conduct by the debtor resulting in a post-confirmation manifestation of an injury can give rise to a claim. The court noted, however, that tort law was not readily transferable to the context of future CERCLA response costs. On the other hand, a contractual relationship "brings contemplation of contingencies which bring many ultimately maturing payment obligations based

106. Id. at 403.
107. Id. at 412.
108. Id. at 409.
109. Id.
110. Id.
111. 944 F.2d 997 (2d Cir. 1991).
112. Id. at 1003-05.
113. Id. at 1004.
on pre-petition conduct within the definition of ‘claims’.\textsuperscript{115}

The Second Circuit analogized future CERCLA response costs to contract claims:

Though there does not yet exist between EPA and [the debtor] the degree of relationship between claimant and debtor typical of an existing though unmatured contract claim, the relationship is far closer than that existing between future tort claimants totally unaware of injury and a tort-feasor. EPA is acutely aware of [the debtor] and vice versa. The relationship between environmental regulating agencies and those subject to regulation provides sufficient “contemplation” of contingencies to bring most ultimately maturing payment obligations based on pre-petition conduct within the definition of “claims”.\textsuperscript{116}

As such, EPA’s claims for future CERCLA response costs arising out of pre-petition conduct by the debtor which resulted in a pre-petition release or threatened release of hazardous substances were held to be “contingent” and within the Code’s definition of “claims”.\textsuperscript{117}

The \textit{National Gypsum} court argued that this definition was too broad.\textsuperscript{118} Indeed, \textit{Chateaugay} would appear to treat even an undiscovered pre-petition release or threatened release as a “claim” dischargeable in bankruptcy given the EPA’s role as regulator.\textsuperscript{119} The \textit{National Gypsum} court agreed that the timing of a “claim” should be determined by the pre-petition conduct of the debtor giving rise to the release or threatened release, but disagreed

\begin{itemize}
\item \textsuperscript{115} A.M. International, supra note 115 at *35.
\item \textsuperscript{116} Chateaugay, 944 F.2d at 1005.
\item \textsuperscript{117} Id.
\item \textsuperscript{118} The court noted that “[t]he \textit{Chateaugay} ruling covers releases that have occurred pre-petition, even though they have not been discovered by EPA or anyone else.” In re \textit{National Gypsum}, 139 B.R. 397, 407 (N.D. Tex. 1992).
\item \textsuperscript{119} \textit{In re Chateaugay Corp.}, 944 F.2d 977, 1005 (2d Cir. 1991). The court noted that:
\begin{quote}
The relationship between environmental regulating agencies and those subject to regulation provide sufficient “contemplation” of contingencies to bring most ultimately maturing payment obligations based on pre-petition conduct within the definition of “claims.” True, EPA does not yet know the full extent of the hazardous waste removal costs that it may one day incur and seek to impose upon [the debtor], and it does not even know the location of all the sites at which such wastes may yet be found. But the location of these sites, the determination of their coverage by CERCLA, and the incurring of response costs by EPA are all steps that may fairly be viewed, in the regulatory context, as rendering EPA’s claim “contingent,” rather than as placing it outside the [Bankruptcy] Code’s definition of “claim.”
\end{quote}
\end{itemize}
with the *Chateaugay* analysis because the costs associated with such conduct may not be "fairly within the contemplation of the parties pre-petition." The court therefore held that "all future response and natural resource damages cost[s] based on pre-petition conduct that can be fairly contemplated by the parties at the time of Debtors' bankruptcy are claims under the Code." In addressing the United States' argument that such an interpretation will encourage the EPA to delay any expenditures when confronted with a bankruptcy-related site, the *National Gypsum* court responded by referring to the legislatively mandated performance goals set forth in CERCLA.

The court noted a number of factors which would be relevant in determining whether future CERCLA response costs based on pre-petition conduct of the debtor would be within the fair contemplation of the parties: "Such factors include knowledge by the parties of a site in which a PRP may be liable, NLP listing, notification by EPA of PRP liability, commencement of investigation and cleanup activities, and incurrence of response costs." The presence of one or more of these factors at sites listed on the United States' proof of claim permitted "a speedy and rough estimation of CERCLA claims for purposes of determining EPA's voice in the Chapter 11 proceedings with ultimate liquidation of the claims to await the outcome of normal CERCLA enforcement proceedings."

Also at issue in *National Gypsum* was a question relating to the debtors' liabilities associated with sites not listed on the

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122. The court in *National Gypsum* noted that:

> Congress has set performance goals for EPA to meet in studying a certain number of hazardous sites each year. Congress has further required that the relevant government agency move diligently with remedial investigation and feasibility studies for the purpose of assessing and responding to natural resource damages. The time scheme governing EPA under CERCLA by necessity is altered when it comes in contact with the [Bankruptcy] Code. In order for the EPA to preserve its claims in regard to a PRP in bankruptcy, its duties are triggered by the mere discovery of a site linked to the Debtors, and extends to such activity that would allow a rough and speedy estimation of CERCLA claims under the [Bankruptcy] Code.

*National Gypsum*, 139 B.R. at 409 (citations omitted).
123. *Id.* at 408.
124. *Id.* at 408 (quoting *Chateaugay*, 944 F.2d 997 at 1006).
United States' proof of claim. The debtors filed a declaratory judgment action seeking a determination that the claims arising out of pre-petition conduct at these sites were dischargeable "claims." In response to objections by the United States, the court concluded that while CERCLA contained the requisite specific statutory waiver of sovereign immunity to permit the declaratory judgment action, Section 113(h) of CERCLA served as a jurisdictional bar to the action because the United States had filed a proof of claim and had therefore engaged in an enforcement action in the bankruptcy court. Deciding that the court had jurisdiction to address the question, the court ruled that any other construction of the jurisdictional bar rules would allow the government to circumvent the objectives of the Bankruptcy Code simply by failing to file proofs of claim.

Although Bankruptcy Rule 3003(c)(2) bars any claim not listed on the proof of claim, the United States reserved the right to seek permission to amend the proof of claim. The court concluded that the nature of the legal issues at bar fell within the judicial interpretation of "excusable neglect," thereby justifying granting an extension of time within which to file an amended proof of claim.

Finally, the National Gypsum court addressed the issue of whether response costs incurred by the government in connection with property owned by the debtors would be accorded administrative expense priority. "Administrative expenses" under the

126. Id. at 410.
129. Any other reading would allow the United States, by not filing a Proof of Claim, to preserve its claims for all sites for post-bankruptcy proceedings to the detriment of all other creditors whose claims are discharged, and of the Debtors to the extent post-bankruptcy environmental claims impacts their ability to effectively reorganize. In short, any other reading would allow the United States to completely circumvent the objectives underlying the [Bankruptcy] Code.
National Gypsum, 139 B.R. at 411 (footnote omitted).
130. National Gypsum, 139 B.R. at 400.
131. The court noted that: "The novel nature of the legal issues presently before the Court constitute the 'unique' or 'extraordinary circumstances' required to excuse a creditor's failure to file by the bar date." In re National Gypsum, 139 B.R. 397, 412 (N.D. Tex. 1992)(citation omitted).
133. Id. at 412.
Bankruptcy Code include "the actual and necessary costs and expenses of preserving the estate, including wages, salaries, or commissions for services rendered after commencement of the case." A general unsecured claim, such as the government's claim for response costs incurred at the various sites, is elevated to administrative expense status only when the action giving rise to the claim occurred post-petition. The court noted that:

In accord with the Supreme Court's recognition of a bankruptcy trustee or debtor's obligations in *Midlantic*, lower courts have allowed the payment of response costs incurred post-petition, based on conduct occurring pre-petition, as administrative expenses where the costs were necessary to remedy conditions that pose an "imminent and identifiable" threat to the public health or safety.

A fair reading of the *National Gypsum* case indicates that the following elements must be shown by the government before a cost recovery claim will be accorded administrative expense priority: (1) the response costs are associated with property owned by the debtor; (2) the response costs were incurred post-petition, even if the conduct giving rise to the response action occurred pre-petition; and (3) the costs were necessary to remedy conditions that pose an imminent and identifiable threat to the public safety.

The *National Gypsum* court was quick to accord administrative priority expense status to costs of cleanup that it found necessary to remedy conditions that posed an imminent and identifiable threat to public health or safety. In doing so, the Court cited *Chateaugay*, and a number of other cases. However, the Court's analysis was rather thin, considering the impact of according cleanup expenses administrative priority status.

Administrative expenses must be paid by the debtor in full, without delay. By according these expenses administrative pri-
ority status, the Court deprived unsecured creditors of money that would otherwise be available to them in satisfaction of their claims through the Chapter 11 process. In the environmental area, many situations could be characterized as posing imminent and identifiable threats to public health or safety. It seems questionable whether it is appropriate for bankruptcy courts to easily or routinely characterize cleanup expenses as administrative claims, when the effect of doing so is to reduce the money available for a Chapter 11 plan. The logical conclusion of this characterization is that in some cases, insufficient funds will remain to be committed to Chapter 11 plans, and confirmation and reorganization will therefore be impossible. Absent a reorganized debtor to pay claims under a plan, the claims will not be paid, and unsecured creditors will receive no dividend at all. Under these circumstances, it seems preferable to allow the debtor to reorganize to pay some dividend both to its unsecured creditors, and to the environmental agencies responsible for cleanup costs. Unsecured creditors in the Chapter 11 context have recognized for many decades that it is necessary to compromise on claims to achieve any benefit at all; it does not seem unreasonable to expect environmental agencies to reach the same conclusion.

By putting the gloss of “fair contemplation” on the definition of claim, appellate courts faced with environmental issues may be giving insufficient weight to the concepts of contingent and unliquidated claims found in the Bankruptcy Code. The statutory definition of claim was intended to be broad enough to encompass nearly any activity giving rise to any obligation on the part of the debtor to pay money or do some other act.\footnote{139} It is only by grouping all pre-petition claims under one umbrella of discharge that Chapter 11 is able to function at all. By introducing the element of fair contemplation into the equation, courts are injecting an element of uncertainty into what had otherwise been a well-settled and critically important area of bankruptcy law.

(a) the following expenses and claims have priority in the following order:
(1) First, administrative expenses allowed under section 503 (b) of this title \[11 U.S.C. § 503(b)\] and any fees and charges assessed against the estate under Chapter 123 of title 28 \[28 U.S.C. §§ 1911 et seq\.\]

139. 11 U.S.C § 101(5).}
Claims not found to be within the fair contemplation of the parties may be treated as administrative expenses, subject to immediate full payment before unsecured creditors receive anything.

The justification for doing so is troubling. Courts have indicated that in attempting to find the balance between bankruptcy law and environmental law, it is necessary to give weight to the environmental policies advancing the protection of the public from the adverse effects of environmental waste. While this goal is entirely laudable, it is not clear that it justifies radically changing the concept of what constitutes a claim in a bankruptcy case, particularly a Chapter 11 case.

If regulators in future cases are successful in convincing the courts that some pre-petition claims were not fairly contemplated, then they may be successful in pursuing the debtors on an administrative basis for the cleanup costs associated with those claims. In such circumstances, everything accomplished in a successful Chapter 11 reorganization case could be rendered moot because the regulators would have the capacity to sue the debtor out of existence for the cleanup costs associated with the claim. It is significant that in doing so, the debtor would be "punished" for its environmental culpabilities, but the unsecured creditors would be equally disadvantaged. This result seems entirely undesirable because it unfairly places the burden of the debtor's environmental cleanup on the unsecured creditors, who in most cases bear no responsibility for the pollution. It also is undesirable from the standpoint of advancing the policy of facilitating reorganization. Successful Chapter 11 cases preserve enterprises that pay taxes, create jobs, and participate in other socially beneficial activities, including the cleanup of hazardous waste sites.

What is surprising in cases holding that bankruptcy concerns must bow to environmental policies is not the advocacy of such measures by those who are charged with enforcing environmental laws. Rather it is the shortsightedness evidenced by a willingness to kill the golden goose by taking whatever eggs happen to be under it at that moment. It is also surprising that some courts, even sophisticated commercial courts, have been willing to punish debtors and unsecured creditors alike by subjecting reorganizing debtors to unreasonable administrative expense claims. Taken to its logical conclusion, this subordination of bankruptcy policy to environmental policy does not result in any quicker or more
efficient cleanup of the environment, but it may eliminate a business that could otherwise contribute to the costs of cleanup over a period of several years, while also ensuring that unsecured creditors of that enterprise receive no dividend on their legitimate claims.

V. CONCLUSION

The conflicting statutory goals of giving debtors a fresh start and facilitating quick cleanup of the environment may not be as much in conflict as is routinely assumed by lawyers and courts. Debtors who are to be charged with environmental cleanup costs must survive if they are going to continue to contribute to such costs in future years. Chances of survival frequently depend on discharging as much debt as possible during the pendency of a Chapter 11 reorganization case. To the extent that Chapter 11 plans are able to provide for payments for cleanup expenses, as well as payments of general unsecured claims, the debtor, its creditors, and the environment all benefit.

It is clear that courts in many jurisdictions will continue to struggle with the issues of when the automatic stay should and should not apply to environmental regulation, and with the equally difficult concepts when claims should be barred, allowed as general unsecured claims, or filed as administrative claims. It may be that the final resolution of this matter will require an enactment of new legislation by Congress, which, after all, would appear to be the body best suited to balancing the interests of all claimants. A possible solution would be the creation of an entirely new class of claims: on-going environmental expense claims. Such a classification would allow and require debtors to pay a certain percentage of profits toward environmental cleanup costs for a period of years following a successful Chapter 11 reorganization, but would limit ultimate liability to this amount in the interest of providing enough cash to allow confirmation of a plan. In the absence of such a solution, it is possible that the Chapter 11 reorganization of companies with environmental liabilities will become impossible, on a practical level, because there is no assurance that the claims of environmental regulators will be successfully included within the dischargeable debt provided for in the Chapter 11 plan.

It is also possible that some of the confusion within the current case law will be resolved by judicial decisions of higher courts,
possibly including the United States Supreme Court. Higher courts may be reluctant to put the "reasonable contemplation" gloss on the definition of claim, especially if it becomes obvious that the ramifications to the Chapter 11 system would be especially severe. Given the potential impact on Chapter 11 cases, it seems likely that any conflict that does develop between the circuits may set the stage for Supreme Court review.

Until a statutory or judicial resolution of these issues, bankruptcy debtors, trustees, creditors, and environmental regulators will have to rely on careful planning to minimize the uncertainty inherent in the shifting definition of claims. For Chapter 7 debtors, the ramifications are less serious, although the consequences are no less serious for creditors involved in these cases. For Chapter 11 and Chapter 13 debtors, the likelihood of obtaining a discharge of claims in the reorganization setting will become an additional factor to be considered in selecting the type of bankruptcy relief most appropriate to their case. Bankruptcy trustees and the creditors involved in all bankruptcy cases may eventually face a situation in which recovery for general unsecured creditors is nearly impossible because all available funds are devoted to environmental cleanup. Finally, environmental regulators may have to rethink their traditional enforcement-oriented approach, and adopt a more flexible financial approach to recovery, at least in Chapter 11 and Chapter 13 cases, to ensure that offending enterprises remain in business long enough to make significant payments toward cleanup expenses.
THE EVER-EXPANDING SCOPE OF LIABILITY UNDER CERCLA §107(a)(3): IS AN END IN SIGHT?

by Robert E. Lannan*

I. INTRODUCTION.

In 1980, Congress, amid the fanfare of election year politics, considered and enacted the Comprehensive Environmental Response, Compensation and Liability Act, (CERCLA).1 Hailed as a panacea for the nation's "Love Canals," CERCLA, commonly called "Superfund"2 established an ambitious federal scheme and the proverbial "pot of gold" of federal dollars to fuel its implementation. CERCLA was designed to address the investigation and cleanup of waste sites contaminated by hazardous substances. More specifically, the legislation provided a comprehensive complex statutory and regulatory regime designed to allow federal authorities to respond to actual or threatened releases3 of haz-

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2. CERCLA is commonly called "Superfund" since CERCLA authorizes the EPA to clean up sites and creates a fund to pay for clean ups.

3. The term "release" is defined by the statute broadly as follows:
any spilling, leaking, purging, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing any hazardous substance or pollutant or contaminant.

A number of narrow exceptions from the definition are provided by the statute. [The term "release"] excludes (A) any release which results in exposure to persons solely within a workplace, with respect to a claim which such persons may assert against the employer of such persons, (B) emissions from the engine exhaust of a motor vehicle, rolling stock, aircraft, vessel, or pipeline pumping station engine, (C) release of source, byproduct, or special nuclear material from a nuclear accident, as those terms are defined in the Atomic Energy Act of 1954, if such release is subject to requirements with respect to financial protection established by the Nuclear Regulatory Commission under section 170 of such Act or, for the purposes of section 9604 of this title as any other response action, any release of source, byproduct, or special nuclear materials from any processing site designated under section 7912(a)(1) as 7942(a) of this title, and (D) the normal application of fertilizer.

Id.
ardous substances\(^4\) into the environment\(^5\); funding to pay for needed response actions\(^6\); and creation of a liability mechanism which imposes responsibility upon a broad category of persons deemed by the statute, as parties responsible for the releases.\(^7\) Since its passage, Superfund has been reauthorized twice. In 1984, Congress, again in the heat of election year furor, considered amendments to Superfund and two years later, enacted the Superfund Amendments and Reauthorization Act of 1986.\(^8\) Six years later, acting under cover of its budget making authority, Congress hastily extended the life of Superfund on October 27, 1990.\(^9\) Under the Omnibus Budget Reconciliation Act of 1990\(^10\), both appropriations taxes to capitalize the Superfund were reauthorized.

\(^4\) The term "hazardous substance" is defined with reference to materials regulated by five federal environmental statutes. In addition to those materials which are specifically designated as "hazardous substances" pursuant to Section 102 of CERCLA, 42 U.S.C. \(\S\)9602, the following materials are also considered CERCLA "hazardous substances": "hazardous substances" under Section 311(b)(2)(A) of the Federal Clean Water Act, 33 U.S.C. \(\S\) 1321(b)(2)(A); "hazardous wastes" under section 3001 of the Resource Conservation and Recovery Act, 42 U.S.C. \(\S\) 9621 (but not including any waste the regulation of which has been suspended by Act of Congress under 42 U.S.C. \(\S\) 6901); "toxic pollutants" under section 307(a) of the Federal Clean Water Act, 33 U.S.C. \(\S\) 1317(a); "hazardous air pollutants" listed under section 112 of the Federal Clean Air Act, 42 U.S.C. \(\S\) 7412; and any imminently hazardous chemical substances or mixtures with respect to which the Administrator has taken action pursuant to section 2602 of Title 15, the Toxic Substances Control Act.

An exemption from the definition of the term "hazardous substance" exists for:

... petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance ..., and the term does not include natural gas, natural gas liquids, liquified natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).


5. The term "environment" is defined equally broadly as follows:

... (A) the navigable waters, the waters of the contiguous zone, and the ocean waters for which the natural resources are under the exclusive management authority of the United States under the Magnuson Fishery Conservation and Management Act, and (B) any other surface water, ground water, drinking water supply, land surface or subsurface strata, or ambient air within the United States as under the jurisdiction of the United States.

42 U.S.C. \(\S\) 9601(8)(1988)

6. The Hazardous Substances Superfund, formerly the Hazardous Substance Response Trust Fund under the 1980 Act, funded by taxes imposed on the oil and chemical industries, is used by the Government in Fund-lead "response" actions.

7. "Potentially responsible parties" is a general category used to refer to persons covered under CERCLA's liability provision found in Section 107 (a) of the Act.


10. Id.
Twelve years after its enactment, the program is viewed by many as hopelessly gridlocked, lost in a mire of conflicting agency policies, and subject to a constant barrage of criticism and suggestions for improved implementation. Perhaps one of the most troubling areas of the statute is the wording of the liability scheme and the subsequent expansion of that liability by courts faced with the ultimate question of who will pay the cleanup tab for the investigation and remediation of Superfund sites. This article examines the statutory language and analyzes the rapid growth of case law under one aspect of the ever expanding CERCLA liability scheme: those parties who are alleged to have "by contract, agreement, or otherwise arranged for disposal or treatment ... of hazardous substances owned or possessed by such person, by any other party or entity, at any facility ... owned or operated by another party or utility ... containing such hazardous substance." 12

II. THE CERCLA STATUTORY SCHEME.

CERCLA authorizes the President of the United States to take several different types of action with regard to releases or

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11. One commentator has noted, in discussing the absence of legislative history for Superfund as enacted in 1980, at least one possible reason for the statute's abysmal record – the manner in which the legislation was enacted.

... The bill which became law was hurriedly put together by a bipartisan leadership group of Senators (with some assistance from their House counterparts), introduced, and passed by the Senate in lieu of all other pending measures on the subject. It was then placed before the House, in the form of a Senate amendment of the earlier House bill. It was considered on December 3, 1980, in the closing days of the lame duck session of an outgoing Congress. It was considered and passed, after very limited debate, under a suspension of the rules, in a situation which allowed for no amendments. Faced with a complicated bill on a take it-or-leave it basis, the House took it, groaning all the way.


13. A complete discussion of the "nuts and bolts" of Superfund is outside the scope
threatened releases of hazardous substances, pollutants, or contaminants into the environment. Under Section 104 of the statute, whenever:

(A) any hazardous substance is released or there is a substantial threat of such a release into the environment, or

(B) there is a release or substantial threat of release into the environment of any pollutant or contaminant which may present an imminent and substantial danger to the public health or welfare;\(^{14}\)

The EPA pursuant to its Presidentially delegated authority can then act to remove, arrange for removal, provide remedial action, or take any other response action relating to the hazardous substances, pollutants, or contaminants so long as such action is consistent with the National Contingency Plan and necessary to protect the public health, welfare or the environment.\(^{15}\) When the EPA, again pursuant to statutory authority delegated to it by the President, determines that there is “an imminent and substantial endangerment to the public health or welfare or the environment because of an actual or threatened release of a hazardous substance from a facility....",\(^{16}\) relief can be sought in the appropriate federal district court which is given jurisdiction.\(^{17}\) The EPA may take necessary action including issuing orders as are necessary to protect the public health, welfare, or the environment.\(^{18}\) Finally, under certain circumstances, CERCLA authorizes private parties to take response action independent of EPA and to later seek reimbursement of costs associated with such action from those deemed responsible.\(^{19}\)

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of this article. For an excellent presentation of this topic, however, the reader is referred to Light, CERCLA LAW AND PROCEDURE (BNA 1991), which exhaustively treats the "practical politics" of the Superfund process for the practitioner.


15. Id. The purpose of the National Contingency Plan or NCP, more formally known as the National Oil and Hazardous Substances Pollution Contingency Plan is "... to provide the organizational structure and procedures for preparing for and responding to discharges of oil and releases of hazardous substances, pollutants, and contaminants." See 40 C.F.R. § 300.1. The 1985 NCP was substantially revised in 1990. See 55 Fed. Reg. 8665 (March 8, 1990).


17. Id.

18. Id.

19. 42 U.S.C. § 9607(a)(4) (1980) provides for such "private cost recovery" actions by language which makes persons deemed liable under Section 107 also liable for "... any other necessary costs of response incurred by any other person consistent with the national contingency plan."
Liability for the costs associated with actions taken by EPA or by private parties is determined by the language contained in Section 107 of the statute.

(a) Notwithstanding any other provision or rule of law, and subject only to the defenses set forth in subsection (b) of this section

(1) the owner and operator of a vessel or facility,
(2) any person who at the time of disposal of any hazardous substance owned or operated any facility at which such hazardous substances were disposed of,
(3) any person who by contract, agreement, or otherwise arranged for disposal or treatment, or arranged with a transporter for transport for disposal or treatment, of hazardous substances owned or possessed by such person, by any other party or entity, at any facility or incineration vessel owned or operated by another party or entity and containing such hazardous substances; and
(4) any person who accepts or accepted any hazardous substances for transport to disposal or treatment facilities, incineration vessels or sites selected by such person from which there is a release which causes the incurrence of response costs, of a hazardous substance, shall be liable for [damages provided for by statute].

Section 107(a)(4) of CERCLA also provides, for parties adjudged liable under the statute, for four broad categories of damages:

(A) all costs of removal or remedial action incurred by the United States Government or a State or an Indian tribe not inconsistent with the national contingency plan;
(B) any other necessary costs of response incurred by any other person consistent with the national contingency plan;
(C) damages for injury to, destruction of, or loss of natural resources, including the reasonable costs of assessing such injury, destruction, or loss resulting from such a release; and
(D) the costs of any health assessment or health effects study carried out under section 104(i) of this title.

When compared to the other classes of liable parties found in Section 107, the language of Section 107(a)(3) is, on its face, more complex than those of its counterpart provisions found in Sections 107(a)(1), (a)(2) or (a)(4). It is a considerably more difficult task to

envison what is meant by the concept of "arrange for disposal or treatment" than by the concept of "present or past owner or operator" or "transporter" as those classifications are envisioned by Section 107. This difficulty in meaning is underscored by the fact that the statute gives clearly defined meanings for the terms "owner and operator," "transport," "transportation," "disposal," and "treatment," but does not similarly provide a definition for the term "arrange for."

22. The term "owner or operator" is defined as follows:
   (A) . . . (i) in the case of a vessel, any person owning, operating, or chartering by demise, such vessel, (ii) in the case of an onshore facility or an offshore facility, any person owning or operating such facility, and (iii) in the case of any facility, title or control of which was conveyed due to bankruptcy, foreclosure, tax delinquency, abandonment, or similar means to a unit of State or local government, any person who owned, operated or otherwise controlled activities at such facility immediately beforehand . . . . (D) The term "owner or operator" does not include a unit of State or local government which acquired ownership or control involuntarily through bankruptcy, tax delinquency, abandonment, or other circumstances in which the government involuntarily acquires title by virtue of its function as sovereign. The exclusion under this paragraph shall not apply to State or local government which has caused or contributed to the release or threatens release of a hazardous subject from the facility and such a State or local government shall be subject to the provisions of this chapter in the same manner and to the same extent, both procedurally and substantively, as any nongovernmental entity, including liability under section 9607 of this title.


23. The term "transport" or "transportation is defined as:
   [T]he movement of a hazardous substance by any mode, including pipeline (as defined in the Pipeline Safety Act), and in the case of a hazardous substance which has been accepted for transportation by a common or contract carrier, the term "transport" or "transportation" shall include any stoppage in transit which is temporary, incidental to the transportation movement, and at the ordinary operating convenience of a common or contract carrier, and any such stoppage shall be considered as a continuity of movement and not as the storage of a hazardous substance.


24. CERCLA defines "disposal" as having the meaning provided in section 1604 of the Solid Waste Disposal Act. 42 U.S.C. § 9601(29) (1986). "Disposal" is defined by the Solid Waste Disposal Act as follows:
   . . . the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground waters.


   . . . any method, technique, or process, including neutralization, designed to change
Separate and apart from the lack of definition, section 107(a)(3) is also more complex in terms of the elements of proof required than are sections 107(a)(1), (2), and (4). The EPA, (or a private party), under Section 107(a)(3) must prove that the party sought to be held liable is: (1) a person (2) who arranged for (3) the disposal or treatment (4) of hazardous substances (5) owned or possessed by the person (6) at a facility containing such substances which is operated by another person (7) from which there is a release or threatened release of hazardous substances. Quite understandably, courts have wrestled with the novel issues which are presented by the subjective standards found in Section 107(a)(3).

III. CASE ANALYSIS

In light of the subjective language and more complex burden of proof which appears in Section 107(a)(3), it should be no surprise that cases which have examined the issue have been less than consistent in their efforts to find liability vel non under this section of the statute. Courts have relied on any number of factors when examining a transaction to determine whether it falls into the ambit of “arranging for disposal or treatment”. Courts have considered: the nature of the substances involved,

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the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste or as so to render such waste nonhazardous, safer from transport, amenable for recovery, amenable for storage, or reduced in volume. Such term includes any activity or processing designed to change the physical form or chemical composition of hazardous waste so as to render it nonhazardous.


26. 42 U.S.C. § 9607(a)(3) (1980). One other commentator has noted the existence of five necessary elements of proof for CERCLA liability to attach under Section 107(a)(3). The statutory language governing generator liability is much more complex than that governing other potentially responsible parties and seems to require proof of five elements:

1. A “person"
2. who “by contract, agreement, or otherwise arranged for disposal or treatment”
3. of “hazardous substances”
4. that such person “owned or possessed.”
5. at a “facility” operated by another person from which there is a release, or threatened release of hazardous substances.

i.e., whether the material can be classified as a "product" or a "waste"; who made the determination to place the waste into the hands of the facility; the ownership of the materials in question; who made the decision to "dump" waste on the site at issue; whether or not a specific transaction regarding hazardous substances was engaged in by the parties; the degree of control exercised by the parties over the transaction; and other bases for liability, for example, arising from an application of the Restatement (Second) of Torts. To the extent such generalization is possible, this article will attempt to characterize these cases.

A. THE "PRODUCT" CASES

Numerous courts have been confronted with arguments by potentially responsible parties, (PRPs), that the transactions in question were, in actuality, sales of products and not "an arrangement for disposal or treatment" of hazardous substances. PRPs who are successful in having their respective transactions characterized as such have managed to escape CERCLA liability in a number of instances.

In United States v. Westinghouse Electric Corp., the court was faced with a factual situation in which the defendant, Westinghouse, purchased polychlorinated biphenyls (PCBs) from Monsanto to use as a dielectric fluid in electrical equipment manufactured by Westinghouse. After its useful life, Westinghouse later disposed of certain equipment containing the PCBs. The government filed a cost recovery action under CERCLA seeking reimbursement for costs associated with the cleanup of environmental contamination created by the leaking PCB-containing equipment. Westinghouse filed a third party complaint seeking contribution and indemnity from Monsanto. The complaint characterized Monsanto as a "generator of the PCBs." Monsanto moved for dismissal of the third-party complaint.

28. "Potentially responsible parties" is a general category used to refer to persons covered under CERCLA's liability provision. See supra note 7 and accompanying text.
30. Id. at 1232.
31. Id.
32. Id.
33. Id.
The district court, in dismissing the third party complaint brought by Westinghouse against Monsanto, noted the distinction between a commercial transaction between two companies involving a manufacturer's "bona fide" sale of a commercial product, as opposed to a generator's arrangement for disposal of a hazardous substance. The court found that Westinghouse had purchased a newly manufactured primary product from Monsanto and such an arrangement did not rise to the level of conduct contemplated as "disposal" under Section 107(a)(3) of CERCLA. As one of the first cases arising under Section 107(a)(3) of CERCLA, Westinghouse stands for the logical proposition that producers of products that sell that product to another manufacturer for use in a second product, even assuming the product was, in fact, a "hazardous substance" under CERCLA, will not be liable for the subsequent disposal of the substance under an "arranging for disposal or treatment" theory.

Such a common sense approach was also employed in a subsequent case absolving a company from liability for transacting in "hazardous substances" as "products," as opposed to "arranging for disposal or treatment," involving the sale of creosote and certain other hazardous chemicals to a company constructing a wood treatment facility. In Edward Hines Lumber Co. v. Vulcan Materials Co., the plaintiff lumber company in a private cost recovery action, operated a wood treatment facility which used creosote and other chemicals supplied by the defendant for the preservation of wood products. Runoff from the facility attributable to a holding pond on the site triggered an EPA response action under Superfund. The lumber company, seeking contribution from other parties it deemed responsible, argued that the broad "arrange for disposal or treatment" language of Section 107(a)(3) implicated chemical manufacturers who sold hazardous substances.

34. Id.
35. Id. at 1233.
36. It is also significant to note that Monsanto, in this case as the seller, had no further dealings with the owner of the waste site where the PCB-contaminated equipment ultimately was disposed of and did not otherwise conduct itself in a fashion with regard to the material involved which would inculpate it in any other fashion.
38. Id.
39. Id. at 1905.
substances to companies who used the substance.\textsuperscript{40} In rejecting this argument, the court noted as follows:

[The phrase "arrange for disposal or treatment"... clearly circumscribes the types of transactions in hazardous substances to which liability attaches, narrowing liability to transactions in the disposal or treatment of such substances. Adopting Hines' position would be tantamount to carving from Section 9607(a)(3) the language limiting liability to those who "arrange for disposal or treatment" of a substance. We find no support in the legislative history or decisional law for this surgical removal of statutory language, and accordingly hold that liability for environmental damage under §9607(a)(3) attaches only to parties who transact in a hazardous substance in order to dispose of or treat the substance.\textsuperscript{41}

The court found dispositive the fact that the creosote supplier had presented evidence which indicated that the substances involved were sold solely for use in the wood treatment plant and not for the disposal of the suppliers' waste or byproducts.\textsuperscript{42} The plaintiff presented no evidence to the contrary.\textsuperscript{43} Similar to the conduct of General Electric in the Westinghouse case,\textsuperscript{44} the creosote producer/supplier defendant did not decide how the hazardous substances would be disposed of after its use in the wood treatment process.\textsuperscript{45}

The viability of the "sale of a product" rationale was continued with a decision in United States v. Sharon Steel.\textsuperscript{46} In Sharon Steel, the United States brought a Section 107 cost recovery action against Sharon Steel and certain of its predecessor companies for costs associated with the clean up of mill tailings from a processing facility in Midvale, Utah.\textsuperscript{47} Sharon Steel filed third-party complaints against, \textit{inter alia}, three mining companies that sold ore to Sharon's predecessor company alleging that these companies were also liable under Section 107(a)(3) of CERCLA.\textsuperscript{48}

\begin{itemize}
\item \textsuperscript{40} Id.
\item \textsuperscript{41} Id. at 1906-07 (emphasis added).
\item \textsuperscript{42} Id. at 1908.
\item \textsuperscript{43} Id.
\item \textsuperscript{44} United States v. Westinghouse, 22 Env't Rep. Cas. (BNA) 1230 (S.D. Ind. June 29, 1983).
\item \textsuperscript{45} Hines, 27 Env't Rep. Cas. at 1906.
\item \textsuperscript{46} United States v. Sharon Steel Corp., No. 86-C-0924J, Memorandum Opinion and Order, (C.D. Utah, May 17, 1989).
\item \textsuperscript{47} Id at 2.
\item \textsuperscript{48} Id.
\end{itemize}
In arguing against the imposition of such liability, the third party defendants advanced two primary arguments. First, under the "who-decided" rule first articulated in *A & F Materials*, 49 they argued that they sold the raw ores as a useful product and did not make the decisions as to how any resulting waste generated in the processing of the ores would be disposed of or treated. 50 Second, the third-party defendants argued that by adopting the definition of "disposal" and "treatment" contained in the Resource Conservation and Recovery Act, 51 the determination under CERCLA is limited to whether a product is a "hazardous waste," rather than a "hazardous substance." 52 The court agreed with the characterization of the transactions made by the third-party defendant mining companies and granted the motions to dismiss or for summary judgment, holding: 53

This court's determination is necessarily a contextual one. In the form in which it was sold to Sharon's predecessor, this court is of the opinion that raw ore was not a hazardous substance. 54 It is through processing that the ore is altered and concentrated to the point that it is rendered potentially hazardous. Raw materials, which do not pose an immediate threat without further treatment by a party further down the production stream, are not hazardous substances. 55

The court additionally found that the unprocessed ore sold by the third-party defendants to Sharon's predecessor was, at the
The Eleventh Circuit also approved the "product" rationale in *Florida Power & Light Co. v. Allis-Chalmers Corp.* Florida Power & Light (FP&L), purchased PCB-containing transformers from manufacturers (General Electric, Kuhlman Electric Company, R.T.E. Corporation, McGraw Edison, Inc., Westinghouse Electric, and Waggoner Electric, Inc.). At the end of the 40 year useful life of the transformers, FP&L sold the equipment to a recycler and salvager of transformers, Pepper's Steel and Alloys, Inc. (Pepper). The PCB-contaminated mineral oil contained in the transformers resulted in environmental contamination sufficient to trigger EPA response action and a later cost recovery action against Pepper and FP&L. Both Pepper and Florida Power and Light immediately sought contribution from the manufacturers of the transformers. In affirming the district court's grant of summary judgment to the manufacturers of the PCB-containing transformers, the Eleventh Circuit considered significant that the original purchaser of the transformer assumed ownership and therefore full responsibility for the transformers and their content.

In *United States v. Consolidated Rail Corp.*, a district court in Delaware strictly scrutinized the conduct of a supplier of raw materials, as well as the nature of the transaction, in assessing the supplier's argument that it was supplying a "product" to what later turned out to be a Superfund site, as opposed to "arranging for the disposal or treatment" of a hazardous substance there. Burke-Parsons-Bowlby Corporation (Burke) a West Virginia producer of pressure-treated wood products contracted with Seaport to purchase waste coal tar from Philadelphia Electric Company. (Seaport was previously owned by Philadelphia Electric.) Burke picked up the coal tar from Eklof Marine Cor-

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56. *Id.* at 10.
57. 893 F.2d 1313 (11th Cir. 1990).
58. *Id.* at 1315.
59. *Id.*
60. *Id.*
61. *Id.*
62. *Id.* at 1319.
64. *Id.*
65. *Id.* at 1464.
poration, in Staten Island, New York (where some of the Seaport material was located), as well as from a Sealand facility in Delaware.\textsuperscript{66}

Unlike the somewhat simple commercial relationships seen previously in \textit{Westinghouse}, \textit{Edward Hines}, \textit{Sharon Steel}, and \textit{Florida Power & Light}, the relationship between Burke and its supplier, was exceedingly more complex. Burke also provided Seaport with technical support in the retrofitting of its Delaware plant, supplied names of suppliers of raw material, and was the sole customer of Seaport at a reduced price.\textsuperscript{67} Burke was named as a third party defendant when EPA sought to hold certain primary defendants liable for the cleanup of the Superfund site. The third-party plaintiffs argued that the degree of control or conduct exercised by Burke rose to the level of "arranging for disposal" sufficient to make a finding of liability.\textsuperscript{68} The court, however, did not agree.

Third-party plaintiffs argued that [Burke] should be liable as a generator under the \textit{Aceto}\textsuperscript{69} standard. The record establishes that [Burke] assisted in locating the raw material inputs for the Sealand operation and received the output at rates substantially lower than market prices. In addition, [Burke] was the only one who received the coal tar from the operation of the Sealand Site. Third-party plaintiffs combined these facts to infer that the Sealand facility was operated by [Burke] for the benefit of [Burke] indicating an implied relationship between Sea-Port and [Burke] akin to that in \textit{Aceto}.

[Burke] contends that this analogy fails because in \textit{Aceto} the raw materials were owned by the defendants and then shipped to Aidex for formulation. There is no such evidence in this case. In fact, although [Burke] did purchase all of the output from the Sealand facility, there is no evidence of the contractual obligation on the part of [Burke] to accept all of [sic] the output from the Sealand facility. The letter of agreement states:

\begin{quote}
This is to confirm that The Burke-Parsons-Bowlby Corporation will purchase the hydrocarbon products supplied by Sealand, Ltd.\ldots on a month-to-month basis for one year. [citations omitted].
\end{quote}

\begin{footnotes}
\textsuperscript{66} \textit{Id.}
\textsuperscript{67} \textit{Id.} at 1468, 1470.
\textsuperscript{68} \textit{Id.} at 1470.
\textsuperscript{69} See discussion under Section III.B of this article.
\end{footnotes}
Although CERCLA was meant to be interpreted broadly on this record, there is no support for the proposition that BPB controlled or had the authority to control the hazardous substances disposed or treated at the Sealand site. Therefore, [Burke's] motion for summary judgment that [Burke] was not a generator of the hazardous substances at the Sealand facility under 42 U.S.C. §9607(a)(3) will be granted.70

More recently, two other federal district courts and an additional federal appellate court have also recognized that the sale of a "product," albeit one that is or contains a hazardous substance, does not create liability under CERCLA for "arranging for the disposal or treatment" of a hazardous substance. In Prudential Ins. Co. v. United States Gypsum,71 the owners of commercial structures and residential housing brought civil actions against the designers, manufacturers, and suppliers of asbestos-containing materials used in the construction and maintenance of these structures.72 The civil actions, among other theories, alleged a cause of action under CERCLA, that each defendant arranged for the disposal of asbestos-containing materials by designing such products, manufacturing such products, and subsequently selling and distributing these products into commerce where they were subsequently placed into residential and commercial buildings.73

In the context of deciding whether the defendants' actions constituted "disposal" of a "hazardous substance," the court noted that "the imposition of the statutory liability [under CERCLA] for disposal depends upon examining the transaction with respect to the transfer of a hazardous substance to see if it involved the sale of a product rather than a disposal arrangement."74 The court further recognized that "if the transaction involves, for example, sale of a new useful product containing a hazardous substance, as opposed to the sale of a substance merely to 'get rid of it,' a claim under CERCLA may not be available."75

72. Id. at 1244.
73. Id. at 1249.
The court, in applying these views to the facts in the case, noted as follows:

... [I]t appears that plaintiffs [sic] claim that defendants manufactured, processed, marketed, distributed, supplied and sold asbestos-containing products for use in a variety of building materials, including fire-proofing and insulation. Although in the portions of their complaint related specifically to their CERCLA claim plaintiffs purport that defendants engaged in disposal, the factual allegations reveal that the transfer of the asbestos-containing products was indeed a sale of the substance for the use in the construction of a building. Hence, as there was no affirmative act to get rid of the asbestos beyond the sale of it as part of a complete, useful product, for use in a building structure, the plaintiffs' allegations failed to reveal that there has been an arrangement for the disposal of hazardous substances, even though such substances may have come to eventually flake off and potentially pose a health risk. Plaintiffs' factual allegations even taken as true, therefore, do not reveal that the transfer of the asbestos-containing products was tantamount to a disposal of same, but rather reveal that there had been a conveyance of a useful, albeit dangerous product, to serve a particular, intended purposes. To say that such a transaction constitutes a CERCLA-type disposal "would require too strained an interpretation of the statutory definition of [the] terms."

Similarly, in Dayton Indep. School Dist. v. United States Mineral Products Co., the Fifth Circuit Court of Appeals, considered, inter alia, a cause of action under CERCLA "arranging for disposal theory" for the sale of asbestos-containing products. The court rejected the argument, noting as follows:

Appellees undertake to turn dumping and disposal into building construction. We reject the contention. Under the applicable RCRA [Resource Conservation and Recovery Act] definition, or under even a broader general definition, there is no possible reasonable interpretation of the term "disposal" that could encompass the

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United States v. Conservation Chem. Co., 619 F. Supp. 162, 241 (W.D. Mo. 1985); Kalik v. Allis-Chalmers, 658 F. Supp. 631 (W.D. Pa. 1987). The court also found persuasive, in its examination of the "propriety" of the transaction, the fact that there was no allegation contained in the complaint that the hazardous substance asbestos was loose or friable when sold. Prudential Ins. Co. v. United States Gypsum, 711 F. Supp. at 1254, n.2.


77. 906 F.2d. 1059 (5th. Cir. 1990).

78. Id.
commercial sale of asbestos-containing useful building products by
the defendant manufacturers and suppliers. "[T]he sale of a haz-
ardous substance for a purpose other than its disposal does not expose defendant to CERCLA liability." See Prudential Ins. Co. of
Am. v. United States Gypsum Co., 711 F.Supp. 1244, 1254 (D. N.J.
1230 (S.D. Ind. 1983).

The record is devoid of any substantive evidence that appellants merely characterized their activities as "sales" in order to cloak disposal activities. Instead, it is clear that appellants manufactured the asbestos-containing building materials for the primary purpose of creating a new useful and marketable product for the construction industry. Appellants' actions therefore cannot be considered "disposal" within the meaning of CERCLA.79

Finally, a supplier of neoprene compounds used by a manufac-
turer in the manufacture of rubber products was held not to be liable as an "arranger for disposal" within the meaning of Section
107(a)(3).80 The State of Michigan sued the primary defendant, Arco Industries, under CERCLA seeking cost recovery for damage to a groundwater aquifer.81 The damage alleged was contamina-
tion of the groundwater by volatile organic compounds, by-
products from Arco's manufacturing process.82 Arco brought third-
party contribution and indemnity actions pursuant to CERCLA, against DuPont, Northwest Coatings Corporation, and General Latex and Chemical Corporation.83 All were suppliers of raw materials used by Arco.84 Arco alleged in its complaint that as suppliers of raw materials the third party defendants contributed to the formation of production waste-streams and therefore contributed to the groundwater contamination on the property.85

79. Id. at 1065; Cf. CP Holdings v. Goldberg-Zoino & Assoc., 769 F. Supp. 432 (D.N.H.
1991) (where purchasers of site of hotel brought suit against seller and engineering firm which conducted pre-purchase environmental site assessment, sale of building containing asbestos with knowledge that building was to be disposed of qualified as "disposal" within the ambit of CERCLA Section 107(a)(2) for purposes of defeating defendant's motion to dismiss).
81. Id. at 355.
82. Id.
83. Id. at 355-58.
84. Id. at 356.
85. Id.
Arco made the heretofore novel argument that an ingredient of the neoprene product sold to it by DuPont, Northwest and General Latex, was, in fact, known by the three suppliers to be unnecessary to its function and therefore was an attempt to unilaterally "foist off" a material unwanted by any of the producers or Arco. This purpose, argued Arco, was tantamount to "arranging for the disposal or treatment" of a hazardous substance.

Third party defendants DuPont, Northwest, and General Latex supplied Arco with various neoprene compounds for use in its manufacture of rubbergoods and products. As part of its manufacturing process, Arco would leach the rubber products manufactured from the neoprene and dispose of the resulting wastewater, along with other waste streams, by discharging it to a lagoon behind its plant facility. The process of "leaching" involved immersion of the rubber products into water. The process removed salt and other waste-soluble materials. Thus some of the materials used in the manufacturing process—neoprene and neoprene latex (collectively "neoprene")—contained hazardous substances, including toluene which were also leached out of the rubber products. The hazardous substances were discharged at the conclusion of the manufacturing process into Arco's seepage pond, and subsequently entered the aquifer. In its third-party complaint against DuPont, Arco claims that one of the contaminants identified in the State's complaint, toluene, was a by-product of the leaching process and seeks contribution and indemnity under the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. ("CERCLA"), as well as under common law theories of products liability and negligence.

In Arco's view, the suppliers of the neoprene, unlike Arco, each knew that the hazardous substance would leach out if Arco followed the treatment that each supplier recommended. Moreover, according to Arco, the hazardous substances were not, in any way, necessary to the proper functioning of the neoprene. In fact, Arco contends that hazardous substances could have been extracted prior to sale, without compromising the quality of the product.

86. Id.
87. Id. at 357.
88. Id. at 356.
The court, in its extended analysis of "supplier" liability under CERCLA, reviewed the definitions of the terms "disposal" and "treatment," extant case law, and public policy arguments advanced by Arco. While the court found interesting Arco's argument that liability, despite the existing case law, should be visited upon parties who have sold useful products containing hazardous substances not necessary to the functioning of the product (and thus of no use to the purchaser), the court refused to adopt this rationale. Consistent with Westinghouse and its progeny, the court found that sales of a hazardous substance product do not constitute "arranging for disposal or treatment" of a hazardous substance under Section 107(a)(3) of CERCLA.

B. THE "RECLAMATION" CASES

The outer limits of CERCLA liability established by the "product" rule first enunciated by Westinghouse and its progeny have been quickly circumscribed by federal courts on numerous occasions when it becomes apparent that the superficial appeal of the "sale of a product" rationale results in creative attempts by PRPs to transform questionable transactions in materials of dubious quality into product sales for the sole purpose of escaping draconian CERCLA liability. However, the rationale employed by some of the cases often leads to results which can best be termed equivocal when viewed solely in the context of the type of transaction or material involved. In United States v. A & F Materials Co., Inc., McDonnell Douglas Corporation argued that a spent caustic solution produced as a by-product in the production of jet aircraft was in fact a product. McDonnell Douglas sold the solution to A & F for use in treating an acidic oil produced in A & F's own oil reclamation process.

The court rejected McDonnell Douglas' argument that CERCLA does not impose liability on parties who "sell" hazardous substances and instead, agreed with the position advocated by the Government, that CERCLA liability is not dependent on the

89. See id. at 356-361.
90. Id. at 360.
91. Id.
93. Id. at 844.
94. Id.
"commercial value" of the material. The court placed some reliance, nonetheless, on the fact that the type of material involved was a "hazardous waste," rather than a "hazardous substance product" and noted that the relevant inquiry is who decided to place the waste into the hands of a facility that contains hazardous waste.

In distinguishing the Westinghouse "product" rule, the court noted as follows:

First of all, Monsanto did not generate "waste" as defined above, because Monsanto manufactured the PCB's. Second, unlike MDC [McDonnell Douglas], Monsanto did not arrange for the disposal of PCB’s at a facility containing hazardous wastes. Westinghouse is the party that arranged to have the appliances containing PCB’s placed in the landfill. Thus, liability for releases under §9607(a)(3) is not endless; it ends with that party who both owned the hazardous waste and made the crucial decision how it would be disposed of or treated, and by whom.

A similar result was reached by a New York federal district court during the same year. General Electric was found liable for the "sale" of PCB-contaminated waste oil to the owner and operator of a dirt waste track who used the oil for dust suppressant. The court noted that a "waste generator's liability cannot be so facilely circumvented by its characterization of its 'arrangement' as a 'sale.'"

In United States v. Conservation Chem. Co., a federal court once again took a hard look at the type of material involved in the "commercial transaction" in question and implicitly characterized it as an "arrangement for disposal," even though the use of the material was approved in the Government remediation plan for the Superfund site at issue. Particular third party defendants involved in the litigation, The BOC Group and Kansas

95. Id. at 845.
97. United States v. A & F Material Co., Inc. 582 F. Supp. 842, 845 (S.D. Ill. 1984) (implicit in the court's decision presumably is the fact that the waste caustic solution was sold for virtually nothing.)
99. Id. at 297 (citing United States v. A & F Materials Co., 582 F. Supp. 842 (S.D. Ill. 1984)).
101. Id.
City Power and Light Company, sold fly ash and lime slurry to Conservation Chemical Company, the owner and operator of the site.\textsuperscript{102} The fly ash and lime slurry was to be used to treat and neutralize waste brought to the site by other generators.\textsuperscript{103} The BOC Group and Kansas City and Light made a number of appealing arguments relating to the appropriate characterization of their materials and why Superfund liability should not attach to their actions at the site.\textsuperscript{104} They argued first that their products were useful materials, not wastes, and were used by Conservation Chemical Company to treat and neutralize waste brought to the site by other generators.\textsuperscript{105} Second, they contended that the draft remediation plan for cleanup of the site developed by the Government mandated the use of lime slurry as a neutralizer and precipitation agent for waste at the site.\textsuperscript{106} They finally contended that, since their products were to be used primarily for the closure of the site, subjecting them to liability would have the effect of frustrating the legislative intent of CERCLA which seeks to remediate the release of hazardous substances at Superfund sites.\textsuperscript{107}

The opinion, rejecting the third party defendants' arguments, took an extremely broad view of what constitutes a “hazardous substance” by noting that the definition could include primary products intended by the manufacturer ultimately for sale or use in various manufacturing or commercial operations, as well as byproducts and waste products.\textsuperscript{108}

Similarly, the court took an extremely liberal view of the definition of disposal noting “[b]y its terms [the definition is not] limited to transactions in which the site owner or operator is paid to effect disposal or in which the operator is paid, either a modest or substantial sum for the product being disposed.”\textsuperscript{109}

In this case, fly ash and slurry lime having been assumed to be hazardous substances within the meaning of CERCLA, and with testimony that BOC and KCP&L owned the hazardous substances

\textsuperscript{102} Id. at 237-38.
\textsuperscript{103} Id.
\textsuperscript{104} Id. at 238-41.
\textsuperscript{105} Id. at 238.
\textsuperscript{106} Id. at 239.
\textsuperscript{107} Id. at 239.
\textsuperscript{108} Id.
\textsuperscript{109} Id. at 240.
and made the decision how it would be disposed of, the court should deny the BOC and KCP&L motions for summary judgment.\textsuperscript{110}

In other instances of purported "sales" of hazardous substances, the nature of the transaction appears to have been scrutinized less closely by reviewing courts. In \textit{C. Greene Equip. Corp. v. Electron Corp.},\textsuperscript{111} the plaintiff, brought, \textit{inter alia}, a cause of action under CERCLA against Electron Corporation, alleging that certain machinery it had purchased from Electron was contaminated with PCBs.\textsuperscript{112} This resulted in contamination which C. Greene was forced to clean up pursuant to an administrative order issued by the EPA.\textsuperscript{113} Greene specifically alleged that Electron was liable for "arranging for the transportation and disposal of a hazardous substance" under Section 107(a)(3) of CERCLA.\textsuperscript{114} Electron had purchased equipment including transformers, capacitors, reactors and similar equipment from an auction and subsequently resold some of the equipment to C. Greene.\textsuperscript{115} Electron sold the equipment for $1000.00 (the equipment had an estimated new value of $100,000) and in addition sold the equipment "as is, where is."\textsuperscript{116} The condition of the equipment at the time of sale was disputed by the two parties. Despite the fact that the equipment was obviously used, the court found dispositive the fact that the equipment was totally enclosed and non-leaking when it was sold to C. Greene.\textsuperscript{117} The court also found that Electron had made no contract to transport the used equipment to Greene's facility nor did it enter into a specific transaction regarding the hazardous substance.\textsuperscript{118} Electron further submitted evidence indicating that it sold the equipment to make space for the expansion of its facility and not for the disposal of its waste.\textsuperscript{119} Based on these facts, the court found no room to allow it to draw a reasonable inference that Electron

\begin{enumerate}
\item Id. at 241.
\item 697 F. Supp. 983 (N.D. Ill. 1988).
\item Id. at 984.
\item Id.
\item Id. at 986.
\item Id.
\item Id. at 987.
\item Id.
\item Id.
\item Id.
\end{enumerate}
sold the equipment to dispose of the hazardous waste and therefore ruled that summary judgment was appropriate because Greene had failed to present any direct evidence or facts supporting a reasonable inference that Electron had an inappropriate motive when it sold the equipment.\textsuperscript{120}

In \textit{United States v. Benjamin Farber},\textsuperscript{121} the responsibility for the alleged contamination of a parcel of property was alleged by the owner of the property, Farber, to reside with a supplier of "off-specification" inventory. The off specification inventory was supplied to a lessee located on Farber's property.\textsuperscript{122} Farber alleged that the 1974 sale of the assets of a division of Purex Corporation constituted an "arrangement for disposal" under Section 107(a)(3) of CERCLA.

The court denied Purex's motion for summary judgment and distinguished the reasoning employed in \textit{Jersey City Redev. Auth. v. PPG Indus.}\textsuperscript{123} Purex argued that \textit{Jersey City} stood for the proposition that the conveyance of an entire piece of property containing hazardous substances is not an "arrangement" for the disposal of such substances.\textsuperscript{124} Purex argued by analogy that the sale of assets of an entire business that happens to also include hazardous substances is not an "arrangement" for disposal. The \textit{Farber} court, noting that the \textit{Jersey City} holding was limited to those situations in which "no specific transaction concerning the hazardous substance" was involved, denied Purex's summary

\begin{itemize}
\item \textsuperscript{120} \textit{Id.}
\item \textsuperscript{121} 34 \textit{Env't Rep. Cas. (BNA)} 1269 (D.N.J. 1991).
\item \textsuperscript{122} An earlier case, \textit{United States v. Benjamin Farber}, 27 \textit{Env't Rep. Cas. (BNA)} 1978 (D.N.J. Mar. 16, 1988), notes that Farber had sold and/or leased its property to Syncon Residues, Inc., which operated a manufacturing facility on the property from 1972 until 1982 when Syncon was adjudged bankrupt. Farber brought a third party contribution action under CERCLA against Purex, alleging that the sale of the assets of Purex's T.J. Washburn Division to Syncon in 1974 constituted an "arrangement for disposal" under Section 107(a)(3) of CERCLA. \textit{See Farber}, 34 \textit{Env't Rep. Cas.} at 1270.
\item In the earlier case, the summary judgment motion of another third party defendant, Rambach Chemical Company, was denied because the court found a genuine issue of material fact existed as to whether the commercial relationship of Rambach with Syncon was a mere sale of a hazardous substance or an arrangement for disposal. The record before the court at that point in the litigation was bereft of facts which would allow the court to reach either conclusion. \textit{See Farber}, 27 \textit{Env't Rep. Cas.} at 1982.
\item \textsuperscript{123} 655 F. Supp. 1257 (D.N.J. 1987). For a more complete discussion of another alternative basis for the imposition of Section 107(a)(3) liability found in the \textit{Jersey City} case, \textit{see} discussion \textit{infra} Part IID.
\item \textsuperscript{124} \textit{Id.} at 875.
\end{itemize}
judgment motion. The court found a genuine issue of material fact existed as to whether or not a transaction in hazardous substances existed in that case. The court found particularly persuasive the undisputed facts that Syncon agreed to accept certain off-specification material which was in need of further rework before it became saleable and that such actions inherently involved disposal of such material that was not capable of being reworked. Finally, the court also found persuasive that Syncon was given substantial discounts in price on such “off-specification” material; in some cases resulting in a zero sale price being attributed to the inventory in the asset sale.

In *Sanford Street Local Dev. Corp. v. Textron, Inc.*, a below-the-appraised value sale of a piece of property formerly operated as a foundry was considered by the court to permit the conclusion that the seller had “arranged for the disposal” of hazardous substances within the meaning of CERCLA liability. From the early 1900’s until 1982, Textron had operated a foundry at the site. Due to an economic downturn, Textron decided to “mothball” the facility. Textron later sold the facility to Delta properties for approximately $25,000.00, an amount substantially below the appraised market value of the property of $200,000.00. Delta in turn sold the facility to Great Lakes Development Corporation for the even lower sum of $1,000.00. Ultimately, Delta sold the plant to the private party plaintiff in the case, Sanford Street Local Development Corp., for $30,000.00. Subsequent to the sale, an inspection of the property by the new buyer revealed the presence of PCB contamination around the plant. The defendant, Textron, the original owner of the facility and the third party defendants, the intermediate owners, all moved for summary judgment concluding their respective “sales” did not constitute “arrangements for disposal.”

125. *Id.*
126. *Id.*
128. *Id.*
129. *Id.* at 1221.
130. *Id.*
131. *Id.*
132. *Id.*
133. *Id.*
134. *Id.*
135. *Id.*
In denying the summary judgment filed by the defendant, Textron, the court noted a number of factors that presented genuine issues of material fact supporting the inference that Textron's decision to sell its plant originally was a transaction for the disposal of hazardous substances. First, the contract of sale between Textron and its buyer, Delta, provided that Delta agreed to "be responsible for properly disposing of all PCB-containing transformers on the property and take responsibility for any hazardous conditions found on the property." In return for that promise the property was sold well below its market value. Second, the court determined that Textron's sale was, in actuality, a mechanism to dispose of the PCB-containing transformers because there was evidence in the record to suggest that Textron did not consider the transformers to be readily saleable due to their PCB-content. Specifically, Textron sold all of its other useful equipment or transferred it to its other plants with the exception of the PCB-containing transformers. Furthermore, the cost of removing and disposing of the transformers was estimated to be approximately $130,000, and Textron believed that only one landfill in the United States would accept such equipment. Given the lack of resale value and the high cost associated with the disposal, the court found that Textron had reason to consider more expeditious and economic ways to rid itself of them. Finally, the court noted that Delta agreed to accept the transformers because of the heavily discounted price of the property. The court also found Delta's summary judgment motion against Textron with reference to its third-party complaint to be without merit for the same reason; that Delta heavily discounted the sale price to the subsequent purchaser.

More recently, similar "sales" of used materials continue to be viewed by some courts as characterizations which seek to immunize the "sellers" from CERCLA liability. In United States v.

136. Id. at 1222.
137. Id.
138. Id.
139. Id.
140. Id.
141. Id.
142. Id. at 1222-23.
143. Id. at 1223.
Pesses, the Government, in a cost recovery suit against twenty-six (26) companies who used a scrap recycler, characterized these actions as "arrangements" for the disposal of hazardous waste at the site. The companies countered, rather, that they had sold valuable products to a metals reclamation plant. Factors alleged by the Government in support of its "arrangement" theory were that Pesses:

sold and/or sent "scrap" materials to the site; that this "scrap" consisted of used or discarded parts and equipment, waste sludges, or metallic byproducts from industrial operations; that said "scrap" contained "hazardous substances" as that term is defined under CERCLA; that although the "scrap" had some residual value, it could not be productively used for its intended purpose processing; and since an inherent part of this processing was the creation and disposal of waste, the scrap which the moving defendants sent to the site was ultimately "disposed" of and "treated" there.

The court agreed with the arguments advanced by the Government.

C. THE PESTICIDE CASES.

What little common sense logic which existed in the previously cited case law was turned on its head with the decisions in subsequent cases involving the "toll manufacture" of pesticide products which take expansive views of the scope of liability under Section 107(a)(3).

In United States v. Velsicol Chem. Corp., Velsicol, Terminex, and Monsanto, as defendants in a Government cost recovery suit,

145. Id.
146. Id.
147. Id. (citations omitted).
148. Although difficult to characterize with any degree of specificity, in a "toll manufacturing" arrangement a primary supplier or manufacturer of materials will contract with a secondary or toll manufacturer for the production of a specific finished product. The primary manufacturer might supply raw materials or primary products to the secondary or toll manufacturer to make a finished product. In other cases, it is possible for the raw materials or the primary products to be purchased on the open market at the direction of either the primary or secondary manufacturer. The degree of control exercised by the primary manufacturer, the specifications to which the finished product should be made, amounts of insurance, indemnities, and ownership of materials throughout the process are left to contract terms and conditions.
149. 701 F. Supp 140 (W.D. Tenn. 1987).
were alleged to have entered into tolling agreements with an independent contractorufacturer for the manufacture of pesticide products from raw materials. The United States had brought suit to recover response costs at the site of both the formulator's operations and a disposal site used by the formulator.150 Defendants Terminex and Velsicol argued, in moving to dismiss the claims pursuant to Rule 12(b) of the Federal Rules of Civil Procedure, that they were not "arrangers for disposal" of hazardous substances, but had merely supplied the formulator with pesticide products.151

The Government, in its brief, urged the court to look behind the arrangement that the defendants had with the formulator and argued, because of the defendants' awareness that the production of the waste materials, off-specification residues, and like materials would be an inherent part of the process, that the defendants were, in fact, culpable of conduct rising to a level of "arranging for disposal."152

The United States does not allege nor advocate that all suppliers (sellers) of raw materials will be liable under CERCLA for response costs relating to releases of hazardous substances by manufacturers or distributors to whom they have sold the raw materials on the sole basis of being a supplier. What the United States does allege is that when the two parties enter into an agreement or understanding involving, in part, a temporary transfer of possession of hazardous substances that does not include a sale of the materials but necessarily does include some disposal of hazardous substances, then if there is a release or threatened release of hazardous substances resulting in the incurrence of response cost, the party that owned the materials may be liable to the United States under Section 107(a)(3) of CERCLA.153

After its denial of the defendants' Motion to Dismiss and for Summary Judgment, the district court subsequently refused to grant defendants' request to take an interlocutory appeal to the federal court of appeals. The district court, in its Memorandum Opinion denying defendants' request added further illumination

150. Id. at 141.
151. Id. at 142.
153. Id. at 33-34 (emphasis added).
to its interpretation of what constituted conduct rising to the level of "arranging for disposal" under CERCLA. It noted that defendant, by entering into a contractual relationship with a third party for the formulation and packaging of chemicals owned by the defendant, knowing that the process contemplated by the contractual relationship would yield hazardous substances which required disposal, "arranged for disposal of hazardous substances" within the meaning of CERCLA. The court furthermore pointed out two other factual reasons for its denial of the defendants' Motion for the Interlocutory Appeal.

There can be no dispute that the entity arranging for disposal need not itself possess the hazardous substance disposed of as a prerequisite to liability. Because it is asserted that they owned the waste and because it was allegedly disposed of pursuant to the requirements of services they contracted for, the complaint must be deemed to have stated facts which potentially establish that defendants "otherwise arranged," if not actually contracted for, the disposal of the waste.

As a separate matter, ... the United States could seek to prove, if the facts warranted it, that defendants exercised active control over the formulation and packaging practices of Arlington Blending. As has been noted, such involvement, irrespective of ownership, is a possible basis for liability.

Another district court similarly found certain companies' conduct in terms of their ability to control, and knowledge concerning, the formulation of waste materials in a pesticide blending operation dispositive on the issue of Superfund liability as it related to a motion to dismiss. Similar to Velsicol, the Government argued that a commercial relationship by a primary supplier of pesticide ingredients with an independent contractor to formulate a pesticide product inherently contemplated, within the commercial relationship, the disposal of hazardous substances. However, in Aceto, the Government argued more clearly than in Velsicol, that "ownership" of material by the primary supplier

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155. Id. at 7-8 (citations omitted).
through the formulation process is a key to the issue of liability.

Unlike persons who sell hazardous substances as primary products, defendants at all times retained the title to the hazardous substances while they were in [the formulator's] possession. By virtue of their continued ownership, defendants have the authority to control [the formulator's] disposition of waste containing the hazardous substances. Persons who sell hazardous substances as primary products do not have the same authority. Thus the United States is not seeking to impose liability on such sellers and a judgement in the United States' favor will not lead to such liability. On the other hand, a judgment in the United State's favor will encourage persons who obtain independent contractors to process hazardous substances to ensure that such contractors properly and safely dispose of waste generated during such process.158

Unlike in Velsicol, the Iowa Federal District Court immediately certified its opinion for decision to the Eighth Circuit Court of Appeals.159 The Eighth Circuit Court of Appeals essentially agreed with the reasoning employed by the lower district court and found, particularly in light of the essential purposes of CERCLA as characterized by the court,160 that because the defendants retained ownership of the materials in question, imposition of CERCLA liability was appropriate.161

158. Memorandum of the United States in Opposition to the Defendants' Motion to Dismiss at 14, United States v. Aceto Agric. Chem. Corp., 699 F. Supp. 1384 (S.D. Iowa 1988) (No. 87-21-W). In denying the defendants' Motion to Dismiss, the court, in dicta, also noted that even if it were not to base its holding on its interpretation of CERCLA, the defendants, would in any event, be liable under common law principles under the Restatement (Second) of Torts, Section 427A (1965). Other courts have based their findings of liability on "arranging for disposal" under CERCLA on similar grounds. See discussion infra Part IIID.


160. The court concluded that the two essential purposes of CERCLA are (1) that the Federal Government be immediately given tools necessary for responding promptly and efficiently to the problems associated with hazardous waste disposal and (2) that those responsible for the problems bear the cost and responsibility for remediying the problems that were created from hazardous waste disposal were best served by imposing liability on the defendants in this case. Aceto, 872 F.2d at 1380-81.

Since the *Velsicol* and *Aceto* decisions have been rendered, a federal district court has been faced with the issue of “tolling agreement” liability under CERCLA Section 107(a)(3) in the context of pesticide manufacturing. In *Levin Metals Corp. v. Parr-Richmond Terminal Co.*, certain defendants in a private cost recovery action, Montrose Chemical Corporation of America (Montrose) and Stauffer Chemical Company (Stauffer), filed motions for summary judgment seeking relief from claims filed against them for DDT contamination resulting from custom grinding agreements for the manufacture of pesticides.

Both Montrose and Stauffer were alleged to have paid companies located at what became known as the Heckathorn Superfund Site, to grind and mix raw technical grade chemicals into pesticides per the respective company's specifications and to deliver the finished pesticide products to the chemical company's customers. The facts adduced in the court's opinion reveal the following concerning the commercial relationships between Montrose and the Heckathorn companies. Montrose shipped its technical grade DDT (raw technical grade material in the form of lumps, flakes or chips) to the Heckathorn companies in its own packaging for further processing. The technical grade material was milled and ground by the Heckathorn company to a flour-like consistency and combined with inert ingredients to produce a final product. During the milling/grinding process, waste residues accumulated on equipment and throughout the facility which were washed out of the building and into the environment. The final product was packaged in a Montrose-labeled container and delivered to a location designated by Montrose.

Since this was a motion for summary judgment, the court did not rule on the ultimate legal issue whether or not Montrose

163. *Id.* at 1448-50.
164. *Id.*
165. The court's opinion does not specifically set forth facts concerning the Stauffer commercial relationships with the Heckathorn companies however it notes that "Stauffer claims that the nature of its deliveries with the Heckathorn site is similar to that of Montrose, and thus joins in Montrose's motion for summary judgment, adopting the arguments presented by Montrose." *Id.* at 1450.
166. *Id.*
167. *Id.*
168. *Id.*
169. *Id.*
(and Stauffer) “arranged for disposal” of a hazardous substance so as to come within the ambit of the expansive language of CERCLA Section 107(a)(3). But, in denying their summary judgment motions, the court made a number of interesting observations regarding concepts of CERCLA liability in this context. The court noted that if it was shown at trial that Montrose (or Stauffer) “affirmatively considered and provided for disposal of excess DDT,” the companies might be liable for cleanup costs if they owned or possessed the DDT at the time. Additionally, citing Aceto, the court noted liability was also conceivable if it could be shown that “generation of hazardous waste was inherent in the process and ... [that] the chemical companies retained ownership of the chemicals and, therefore, authority to control the work in process at all times.” The question, according to the Levin court is “whether there is a nexus between the chemical companies’ acts and the disposal sufficient to warrant imposing liability on the chemical companies.” Montrose immediately filed a motion seeking leave to file an interlocutory appeal on, among other grounds, the “intent to dispose” issue. The court, in denying the motion for interlocutory appeal noted that “intent” is not the issue.

If you anticipate that there will be some loss, or spillage, or leakage, and you accommodate that anticipation by providing a surplus that you do not anticipate being returned, then it seems that’s certainly strong evidence that you intend by virtue of your arrangement to provide for the disposal.

D. OTHER BASES OF LIABILITY UNDER SECTION 107(A)(3)

Other courts in attempting to explore the amblems of CERCLA 107(a)(3) liability have looked to alternate bases for determining

170. Id. at 1451-52.
171. Id. at 1451.
172. Id.
173. Id. at 1451 (citing Untied States v. Aceto Agric. Chem. Corp., 872 F.2d 1373 (8th Cir. 1989)).
174. Id. at 1452.
that the imposition of such liability was appropriate. A New 
Jersey federal district court looked to common law in evaluating 
"arranging for disposal" liability in Jersey City Redev. Auth. v. 
PPG Indus., Inc.\(^\text{177}\) In a private cost recovery action, the plaintiff, 
an urban redevelopment authority, sought reimbursement from 
three sources for costs associated with cleanup of the property: 
from the former and current owner of the property and the 
contractor who had transported contaminated fill from an off-site 
property onto property owned by the redevelopment authority.\(^\text{178}\) 
The defendant waste generator, PPG Industries, was the former 
owner of a parcel of property from which contaminated fill was 
taken to property owned by the redevelopment authority. In 
ruling in favor of the defendant waste generator, PPG, on a 
motion for summary judgment, the court noted the following 
relating to Section 107(a)(3) liability under CERCLA.

Case law interpreting Section 107(a)(3) [liability] holds that the 
responsible party must affirmatively act to dispose of the waste 
Itself—liability under the provision ends with the party who "made 
the crucial decision" how the hazardous substances would be dis- 
posed of or treated. Section 107(a)(3) requires that, in some manner, 
the defendant "dumped" his waste on the site at issue. PPG, by 
conveying the entire property to Cliff in 1964 [sic] while foreseeing 
that waste mud might be sold as landfill by the future owner, did 
not "arrange for" the disposal of that mud onto the Ninth Avenue 
site in 1974. Cliff contracted independently with Ambrosio to 
remove the mud from the Garfield Avenue facility.\(^\text{179}\)

Subsequently however, the district court held PPG liable under 
a strict liability theory for engaging in an abnormally dangerous 
activity of distributing hazardous substances, as that theory is 
supported by the Restatement (Second) of Tort Sections 519 and 
520.\(^\text{180}\)

\(^{178}\) Id. 
\(^{179}\) Id. at 1260 (citations omitted). 
20364, 20367 (1988). Section 519 of the Restatement (Second) of Torts lays out the general 
principle of liability for abnormally dangerous activities.

(1) One who carries on an abnormally dangerous activity is subject to liability for 
harm to the person, land or chattels of another resulting from the activity, although 
he has exercised the utmost care to prevent the harm.

(2) This strict liability is limited to the kind of harm, the possibility of which
The Court specifically noted four factual grounds on which it based its decision to apply the standards set forth in Section 520. First, it is undisputed that the chromium in the concentrations found constituted a hazardous waste posing a high degree of risk to the environment and a potential although lesser risk to individuals. Second, there is a likelihood that the harm to the environment could be great, particularly if it migrated and entered either ground water or the drinking water supply. Third, the risk could not be eliminated by others subjected to it through the exercise of reasonable care, and only those with specialized knowledge of the risks and of the chromium's existence could protect against it. Fourth, the activity of both defendants was inappropriate to the place where it was carried on — it was foreseeable for both PPG and for Lawrence/Clif to anticipate the utilization of said fill in residential areas. Finally, although the fill served some limited utilitarian purpose, its limited value is far outweighed by its dangerous attributes and the risk that it posed to the environment. Therefore, the Court concludes that the distribution of the chromium residue was abnormally dangerous and that these defendants are strictly liable as a result.181

PPG argued that it could not be held strictly liable under the Restatement theory advanced by the plaintiffs because PPG's generation and distribution of the chromium waste was not a proximate cause of plaintiffs' alleged injuries.182 The court rejected this argument.183 The Court found it was foreseeable to PPG when it conveyed the property to Lawrence/Clif that Lawr-

makes the activity abnormally dangerous.

Restatement (Second) Torts §519 (American Law Institute 1977). Section 520 provides factors which are to be considered in determining whether or not an activity is to be considered abnormally dangerous.

In determining whether an activity is abnormally dangerous, the following factors are to be considered:
(a) existence of a high degree of risk of some harm to the persons, land, or chattels of others;
(b) likelihood that the harm that results from it will be great;
(c) inability to eliminate the risk of the exercise of reasonable care;
(d) extent to which the activity is not a matter of common usage
(e) inappropriateness of the activity to the place where it is carried on; and
(f) extent to which its value to the community is outweighed by its dangerous attributes.

Restatement (Second) Torts §520 (American Law Institute 1977).
181. Id. at 20367.
182. Id.
183. Id.
ence would sell the chromium-contaminated landfill to other parties. Additionally, the fact that intervening parties were involved in the transaction did not eliminate PPG's liability for two reasons. First, the court held that since PPG engaged in an abnormally dangerous activity, PPG should not be relieved from liability by the negligence of an intervening actor, and second, the causal chain was not broken by the subsequent actor's conduct.

In a potentially groundbreaking decision regarding Government liability as an "arranger for disposal" under Section 107(a)(3), a federal district court looked closely at other types of "control" factors in determining that the Government knew or should have known that disposal or treatment of hazardous substances was

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184. Id.

185. Id. Other courts have looked to alternative Restatement theories in finding liability in a CERCLA suit. In Kalik v. Allis-Chalmers Corp., 658 F. Supp. 631 (W.D. Pa. 1987), the United States District Court in Western Pennsylvania was faced with a CERCLA private cost recovery action by the owners of a site contaminated by PCBs against the manufacturers and suppliers of products containing the PCBs. Similar to the factual scenarios involved in the Westinghouse and Florida Power & Light cases discussed infra, General Electric was sued in its capacity as a manufacturer of electrical components containing PCBs. GE was named as a defendant in two counts of the complaint. The first alleged a product liability claim under Section 402A of the Restatement Second of Torts and the second alleged negligent failure to warn. Presumably, the private cost recovery complaint did not state a cause of action under CERCLA against General Electric. Section 402A of the Restatement provides for specific liability of a seller of a product for physical harm to an ultimate user or consumer of the product.

(1) One who sells any product in a defective condition unreasonably dangerous to the user or consumer or to his property is subject to liability for physical harm thereby caused to the ultimate user or consumer or to his property, if still (a) the seller is engaged in the business of selling such a product, and (b) it is expected to and does reach the user or consumer without substantial change in the condition in which it is sold.

(2) The rule stated in Subsection 1 applies although (a) the seller has exercised all possible care in the preparation and sale of his product, and (b) the user or consumer has not bought the product from or entered into any contractual relation with the seller.


The Court, on GE's motion to dismiss, ruled that, as a matter of law, the dismantling and subsequent processing of junk electrical components by subsequent purchasers and users of the components was not a reasonably foreseeable use of GE's product and accordingly, the Court dismissed the allegations of injury as a result of the dismantling and processing of junk electrical components. Id. at 635-36.

186. Id.
inherent in the production of rayon during World War II.\textsuperscript{187} FMC had purchased a 440 acre site in Front Royal, Virginia in 1963 which had previously been used by American Viscose and its successors to produce rayon cord for the War Production Board from 1942 through 1945.\textsuperscript{188} FMC subsequently sold the site in 1976 to Avtex. Subsequent to a finding in 1982 that the groundwater under the plant was contaminated with hazardous substances, Avtex signed a consent order with the EPA whereby Avtex agreed to conduct a Remedial Investigation/Feasibility Study, on the site. In 1988, the consent order was amended to include FMC. Thereafter, Avtex in 1990 filed a petition in bankruptcy.\textsuperscript{189} This bankruptcy resulted in a unilateral order being issued by EPA against FMC to conduct the Remedial Investigation/Feasibility Study as well as certain remedial activities. Subsequently, FMC filed a contribution suit against the Government arguing that the United States was liable under CERCLA Section 107, not only as an “owner” and “operator” of the plant during World War II, but also as an entity that “arranged for the disposal of hazardous substances” at the site.\textsuperscript{190} In ruling in favor of the FMC and against the United States on the liability phase of FMC’s case against the United States,\textsuperscript{191} the court made 182 findings of fact which extensively detailed various aspects of the Government’s involvement and control of the Avtex site during World War II and provided the basis for its legal conclusion that the Government knew or should have known about the inherent possibilities of the disposal or treatment of hazardous substances in the rayon manufacturing processes there.

Among the findings of fact which the court made as a basis for its “control” finding were:

1. The high tenacity rayon yarn manufacturing program was urgent and critical to the Government’s war efforts;
2. The Government required the facility to produce specified, increased quantities of high tenacity rayon yarn and to convert and expand its plant to fulfill these production requirements;

\textsuperscript{188} Id. at 472.
\textsuperscript{189} Id. at 473.
\textsuperscript{190} Id.
\textsuperscript{191} Id.
3. The Government exercised active control and hands-on participation in the facility’s conversion and expansion and supplied Government-owned equipment to the facility;
4. Government control of raw materials required for production of high tenacity rayon yarn, Government actions in causing those materials to be supplied to the facility, and Government control of their use throughout the production process was manifest throughout the relevant time period;
5. The Government participated in obtaining and retaining a labor force at the facility and in constructing housing for that labor force during the World War II tenure;
6. The Government was involved in developing and providing specifications for high tenacity rayon yarn and requiring the disclosure of confidential information to other producers and to the Government;
7. The Government defined and controlled the market and end uses of high tenacity rayon yarn produced at the facility during World War II;
8. The Government exercised an active on-site presence at the facility during World War II;
9. The Government controlled the price of high tenacity rayon yarn produced at the facility and the profit of the facility;
10. The Government required and routinely received extensive information relating to virtually all aspects of the facility;
11. The Government had knowledge that the disposal or treatment of hazardous substances was inherent in the manufacture of high tenacity rayon yarn and that its production requirements caused a significant increase in the amount of hazardous substances generated and disposed of at the facility.  

At a minimum, the FMC case will be influential in subsequent cases which involve other potentially responsible parties who manufactured materials for the Government during various war time periods. More troubling perhaps for PRPs is the possibility

192. Id. at 472-85.

that taken to an extreme, the factors set forth by the court in FMC are tantamount to the enunciation of a new "control" test that may expand "arranging for disposal" liability beyond that heretofore seen in Aceto and its progeny.194

IV. THE "BRIGHT LINE TEST" OR LACK THEREOF

Courts have as of yet not identified a truly "bright line" test for determining liability in all circumstances under Section 107(a)(3) of CERCLA, but seem content to examine each case on its facts, particularly the commercial relationships involved between the parties. Some guidance can be drawn, however, from several alternative standards which courts have looked to in attempting to resolve the liability issues under this section of the statute.

First, courts seem to distinguish between those who are liable for "arranging for disposal" versus those who are not based on the type of material which is involved in the transaction. Westinghouse and its progeny clearly hold that the sale of a primary product by one company to another for use in the buyer's product does not create CERCLA section 107(a)(3) liability for the primary producer when the subsequent product is disposed of, despite the fact that the primary product may contain a hazardous substance or be a hazardous substance. (This assumes, of course, that the primary seller did not have any further dealings with the material.) Conservation Chemical appears to be the aberrant authority in this regard where sellers of fly ash and lime slurry used in the cleanup of a Superfund site were found to be liable, despite the fact that one court has characterized Conservation Chemical as a case involving the sale of a waste product or by-product which is not useful and is already hazardous without additional processing.195

Second, courts seem to distinguish, in some instances, "arranging for disposal" liability based on the conduct of the parties. For instance, the A & F Materials court highlighted the relevant

194. Two subsequent cases considered in the actual context of whether or not a franchise relationship between an oil company and a gasoline service station can give rise to liability under Section 107(a)(3) may portend the eventual limits of the extraordinarily broad scope of such liability. See General Electric Co. v. AAMCO Transmissions, Inc., 962 F.2d 281 (2d Cir. 1992); United States v. Arrowhead Retuning Co., No. 5-89-202 (D. Minn., Dec. 21, 1992).
inquiry as being who decided to place the waste into the hands of a facility that contains hazardous waste and further noted that CERCLA liability may end with the party who both owned the hazardous waste and made the crucial decision how it would be disposed of or treated and by whom. Defendants in both A & F and General Electric, for instance, conducted themselves in a manner clearly indicative of arranging to dispose of a material of nominal commercial value. The post hoc rationalizations of the defendants that their conduct was in fact indicative of a “sale of product” did not persuade the courts.

Other federal courts have discussed, in Aceto in dicta, or actually invoked, in Jersey City Redev. Auth., alternative common law rationales for the imposition of CERCLA liability based on tort theories when the courts did not find the necessary facts present to indicate CERCLA Section 107(a)(3) liability.

As an additional matter, courts have opened up a Pandora’s Box of unknown magnitude in discussing potential liabilities of parties involved in a contract relationship for the manufacturer of a product. In the narrow context of the pesticide industry, the Aceto, Velsicol, and Levin Metals courts seem to indicate that if a company (1) sends hazardous substances to an outside contractor for processing; (2) retains ownership and control of the substances at the front end of processing and similarly, ownership of finished product at the end of processing; and (3) can be shown that the commercial relationship inherently indicates that the generation of treatment and disposal of hazardous substances is contemplated in the process, then it can be shown that a company may be liable under CERCLA.

Finally, with the advent of the FMC case, a new theory of “control” has been created which triggers Section 107(a)(3) CERCLA liability in cases in which the Government historically exercised various forms of financial, technical, and managerial oversight over a facility. The continuing expansion of CERCLA Section 107(a)(3) liability will no doubt continue to have profound consequences on the manner in which American industry transacts is business.
JAPANESE ENVIRONMENTAL LAWS AND ENVIRONMENTAL RIGHTS: CASE STUDY ON THE SETO INLAND SEA

by Mitsuru Nakayama*

I. INTRODUCTION

It is said that Japan is one of the countries that arranges environmental laws very well. Most of the Japanese environmental laws were enacted or completed in the early 1970's. They were due to serious environmental pollution caused by the industrial activities in the 1960's, and to the anti-pollution movements by the victims of pollution and by their supporters. As for the Seto Inland Sea of Japan (Seto-naikai), a special law for its environmental protection was enacted under pressure from fishermen's and citizens' movements around the Seto Inland Sea.

Consequently, pollution control has certainly been improved in most areas. But in some areas pollution is not satisfactorily controlled. For example, lack of adequate controls for air pollution by nitrogen oxides, water pollution by organic compounds, traffic noises, pollution by waste disposal, and deterioration of the natural environment by the development of resorts still result in significant problems.

Today the global environment is critical. Almost all nations of the world, including the United States and Japan, take measures to prevent global environmental pollution. To attain this purpose, it is important to take domestic measures as well as international measures.

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We will consider why pollution is not satisfactorily controlled in Japan, and make suggestions to more effectively promote measures against pollution of the domestic and international environments. In looking specifically at Japanese environmental concerns, we will examine the environmental protection of the Seto Inland Sea and the measures against the Seto Big Bridge (Seto-ohasi) railway noise. Lastly, we will look at why it is important to establish the environmental rights of citizens to protect the environment. Before we examine these specific topics, let us first look generally at the system of Japanese environmental laws.

II. JAPANESE ENVIRONMENTAL LAW SYSTEM

A. THE FUNDAMENTAL ACT AND LOCAL GOVERNMENTS' ORDINANCES

The Pollution Prevention Fundamental Act (hereinafter "Fundamental Act"), enacted in 1967, provides a systematic and comprehensive basis of environmental administration. The Fundamental Act places emphasis on preventive measures. The Act had contained a clause which specified that environmental protection should be in harmony with healthy economic growth. This clause was deleted from the Act in 1970, because it was thought that such a provision would allow enterprisers to cause environmental deterioration.

Some of the clauses in the Fundamental Act can be directly materialized and carried out through national and local ordinances. Other clauses initiate or require legislative and admin-
Administrative programs, and are therefore dependent on enactment of other legislative and administrative laws and regulations for their materialization and operation. Both types of clauses also become important standards when interpreting and applying laws or ordinances either instituted based on the Fundamental Act, or laws or ordinances concerned with the Fundamental Act.

The Act provides that the government shall decide and carry out the basic and comprehensive measures to prevent environmental pollution. The national executive body, which shares with the national government the responsibility of environmental administration, is the Environmental Agency which was established in 1971. In addition, many other bodies, including the Ministry of Health and Welfare, the Ministry of Agriculture, Forestry and Fisheries, the Ministry of International Trade and Industry, and the Ministry of Transport, participate in environmental administration. In addition, the Cabinet (Naïkaku), which consists of the Prime Minister and other ministers of state, must submit to the Diet, (Kokkai), the sole law-making organ of the state, a report on the environmental pollution situation and on those administrative measures to prevent pollution, (Kankyō Hakushō).

Local governments are structured in two tiers in Japan. On the first tier are the prefectures and on the second tier the municipalities. There are 47 prefectures, including Tōkyō-to, Hokkaidō, Kyōto-fu, Ōsaka-fu, Kagawa-ken, Okayama-ken and Ehime-ken. The municipalities are the cities, towns, and villages.

Local governments are obliged not only to enforce the anti-pollution measures of the national government, but to also decide...
and carry out measures compatible with the natural and social conditions of their districts.\textsuperscript{16} Every prefectural government has enacted an ordinance for environmental pollution control in order to advance comprehensive measures against environmental pollution in its district.\textsuperscript{17} Many of the municipal governments within each prefecture have also enacted their own ordinances for environmental pollution control.\textsuperscript{18}

\textbf{B. BASIC MEASURES FOR POLLUTION PREVENTION}

Under the Fundamental Act, environmental pollution includes air, water, soil, and noise pollution, ground subsidence, vibration, and offensive odors.\textsuperscript{19} Enterprisers are required to take measures to prevent or lessen environmental pollution within their operations and to make efforts in their production processes to prevent their product from polluting the environment.\textsuperscript{20} In addition, they must adhere to the measures taken by the national and local governments.\textsuperscript{21} Citizens are also required to contribute to the prevention of pollution.\textsuperscript{22}

In taking measures for environmental pollution control, the national and local governments seek to achieve and then maintain environmental quality standards. Environmental quality standards are the standards which are desired to be maintained for protecting human health and conserving the living environment.\textsuperscript{23} The national government sets the standards for air, water, soil, and noise pollution.\textsuperscript{24} These standards establish general levels of environmental conditions, not specific permissible levels of pollutants discharged.\textsuperscript{25} Therefore, such standards by themselves do

\begin{itemize}
    \item \textsuperscript{16} Id. arts. 5 and 18.
    \item \textsuperscript{17} E.g., in 1969, the Tōkyō Metropolitan Government enacted the new Environmental Pollution Control Ordinance, which proclaimed the citizens right to a healthy, safe, and comfortable life.
    \item \textsuperscript{18} E.g., Takamatsu City Government within Kakagawa Prefecture enacted in 1972, the Environmental Pollution Control Ordinance of Takamatsu City.
    \item \textsuperscript{19} Pollution Prevention Fundamental Act, Law No. 132 of 1967. Amended by Law No. 132 of 1970 and Law No. 88 of 1971, art. 2.
    \item \textsuperscript{20} Id. art. 3.
    \item \textsuperscript{21} Id.
    \item \textsuperscript{22} Id. art. 9.
    \item \textsuperscript{23} Id. art. 9.
    \item \textsuperscript{24} Id.
    \item \textsuperscript{25} E.g., Kankyōchō, supra note 7, at 15.
\end{itemize}
not directly restrict polluters. The Act provides for the national government to make efforts to achieve these standards by comprehensive, effective, and appropriate pollution control measures.26

In order to regulate the discharge of pollutants, the national government must set discharge standards for each pollutant and prohibit specified facilities from discharging pollutants exceeding these standards.27 Initially, the discharge standards were directed only for each source. Later, total-emission controls on sulfuroxides and chemical oxygen demand (COD) in some areas were introduced because the discharge standards concerned were insufficient in such areas.28

On the local level, polluting facilities or installers of potentially polluting facilities are required to notify prefectural governors or municipal heads of the standards the facility is designed to meet. The facility is then required to meet these standards.29 The prefectural governor or municipal head can advise or order the offender to correct the plan, facilities or operation, and, if he chooses, can punish the offender.30 An enterprise that has a factory on a predetermined list of industries must also appoint specialists of pollution control for the factory.31 Land use and establishment of facilities that cause pollution can also be regulated.32

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27. Id. art. 10.


29. Many laws make up these regulations. See, e.g., Air Pollution Prevention Act, Law No. 97 of 1968, arts. 3-8, 10-13(2), and 18-18(3); Water Pollution Prevention Act, Law No. 138 of 1970, arts. 3-7, and 9-12(2); Noise Control Act, Law No. 98 of 1968, arts. 4-8, 10, and 14; Vibration Control Act, Law No. 64 of 1976, arts 4-8, 10, and 14; and Bad Odor Prevention Act, Law No. 91 of 1971, arts. 4 and 7.

30. E.g., Air Pollution Prevention Act, arts. 9, 9-2, 14, 18-4, and 33 et seq.; Water Pollution Prevention Act, arts. 8, 8-2, 13, 13-2, and 30 et seq.; Noise Control Act, arts. 9, 12, 15, and 29 et seq.; Vibration Control Act, arts. 9, 12, 15, and 25 et seq.; Bad Odor Prevention Act, arts. 8 and 20 et seq.


These regulations are usually provided by separate laws for each kind of pollutant. As for local ordinances, though, the regulations are usually one ordinance which is called an Ordinance for Environmental Pollution Control. The local government can provide in the ordinance more stringent regulations than the national regulations, without infringing upon the laws or orders of the national government. Administrative punishments for businesses that fail to comply with environmental law include penal or non-penal fines and/or imprisonment with or without forced labor. These punishments, except for non-penal fines, are imposed by criminal procedure.

In addition to these regulatory measures, another effective means of environmental pollution control in Japan is by administrative guidance, such as recommendations and advice. Some reasons for using administrative guidance rather than an order or regulation are: authoritative measures are not always backed by effective or practicable enforcement systems; administrative guidance may offer greater flexibility, particularly where the cost of pollution control equipment may be prohibitively expensive; orders or regulations sometimes are ineffective in regulating new types of environmental pollution; and concrete and realizable agreements between administrative bodies and enterprises often can produce rapid results. There is some opinion that administrative guidance which is not based on statutory provisions is unacceptable because it infringes upon the fundamental principle of administration by law. The majority view, however, is that such guidance is acceptable as long as it is voluntarily, rather than mandatorily, followed by the enterprises.

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33. See e.g., supra note 29.
34. See e.g., the ordinances supra note 17-18.
35. KENPÔ [Constitution], art. XCIV; Local Government Act, Law No. 67 of 1947, art. 14; Air Pollution Prevention Act, art. 4; Water Pollution Prevention Act, art. 3, para. 3. The Local Government Act provides the general principles of organization and management of the local governments, and the relations between the local governments and the State.
36. Supra note 30.
37. KEIHÔ (Penal Code), Law No. 45 of 1907, arts. 8 and 9 and KEIJI SOSYÔ HÔ (Code of Criminal Procedure), Law No. 131 of 1948.
38. E.g., a prefectural governor might advise a discharger of pollutants to cut down the pollutant, to install a certain type of equipment or change to a certain type of fuel.
40. See Harada, supra note 39 at 181-182.
41. Id. at 182-183.
Administrative guidance also facilitates agreements on pollution control. These agreements are usually concluded between the local governments (and/or citizens' organizations) and the polluting enterprises. The subject matter of these agreements can vary, ranging from limitations on raw materials or fuel and obligations to establish pollution control facilities, to the creation of discharge standards and limitations on operation time.

These agreements have increased in number for two main reasons: (1) the agreements permit appropriate implementation of carefully thought-out measures compatible with an area's geographical and social conditions, and (2) they ensure the consent and cooperation of local residents. There is a considerable controversy as to the legal effect of such agreements. While it is widely accepted that the agreements between enterprises and citizens' organizations are valid as civil contracts, there are two opposing opinions as to the legal effect of agreements between local governments and enterprises. One view is that such agreements have no legal effect. The other view is that they have legal effect either as civil contracts or administrative contracts.

On the other hand, the national and local governments must make efforts to offer enterprises financial assistance and tax breaks for the improvement of pollution prevention facilities. The Environmental Pollution Service Corporation, completely financed by the national government, undertakes the development and construction of industrial sites and gives loans to enterprises in order to eliminate industrial pollution. Other semi-governmental organizations also give financial assistance for pol-

42. The first case of the agreement was the one concluded in 1952 between Shimane Prefecture and Sanyô Pulp that aimed to prevent water pollution having a bad influence on fishery. From the agreement between Yokohama City and Dengen-Kaihatsu in 1964 that aimed to prevent air, water, and noise pollution, this form has been adopted as the synthetic pollution preventing measures. The examples of pollution control agreements are printed in Gresser, Fujioka, and Morishima, supra note 3, at 399-404.
43. Nishihara and Kimura, supra note 39 at 86; Harada, supra note 39, at 167-68.
44. See Nishihara and Kimura, supra note 39 at 83-85 and Harada, supra note 39 at 168-172.
46. Environmental Pollution Service Corporation Act, Law No. 95 of 1965.
olution control facilities.\textsuperscript{47} There are special depreciation systems for pollution control facilities, non-polluting production facilities, and waste recycling facilities.\textsuperscript{48}

These measures have promoted conversion to fuel which contains less sulfur; improvement in techniques for combustion; conversion of manufacturing processes; elimination of pollutants from manufacturing processes; reutilization, reclamation, or incineration of discharged substances; and removal or relocation of factories into the areas where there is less economic accumulation.\textsuperscript{49} Under the Act, national and local governments also promote public works that attempt to prevent or limit environmental pollution.\textsuperscript{50} Such promotion can include, for example, the setting up and maintenance of green belt buffer zones surrounding industrial areas, construction and improvement of sewage systems, and construction of waste disposal plants. National and local governments must also make efforts to arrange for systems of monitoring, measuring, and testing pollution.\textsuperscript{51} To achieve this, they must carry out investigations necessary to decide measures, make efforts to spread knowledge about environmental pollution and the need for pollution prevention, and pay attention to pollution prevention when undertaking the improvement and development of regions.\textsuperscript{52} Finally, for those areas where pollution prevention is especially necessary, national and local governments are to promote these measures more aggressively through the use of a Pollution Prevention Plan.\textsuperscript{53}

It is a fundamental principle that monies spent on environmental protection should be paid by polluters. Therefore, enterprises must pay the cost incurred by the national and local governmental works for preventing pollution caused by the activities of the enterprises.\textsuperscript{54} In addition, the national government


\textsuperscript{48} Special taxation Measures Act, Law No. 26 of 1957, arts. 11 and 43; Local Tax Act, Law No. 226 of 1950, additional cl. arts. 14-15.

\textsuperscript{49} Kankyō-chō, supra note 1, at 103.


\textsuperscript{51} Id. art. 13.

\textsuperscript{52} Id. art 14-17.

\textsuperscript{53} Id. arts. 19 and 20.

\textsuperscript{54} Id. art. 22 and Business Contribution to Pollution Prevention Act, Law No. 33 of 1970.
provides financial assistance to the local governments for pollution protection.55

C. DISPUTE SETTLEMENT FRAMEWORK

When a citizen asks the administrative body to take sufficient measures against pollution, the administrative body may of course comply with the citizen's request. According to judicial precedent and the majority view, though, the administrative body has no obligation to comply with the citizen's request.56 It is only when the administrative body has performed an illegal administrative act, for example, issuing an illegal prior authority on the reclamation, that the injured party can bring an action to revoke or annul the illegal act.57 It is regretful, but many courts reject citizen's actions in development cases because the citizen lacks standing.58 In these cases, citizens may request a prefectural governor or a mayor to revoke the prior authorization for reclamation.

When a citizen has been injured, has suffered damages, or is in danger of injury, he can sue the assailant for damages or for an injunction against the injury.59 Of course pollution liability is usually determined through free negotiations between the parties concerned. Many cases involving neighborhood nuisances are solved through negotiations of this type. Only those cases that cannot be solved in this way or by administrative regulatory measures are brought to the court.60 The chief advantages of a civil suit are that it provides a procedure that enables the victims to stand face to face with the assailant and to examine the facts in open court.

57. Administrative Litigation Act, Law No. 139 of 1962, art. 3.
59. For damages, MINTÖ (Civil Code), Law No. 89 of 1896, art. 709. There are no provisions for injunctive relief but scholars and courts unanimously approve of injunction based on real rights (būkken) or personal rights (jinkakkuken).
60. Negotiation is usually preferred over use of the courts to settle these cases. People usually prefer to settle their cases as gently as possible and bringing suit is expensive both in time and money.
In addition, the national government is required to take necessary measures to establish a grievance system on pollution and a system to carry out smooth and effective recovery for pollution damages.\(^{61}\) A system providing for mediation, conciliation, arbitration and award (saitei), and a system providing for a compensatory scheme for health injuries from pollution, has been established.\(^{62}\)

III. ENVIRONMENTAL PRESERVATION OF THE SETO INLAND SEA\(^{63}\)

A. ENACTMENT OF A SPECIAL LAW

The Seto Inland Sea is a sea area of about 2,200,000 hectares bordered by three of the four major islands of Japan; Honshū, Kyūshū, and Shikoku. Since the pre-historical era, the Inland Sea has been the major route connecting Kyūshū and Ōsaka and has also served as one of the most profitable fishing grounds. Its beautiful scenery composed of sea, seashore, inlets, and islands was rivaled by few places in Japan or in the world. The Inland Sea was easily reclaimed since it is shallow to a great distance from almost all shores. The reclaimed lands invited various large industries because of the plentiful water supply.

In the first few social and economic development plans, including the original Comprehensive National Development Plan (First Plan) of 1962,\(^{64}\) and the New Comprehensive National Development Plan (Second Plan) of 1969,\(^{65}\) industrial development was the sole purpose, and the preservation of environmental quality

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was not taken into consideration. As these plans were pushed, the environmental quality of the Japanese Islands rapidly deteriorated. The Inland Sea was no exception.

The shores and beaches of the Inland Sea had been reclaimed one by one and the large scale industries had been set up on the reclaimed lands. Among those industries, steel, oil refining, and the paper and pulp industries developed remarkably. The steel industry reached an annual producing capacity of 31,620,000 metric tons in 1971, which was ten times more than that in 1965.66 The oil industry attained a refining capacity of 1.3 million barrels daily at the end of 1970, which was twenty times more than that in 1955 and which accounted for roughly one-third of the total refining capacity in Japan.67 In 1969, the total output from the factories located around the Inland Sea amounted to 16,772.1 billion yen, which was equal to one-third of the entire output of Japan.68 The total amount of industrial waste water which poured into the Inland Sea during the same year was 7.5 cubic meters, which accounted for 1.4 percent of the total amount of water in the Inland Sea.69 With the rapid development of industry the scale and the number of ships sailing in the Inland Sea, including tankers, increased considerably. The rate of establishment of drainage systems in cities located on the shore fell far behind the rate of population inflow into those cities.

As a result, the water in the Inland Sea was polluted remarkably and the scenic view of nature throughout the Inland Sea was destroyed by reclamation of lands, inflow of incompletely treated household waste water, discharge of raw sewage into the Sea, discharge of industrial wastes into the Sea, and discharge of oil wastes from ships and factories.70

Water pollution by organic matter is far more serious than pollution by other substances. In 1972, the chemical oxygen demand (COD) measure three to eight parts per million (ppm) for a large part of Osaka Bay and Harima Sea areas.71 At this level,

67. Id.
68. Id. at 15.
69. Id.
70. Id. at 27-41.
it is difficult for some kinds of fish to live. For one-third of the Inland Sea area, the COD was higher than two ppm.\textsuperscript{72} The transparency degree was less than four meters for forty percent of the area and only fourteen percent of the area passed the standard of eight meters.\textsuperscript{73} Polychlorinated biphenyls (PCB's) were detected in bodies of fish in several sea areas. Red tides broke out frequently, caused by eutrophication, excessive amounts of phosphor and nitrogen in the water. Fish groups shifted their home, fish catch decreased, fish with offensive odor and deformed bodies were caught, and a large number of fish died as a result of these water conditions. A large scale red tide in the Harima Sea area in 1972 killed a great number of young yellowtails under cultivation and hurt the fishing industry.\textsuperscript{74}

The rapid development of water pollution in the Inland Sea led to legislation of the Act Concerning Provisional Measures for Environmental Preservation of the Inland Sea (Seto Act) in 1973.\textsuperscript{75} The purposes of the Act were to preserve the environment of the Inland Sea, which has an extensive scenic view and plentiful fishing resources, to let people have a chance to share impartially in the benefits of the Inland Sea, and to assure future generations of the enjoyment of those benefits.\textsuperscript{76} The Act obliged the government to promptly draw the Basic Plan for the Environmental Preservation of the Inland Sea (Basic Plan) and to take certain temporary measures until the completion of the Basic Plan's draft.\textsuperscript{77} In order to reduce the total pollution load to one-half of the COD of industrial waste water pouring into the Inland Sea, the Director-General of the Environmental Agency was required to assign limits for each relevant prefecture (Osaka, Hyōgo, Wakayama, Okayama, Hiroshima, Yamaguchi, Tokushima, Kagawa, Ehime, Hukouka, and Ōita). The relevant prefectures were then required to set up more stringent effluent standards than those required in the Water Pollution Control Act in order to

\textsuperscript{72} Id.
\textsuperscript{73} Id.
\textsuperscript{74} Id. at 49, 80-90.
\textsuperscript{75} Law No. 110 of 1973.
\textsuperscript{76} Id. art. 1.
\textsuperscript{77} Id. art. 1 and 3.
reduce the pollution load amount to the assigned limit. Those who would build or modify specified facilities were obliged to get prior authorization from the prefectural governors after the completion of an environmental impact assessment, instead of reporting to the governors post-completion as previously required. The governors of the relevant prefectures were required to take into consideration the special characteristics of the Inland Sea before they authorized the reclamation of land.

B. ENVIRONMENTAL PRESERVATION PLANS

In 1977, the Third Comprehensive National Development Plan (Third Plan) was determined. Environmental considerations were woven, to some degree, into the plan.

In 1978, the Government completed the Basic Plan for Environmental Preservation of the Inland Sea. This Basic Plan was required as part of the Seto Act of 1973. In 1978, the Seto Act was amended and became a permanent statute. The Act was renamed the Act Concerning Special Measures for Environmental Preservation of the Inland Sea. While the amended Act maintained the prior authorization system for the specified facilities and due consideration for the reclamation of land, it introduced the total amount control of water quality in concurrence with the amendment of the Water Pollution Control Act and requested special measures for preventing damage by eutrophication and for preserving natural seashores. In 1981, each governor of the thirteen relevant prefectures, (Osaka, Hyogo, Wakayama, Okayama, Hiroshima, Yamaguchi, Tokushima, Kagawa, Ehime, Hakouka, Oita, Kyoto, and Nara), designed Prefectural Plans for Environmental Preservation of the Inland Sea (Prefectural Plans) based on the Seto Act and the Basic Plan.

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78. Id. art. 4.
79. Id. art. 5-12.
80. Id. art. 13.
83. Seto Act, art. 3.
84. Law No. 68 of 1978.
85. Id.
86. Seto Act, arts. 12-2 through 12-7.
thirteen Prefectural Plans have the following purposes in common.

Relating to the preservation of water quality:

(1) to reach and keep the environmental standards of water quality,
(2) to prevent the outbreak of red tides,
(3) to improve the quality of the sea bottom containing harmful substances,
(4) to preserve algae fields and tidelands, and
(5) to preserve natural seashores.

Relating to the preservation of scenic views of nature:

(1) to adequately preserve the core zones forming the view,
(2) to adequately maintain and care for the green tract consisting of trees and plants on islands and shores,
(3) to adequately preserve natural seashores affording marvelous view,
(4) to clean the surface of the sea and the shores, and
(5) to adequately preserve cultural properties. 88

These purposes were set up, taking into account on the one hand that "the Inland Sea has its own unique view of nature, the beauty of inland seas and islands, jointly composed of natural factors and cultural factors," and on the other hand that "the Inland Sea has characteristics peculiar to a closed sea area around which population and industries are concentrated, which is busy with sea traffic, and which is used in a variety of other ways." 89

The Basic Plan provides for basic measures necessary for the attainment of each of those purposes on the following items.

(1) Prevention of water pollution:
   (a) Enforcement of control over total effluent amount.
   (b) Prevention of damage caused by eutrophication.
   (c) Prevention of oil pollution.

(2) Preservation of scenic views of nature:
   (a) Preservation of wilderness parks.
   (b) Preservation of green tracts of lands.
   (c) Preservation of historic spots, scenic spots and natural monuments.

89. Id. at 12.
(d) Removal of trash and oil.
(3) Preservation of algae fields and tidelands
(4) Preservation of natural seashores
(5) Due consideration for environmental preservation at the time of authorizing reclamation of land
(6) Promotion of construction of sewage systems
(7) Construction of facilities treating industrial wastes and acquisition of locations for those facilities
(8) Removal of sludge lying on the sea and river bottoms
(9) Observation and measurement of water quality
(10) Research and technological development on environmental preservation
(11) Distribution of ideas and promotion of awareness of environmental preservation
(12) Government assistance

Prefectural Plans set up more concrete measures to be taken to attain the purpose of the Basic Plan. Moreover, under the Prefectural Plans, local governments are requested to push the measures, to grasp how the measures are being enforced and their effects, and to coordinate with other relevant local authorities to enforce the plan.

C. DEVELOPMENT AND ENVIRONMENTAL PRESERVATION

As a result of heavy industrial development by the chemical industry with insufficient environmental consideration, residents on the coast of the Inland Sea have had their health and recreational life injured, irreplaceable beauty was destroyed at many points around the Inland Sea, and fish resources were damaged considerably. Although a variety of measures are being enforced for environmental preservation of the Inland Sea, the injured environment has not yet been satisfactorily restored nor will the restoration be easily achieved in the future.

90. Id. at 33-222. (Some items were excluded from the plans of the two prefectures which do not border on the Inland Sea.)
91. Id. at 29, 44, 61-62, 72, 87-88, 103-04, 121-22, 139-40, 155-56, 171-72, 188-89, 205, 222.
93. Setonaikai Kankyō Hozon Shingikai, Setonaikai No Hueriyoka Bōshi Ni Kansuru Kihonteki Kangaekata Ni Tsuite [The Seto Inland Sea Environmental Conservation Council,
Admittedly, in the ten years since the Seto Act was enacted, the water quality of the Inland Sea has improved slightly. The average COD rate in the Inland Sea was 1.6 ppm in 1981, while it was 1.8 ppm in 1972. The percentage, by area of the sea, which met the environmental standard of COD for the Inland Sea is considerably lower than the nation's average rate. Red tides broke out 198 times in 1982, compared to 136 times in 1971 and 236 times in 1977. The number of cases of oil pollution has decreased from 874 in 1972 to 242 in 1982. However, the number still accounts for thirty percent of all oil pollution in Japan. The number of authorizations given for reclamation of land and the size of the authorized area, which may be seen as a function of the industrial development of the Inland Sea area, has decreased considerably since the enactment of the Seto Act in comparison with the two years prior to the enactment. The yearly average number of authorizations for reclamation after the enactment is 218 which is 61 percent of the number in the two previous years. The average authorized area per year since the enactment is 490 hectares, which is 22 percent of that in the two previous years. Nonetheless, pollution by organic substances and eutrophication remains the major problem. This decrease, however, is not only the result of the provision of the Seto Act, which requires special consideration for environmental preservation at the time of authorization of reclamation, but is attributable to other factors. For example, the recession after the "oil shock" in 1974 and the change in the emphasis of Japan's industrial struc-


95. ENVIRONMENT AGENCY, QUALITY OF ENVIRONMENT IN JAPAN 1983 [English version of 1983 Kankyō Hakusho], at 211.

96. Id. at 210.

97. Id.

98. Id. at 214.

99. Id.
ture from heavy chemical industries to high technology industries have contributed to the change.\textsuperscript{100}

An economic analysis reported that the location of factories that were causing pollution did not bring any more benefit to the local economy than expected. Rather, they forced the local government to bear the great expenses for measures to be taken against pollution.\textsuperscript{101} Especially with regard to industries supplying basic materials, the amount of tax revenue contributed by those industries was reduced because operations were suspended or curtailed due to economic recession, while the local government remained burdened with costs to deal with accumulated pollution and other types of environmental deterioration.\textsuperscript{102}

Nevertheless, prefectures lagging behind others in industrial development still show a marked trend toward industrial development.\textsuperscript{103} The Third Comprehensive National Development Plan restricts location of industries supplying basic materials in the Inland Sea Area.\textsuperscript{104} Therefore, the relevant prefectures are eager to bring in industries which cause little or no pollution. New industrial sites are needed for the location of factories causing minimal pollution. The easiest way to satisfy the need is to reclaim, and the spirit of the Seto Act and the Basic Plan for the Environmental Preservation of the Inland Sea have often been overlooked. Recently, the plan to reclaim the Oda Beach near Imabari has been carried out,\textsuperscript{105} although the beach is designated as an urban planning park under the Urban Planning Act,\textsuperscript{106} and the sea extending in front of the beach is designated as a national park under the National Park Act. The area covers 34 hectares.\textsuperscript{107}

\begin{itemize}
\item \textsuperscript{100} Nihon-Kagakusha-Kaigi Setouchi Ininkai, \textit{Umetate Jigoku No Setouchi Engan} [Inland Sea Committee in Japanese Scientist Council, The Inland Sea Coast Going to Hell by Reclamations], 38-42 (1985).
\item \textsuperscript{101} K. Miyamoto, \textit{Nihon No Kankyō Mondai}, Zōkan [Environmental Problems in Japan, Enlarged Ed.], 17-20 and 273-75 (1981).
\item \textsuperscript{102} Id. at 20.
\item \textsuperscript{103} Nihon-Kagakusha-Kaigi Setouchi-Ininkai, \textit{supra} note 100, at 40-41.
\item \textsuperscript{104} Ch. 4 § 1(6).
\item \textsuperscript{106} Ikeuchi v. Mayor of Imabari, 1295 Hanji 27 (Matsuyama Dist. Ct. Nov. 2, 1988).
\item \textsuperscript{107} Id.
\end{itemize}
Moreover, construction of sewage and waste disposal plants is in progress at various places around the Inland Sea. Residents are increasingly of the opinion that more reclamation should not be authorized in the Inland Sea. Even for sewage and waste treatment plants, where reclamation has been carried out, the quality of the environment has deteriorated extensively. These residents organized a residents' movement and brought suits against reclamation in various communities.

For example, in the Oda Beach Case, the residents in Imabari brought an inhabitants' action based on Article 242-2 of Local Government Act. They sought an injunction against the expenditure of public money authorized by the mayor for reclamation of the beach. But Matsuyama District Court dismissed the claim because the mayor's act was not so seriously illegal, and Takamatsu High Court rejected the suit because it judged the object of the suit was not specified.

The Third Plan promoted more big construction projects such as the Seto Big Bridge and the construction of the Kansai International Airport; but environmental deterioration occurred due to the projects. The Seto Act was not useful to prevent this deterioration. We will consider the topic related to the Seto Bridge in the next section.

The content of the Basic Plan is generally based on coordination with the Third Plan. Those tasks, which seem to have been designed unilaterally from the viewpoint of environmental preservation in the Basic Plan, were in fact designed as the result of coordination between development and environmental preser-

110. E.g., the residents near Nishinomiya-Kōshienhama Beach had brought an action for revoking the prior authority by Hyōgo Prefectural Governor on the reclamation of the beach. This suit concluded with the compromise in 1982. The residents near Kaida Bay had brought an action for revoking the prior authority by Hiroshima Prefectural Governor on the reclamation of the bay. This suit also concluded with the compromise in 1984.
111. Law No. 67 of 1947.
Those who insist on environmental preservation criticize the Basic Plan, arguing that the Plan lacks coherence in environmental preservation.\textsuperscript{115}

However strongly the development plan may stress the importance of environmental preservation on paper, the environment will be difficult to preserve so long as the plan sets the growth of the gross national product (GNP) as the supreme order and gives higher priority to industrial development. The environment will ultimately be preserved only by a development plan that recognizes the value of the environment and allows for development that will effect this purpose.

The improvement of environmental quality of the Inland Sea, or rather the prevention of further deterioration, has been realized not only by the integration of environmental policy into industrial policy, but also through the separation of government offices which have authority over these two policies.\textsuperscript{116} In other words, the separation between the Ministry of International Trade and Industries, the Ministry of Construction and the Ministry of Transportation on the one hand, and the Environmental Agency on the other hand has played a substantial role in this environmental improvement. When the same office had authority over both policies, even though integrated, it tended to put weight on industrial development.

The local governments, which have the direct responsibility for both developing the area and preserving the local environment, may make a substantial contribution to environmental preservation. They must clearly recognize that environmental preservation is a very important consideration for the development of the area from a long-range point of view, and that the key to local development is to make the most of and to actively develop a rich, natural environment.

The last but not the least important factor for environmental preservation is the residents' movement which demands that

\textsuperscript{114} The Third Plan, ch. 5 prescribes that the plan must be in cooperation and adjustment with the environmental preservation plans. The Basic Plan was determined six months after the decision of the Third Plan.

\textsuperscript{115} M. Itō, Setouchi-hō No Zisshi Katei [The Operation Process of the Seto Act], 8 Hiroshima Daigaku Sōgōkagakubu Kyōi Shkai Bunaka-Kenkyū, 42, 45 (1983).

local governments take the above position and which keeps watch on each measure taken by the government. Without such a movement, local governments tend to neglect environmental preservation. After all, it is imperative that each resident have a vision for his future life based on the recognition of the importance of environmental preservation.

IV. SETO BIG BRIDGE RAILWAY NOISE CASE

A. ENVIRONMENTAL IMPACT ASSESSMENT

The Seto Big Bridge railway noise case shows the other topic concerning the protection of the environment of the Seto Inland Sea Area. This topic concerns an Environmental Impact Assessment (EIA). First, we will consider an EIA in Japan.

When there is a proposal to construct or change a specified facility, or to carry out a specified land development enterprise which may cause serious harm to the environment, an EIA must be carried out based on an act, a prefectural ordinance, or an administrative guidance. One of the few acts on which an EIA is based is the Seto Act. According to the Seto Act, those who discharge waste water into public water from the factories in the Seto Inland Sea area must implement an EIA as part of the permission system introduced to prevent water pollution in the sea.

118. Seto Act, art. 5 provides:
   (1) Those who discharge waste water into public water from factories in the relevant prefecture must get prior authorization of the prefectural governor in the way provided on the order of the Prime Minister's Office, when they want to construct the specified facilities.
   (2) Those who want to get prior authorization in the preceding paragraph must submit to the prefectural governor an application in which they mention the following items:
      a) Their name and address, and if they are juristic persons, the name of the party they represent;
      b) the name and address of the factory;
      c) the kind of facility;
      d) the structure of the facility;
      e) how the facility will be operated;
      f) the method of disposal of waste water;
      g) the quantity of waste water that will be discharged;
      h) the pollution conditions of the discharged water, and other items provided
An EIA carried out or participated in by the state and concerning designated kinds of big enterprises is regulated as follows based on a cabinet decision.\textsuperscript{119}

Those proposing an enterprise must conduct a survey to estimate what influence the enterprise might have on the environment, and draw up an EIA preliminary document which contains the results of the survey in conformance with guidance established by the appropriate Minister.\textsuperscript{120} It must be disclosed to authorities and to concerned citizens.\textsuperscript{121} After hearing opinions of the authorities and citizens, and examining the contents of the preliminary document, the proposers draw up an EIA document and disclose it.\textsuperscript{122} The appropriate authorities then judge whether the enterprise is proper in the light of pollution prevention and preservation of the environment, and decide whether to approve or require modification or abandonment of the enterprise.\textsuperscript{123}

\textbf{B. ENVIRONMENTAL IMPACTS DUE TO THE BRIDGE}

The Seto Big Bridge was completed in 1988. It is a series of bridges across the Bisanseto Straits which are 9.4 kilometers wide between Kagawa and Okayama Prefecture. It is constructed

on two levels, an upper roadway and a lower railway. Three of the six main bridges which span the sea are suspension bridges, each of which is about 1.5 kilometers long. Two of the remaining three are bridges with slanting supporting cables, each of which is 790 meters long. The other bridge is a truss bridge which is 850 meters long. These iron bridges are bound to each other with overhead concrete bridges on three small islands where people live.

The construction of the Seto Big Bridge had been decided upon in 1973, as one of the three routes between Honshu and Sikoku. The work for the bridge was started in 1978, after the EIA had been published by the Honshu-Shikoku Bridge Public Corporation, inspected by relevant residents and local governments, and was followed by a presentation of written opinions.

Feared environmental impact from the construction of the Bridge was the destruction of the natural scenery, bad influences on fishing, air pollution caused by automotive exhaust, and railway and traffic noise.

Efforts were made to create artificial beauty and to conserve excellent natural scenery. For example, after starting work, the Mt. Washu section has been changed from an open-cut to a tunnel, and two bridges have been changed from truss bridges to bridges with slanting supporting cables, due to complaints relating to the EIA. Expected negative effects on fishing included the disappearance of fishing ground due to the construction of the bridge piers, fish killed by blasting of the sea bottom, the creation of an area where fishing was prohibited during the term of the work, and the dredging of gravel from the sea. The Honshu-Sikoku Bridge Public Corporation negotiated with the Fisherman's Associations, and reached agreement to start work and to compensate for damages. Actually, the fishing catch has de-

125. Id. at 4.
126. Id. at 6.
129. Nakayama, supra note 127 at 3-5.
130. Id., 6-7.
creased. Many fishermen guess that the chief causes are reckless fishing, reclamation, the water pollution caused by the Mizushima Industrial area, the dredging of gravel from the sea bottom, and the construction of the Seto Big Bridge.\(^{131}\)

With regard to the environmental conservation standard for nitrogen dioxide in the EIA statement, the environmental quality standard in affect at that time in Japan was not adopted in the EIA. The World Health Organization (WHO) standard was actually adopted.\(^{132}\) This was a backward step, and opened the door to overall relaxation of the environmental standards. There were also some questions about the contents of the assessment.\(^{133}\) So the plan was partially changed after the start of the work. At present, no claims have surfaced regarding air pollution.

\section*{C. RAILWAY NOISE}

In addition to concern over the effect of the bridge upon the Inland Sea, the residents along the bridge have complained of the railway noise. In the EIA statement, the environmental conservation standard for the railway noise is under 80 decibels (Db) in general sections and under 85 Db in long and big bridge sections.\(^{134}\) The stated goal was to reduce the noise level by 5 Db.\(^{135}\) The acceptance of this goal was due to the opinion of the Director General of the Environmental Agency.\(^{136}\) The Kagawa and Okayama prefectural governors had demanded in their written opinions that the environmental quality standard for Shinkansen railway noise, which is under 70 Db in residential areas and under 75 Db in other areas should be applied as the environmental conservation standard.\(^{137}\) On the other hand, the Honshu Shikoku Bridge Public Corporation and resident councils of islands under the bridge had agreed in writing that the

\begin{footnotes}
\footnote{131. Id. 5-6.}
\footnote{132. Honshu-Sikoku Renrukukyo Kodan, Honshu-Sikoku Renrukukyo (Kojima-Sakaide Ruto) Kankyō Eikyo Hyokasyo, [Honshu-Sikoku Bridge Corporation, Environmental Impact Assessment for the Honshu-Sikoku Bridge (Kojima-Sakaide Routel)], 228 (1978).}
\footnote{133. See, Nakayama, supra note 126, at 18. (The questions were concerned with the formulas used to estimate the pollution, the land condition, the weather data, and the background density of the pollution considered.)}
\footnote{134. Honshu-Sikoku Renrukukyo Kodan, supra note 132, at 262.}
\footnote{135. Id. at 264, 460, 483.}
\footnote{136. Id.}
\footnote{137. Id. at 461, 463.}
\end{footnotes}
corporation would take the best possible measures for environmental conservation.

The actual noise from the bridge was over 80 Db near some houses. The residents who live in what had been a very quiet area suffered from a noise level comparable to being on a train or standing on a noisy street. They have demanded of the Public Corporation and the railway corporations to mandate noise-preventive equipment and to slow down the trains.

The railway corporations have established and enforced design guidelines for measures to reduce the Shinkansen railway's noise. These guidelines are in accordance with the guidelines for the Shinkansen railway noise control measures. But there is no guideline against general railway noise, including the Seto Big Bridge railway noise. Nevertheless, the residents' demands are partially met through the responsive action of local administrative bodies. In this case, the items in the EIA statement, especially the concrete environmental conservation standard for the noise, work as some guideline for the settlement.

This experience with the Seto Big Bridge can be an educational one. It has shown us that the EIA system has actually played a big role in environmental conservation. Through this process, citizens can let their opinions relating to environmental conservation reflect in the development work, and the state or the prefecture can give the entrepreneur administrative guidance for environmental conservation.

But difficult problems will occur after the completion of the work if the environmental conservation standards made in the assessment are not proper, if the entrepreneur does not present the citizens the standards or the assessment in a way they can understand, if he does not answer their questions and opinions properly, or if he does not change his plan to include their opinions. It is also possible that these problems will frequently arise within the EIA system in Japan. This repetition of problems could be due to weaknesses which arise from the fact that it is

138. See Nakayama, supra note 124, at 7, 40-41.
139. See Nakayama, supra note 127, 10-11, 15-17, 40-41.
140. General Principles for Countermeasures Against Shinkansen Railway Noise, Cabinet Approval on March 5, 1976.
141. Kankōchō, supra note 117, at 100.
not the authorizing local government, but rather the entrepreneur himself, that assesses the impact, and also from the fact that the law does not assure citizens respect for their opinions.

V. CONCLUSION - ENVIRONMENTAL RIGHTS

The environmental policy of Japan under the present environmental law system has obtained good results. On the other hand, it has also taken a step backward beginning in the late 1970's, resulting in an increase in pollution that is not satisfactorily controlled.

What are some of the causes for this step back in the advancement of Japanese environmental law? First, due to the recession after the so called "oil shock," the enterprises lost profits. To save money, they cut down on measures for environmental pollution control. Second, there are weaknesses in the Environmental Agency. The administrative objects of the Environmental Agency are limited, and the general professional character and reputation of the Environmental Agency is lacking. It is organized by many persons who are sent by other ministries. It is strongly influenced by other ministries. Agency policy is likely to be adjusted in a secret room. As to daily administrative decision making, the environmental interest generally has a tendency to be given less weight than the developmental interest. Therefore, parties who strive for environmental conservation have less influence on administrative decision makers.

Given these conditions, local governments have thus far actually been more advanced in environmental policy than has the national government. This is possibly due to the fact that local autonomy can be more in touch with residents' interests than can the politics of the central government, and so the local government can reflect the residents' opinions more directly. The driving force which prevents pollution and conserves or creates a quality environment lies in residents' movements, which ask that these purposes be met or that efforts be mandated to attempt to realize them. The local governments have cooperated with these citizen movements, resulting in an advancement of environmental policy.

These facts show us that, in order to promote environmental policy and to prevent its retreat, it is necessary that residents should have the rights to participate in the administrative process, and to lodge a complaint with the court for preventing...
pollution or for conserving a quality environment. These rights, which we may call “environmental rights,” is not clearly provided in the present statutes. It is, therefore, desirable that a statute which clearly provides environmental rights of residents be enacted. But at the same time, I advocate that we should also interpret present laws in a way that provides such environmental rights for residents.

Environmental rights means that all people should have a calm and comfortable living environment of air, water, sunshine, ventilation, and natural scenery. Such a right was first asserted in 1970. One interpretation recognizes that this right is one of our basic rights, and is based on the right to life and the right to the pursuit of happiness found in the Constitution in Articles 25 and 13. In addition, Irihama-ken, the resident’s rights to comfortable environments, for example, seashores, rivers, and lakes has been asserted since 1975. Some residents insist that “from ancient times, the sea is owned by all people, and it is a right previous to any law, to walk on the seashore, to enjoy the scenery, to fish and swim there, or to get means of livelihood there including to ladle sea water, to gather driftwood, sea shells and lavers.” Some insist on the view, similar to that of Anglo-
American law, that the shoreline is a public trust, and prefectures are therefore required to preserve them.\textsuperscript{148}

On the basis of these notions, I advocate development of environmental rights as a private-common use and take the position that positive law approve this right. Environmental rights includes “use of natural public property.”\textsuperscript{149} It means that each rightful fisherman or resident may use natural public property, such as a public sea area, a natural seashore, or a reef, for sea bathing, gathering sea shells, or enjoying the scenery. It includes also “the environmental right to air,” “the environmental right to water,” and “the environmental right to earth.”\textsuperscript{150} It means that each resident may use air, water or earth for his quality living environment.

Generally, environmental rights are a private-common right, which means that each rightful person may use a specified environment, with the same contents and in the same way as any other rightful persons may use it.\textsuperscript{151} Each rightful person has no power to dispose of his right, such as to transfer it to another, or to waive it.\textsuperscript{152} But he may claim an injunction against disturbance or for restitution of the environment in order to exclude those who would disturb him or to prevent disturbance when his use is or will be affected.\textsuperscript{153} The details and method of use may be decided by a majority of the persons who may rightfully use the same environment.\textsuperscript{154}

Proper management of the environment must be based on the agreement of a large majority of the many persons who have the right to use the same environment. But, for the sake of convenience, usually the state or a prefecture may manage it. As to the disposal or granting of environmental rights, the proper administrative procedure is the procedure which, in substance, takes the place of an agreement of many rightful persons. We must understand that a public hearing, an EIA, and the standards of permission relating to developmental works are parts of the

\textsuperscript{148} T. Awaji, Kankyō No Hōri To Saiban (Legal Theory Of Environmental Rights And Judgment), 102-103 (1980).
\textsuperscript{149} M. Nakayama, supra note 144, 9-15.
\textsuperscript{150} Id.
\textsuperscript{151} Id.
\textsuperscript{152} Id.
\textsuperscript{153} Id.
\textsuperscript{154} Id.
process of this management or disposal of environmental rights. In spite of the administrative procedure, residents are not deprived of the right to raise a civil suit to claim an injunction based on private law, unless the procedures have fully brought out the residents' opinions, such as through a residents' vote or a procedure which gives opportunity for question and answer by direct confrontation.\(^{155}\)

In addition to enterprises, the natural environment which a private person possesses can be subject to the environmental rights and interests of many residents.\(^{156}\) This burden upon a private person's possession is termed as a restriction of his possession.\(^{157}\) My advocacy of environmental rights as an interpretive discussion will not easily be adopted by Japanese courts, because Japanese courts strongly avoid creative interpretation. On the other hand, the Pollution Prevention Fundamental Act is to be amended into the Environmental Fundamental Act. This amendment will promote recognition of environmental rights. But, this is far from reassuring. Environmental rights still need a firmer theoretical basis and more materialization. I suppose we have much to study in American law with this view.

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155. Id.
156. Id.
157. Id.
PITTING THE INSURER AGAINST THE INSURED:
LITIGATING INSURANCE COVERAGE ISSUES
ARISING OUT OF ENVIRONMENTAL CLAIMS

by Jonathan P. Saxton, Esq.*

The issues surrounding insurance coverage for environmental claims are both significant and controversial. Claims are discussed in terms of millions of dollars. Liability imposed under Superfund and many other federal and state environmental statutes is both strict, and joint and several.1 The impact on the business community is tremendous; in turn, the business community is looking to the insurance industry for relief in the form of defense to claims made and indemnification for claims paid.

Claims under insurance policies that relate to the generation, handling, or disposal of hazardous waste raise several unique issues. The claims are significant in monetary worth and complexity. The claims often relate to conduct or an action/condition which occurred or developed many years before the claim was actually made. These occurrences often extend through time periods spanning different policies with different policy terms and conditions, or through periods of coverage through separate insurance companies. The nature of relief sought is nontraditional, such as an order to clean up a waste site, or to pay for its clean up.

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The views expressed in this article are those of the author and not necessarily those of Rendigs, Fry, Kiely & Dennis or its clients.

1. Superfund is the common name for the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. §§ 9601-22 (1980), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA). Other pertinent federal environmental statutes include the Clean Air Act (CAA), 42 U.S.C. §§ 7401-7642, the Federal Water Pollution Control Act (FWPCA), 33 U.S.C. §§ 1251-1387, and the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §§ 6901-92 (1976). Many states have corresponding laws or regulations, including "mini-superfunds." Liability may also be based on common law tort theories. Discussion of liability under these statutes or under the common law is beyond the scope of this article.
This article will address the most litigated issues surrounding insurance coverage for environmental matters. A thorough discussion of each issue is beyond the scope of this article. Indeed, each issue deserves study on its own, and each has been the subject of commentary.

I. THE INSURER'S DUTY TO DEFEND

A. A Contractual Duty

The duty of an insurer to provide a defense for claims asserted against its insured is contractual. An insurer's defense obligations must be determined from the language of the insurance policy. Some courts have held the defense obligation need not be explicitly set forth in the policy. Enforcing an implied defense obligation, these courts hold that the duty to defend arises where the policy gives the insured a reasonable expectation that the insurer will provide a defense.

The scope of the insurer's duty to defend is dependent upon the wording of the “defense” clause within the insurance policy. There are generally two types of defense clauses found in Comprehensive General Liability (CGL) policies.

2. Generally, the comprehensive general liability (CGL) policy will be discussed in this article, although many of the concepts apply to other types of business or personal insurance.

3. Both the Environmental Law Institute and the Bureau of National Affairs have annual or cumulative bibliographies. The 1992 Law Review Bibliography, 22 ELR 4001, and bibliographies for previous years, index law review articles concerning all aspects of environmental law, including insurance coverage issues. BNA's Environment Reporter contains periodic indices which provide additional reference sources.

4. James Graham Brown Found., Inc. v. St. Paul Fire & Marine Ins. Co., 814 S.W.2d 273, 279 (Ky. 1991) ("The defense clause in the policy contract is a contractual right of the insured for which he has paid a premium ...."); Vanguard Ins. Co. v. Clarke, 448 N.W.2d 754 (Mich. Ct. App. 1989); All-Star Ins. Corp. v. Steel Bar, Inc., 324 F. Supp. 160 (N.D. Ind. 1971) (the nature of the insurer's duty to defend is purely contractual; there is no common law duty as to which the courts are free to devise rules). It is universally accepted that the insurer's duty to defend its insured is separate and distinct from any duty to indemnify the insured. See, e.g., Wolford v. Wolford, 662 S.W.2d 835 (Ky. 1984) ("holding the obligation to defend the insured is set out in the insurance contract and is separate from the duty to provide coverage and to pay").

5. See, e.g., Okada v. MGIC Indem. Corp., 823 F.2d 276 (9th Cir. 1986) (applying Hawaii law) (finding it could not have been clear to insured, at time of contracting, that there would be no protection from legal fees and costs; insurer failed to clearly exclude these items).

6. Id.
1. The "broad defense clause": "[T]he company shall have the right and duty to defend any suit against the insured seeking damages [payable under this policy], even if any of the allegations of the suit are groundless, false, or fraudulent...." (emphasis added).7

2. The "narrow defense clause": "If a claim is made or ... brought because of bodily injury or property damage to which this coverage applies, we will ... provide a defense...." (emphasis added).8

The courts take into consideration the form of the defense clause when addressing duty to defend issues. For example, the Ohio Supreme Court has set forth separate tests for determining the duty to defend under the two defense clauses.9

As can be seen from the plain language of the provision, the broad defense clause obligates the insurer to provide a defense for the insured against claims even if those claims are actually groundless, or even if the claims against the insured are actually fraudulent. This has the effect of passing to the insurer the risk that a spurious claim is brought against the insured. This is indeed a broad duty. A body of case law, as described below, has developed as to the scope of this duty; that is, as to when the duty to defend arises.10

B. What is the Scope of the Duty?

Courts express the test for determining the boundaries of the insurer's duty to defend the insured under the broad defense clause consistently in meaning, but variedly in expression. Courts have expressed it as imposing a duty to defend on the insurer "if there is any allegation which potentially, possibly or might come within coverage of the policy;"11 "where coverage of the

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9. Compare City of Willoughby Hills v. Cincinnati Ins. Co., 459 N.E.2d 555 (Ohio 1984) (broad defense clause; consider four corners of complaint and insurance policy) with Preferred Risk, 507 N.E.2d 1118 (narrow defense clause; consider underlying facts in addition to policy and complaint). The court is more likely to impose a duty to defend when the policy contains the broad defense clause.
10. See cases cited supra notes 11-22. These cases involve both environmental and non-environmental matters.
claim against its insured is debatable;"12 "when the allegations of the complaint are sufficient to bring the case either within or potentially within the policy coverage;"13 "when [the complaint against the insured] alleges at least marginally and by reasonable implication conduct within the coverage of the policy;"14 "where [the allegations of the complaint] state a claim which is potentially or arguably within the policy's coverage;"15 or "if, under facts as alleged in the complaint, there is a potentiality that the claim could be covered by the policy."16 Additionally, courts have held that there is no duty to defend where the complaint against the insured fails to allege any claim that is covered under the insurance policy.17

This broad duty to defend extends beyond the arguable or potential claims referenced above. Most courts have held that when the allegations of the complaint lodged against the insured include both matters potentially within coverage and matters that are not even potentially within coverage, the insurer must defend the insured against all the claims.18 There is, however, contrary authority holding that the insurer is obligated to defend only the claims that fall within the scope of coverage.19 The issue


17. See, e.g., Wedge Products, Inc. v. Hartford Equity Sales Co., 509 N.E.2d 74 (Ohio 1987) (holding no duty to defend existed because there was no possibility of coverage under the policy).


is whether the claims are segregable. There is no contractual duty on the insurer to defend the entire action; courts, as a matter of practicality, will impose a blanket defense obligation on the insurer unless the claims can be separated. The burden is on the insurer to demonstrate to the court that it is possible and practical to separate the claims.

C. The Court's Inquiry

In determining whether the claims asserted against the insured fall within the insurance policy's coverage, the courts have developed several tests. The most predominant is the "four corners test." Under this test, "[the] duty to defend is determined by examining the 'four corners' of the [pertinent] complaint and the policy to determine if the contents of the complaint, when taken at face value, allege a cause of action which is potentially covered by the policy." This approach requires the court to blind itself of available evidence that could affect the determination of the insurer's obligations. However, the four corners test does further the public policy of making an early determination, and of avoiding protracted litigation, as to the duty to defend issue.

Insureds take the position that the court need not look beyond the four corners, since the insurer is obligated to defend even if the claims against the insured are groundless. This argument though ignores the insurer's contrary position that it is not

App. 1986) (holding that when complaint alleges several causes of action, some of which are covered by the homeowners policy and some of which are not, insurer is obligated to defend only those actions that fall within the scope of the insurance coverage).

20. Id.


22. See, e.g., Lawrence, 724 P.2d at 424 (holding insurer liable for entire costs of the defense when insurer made no attempt to segregate the claims against it).

23. Hartford Accident & Indem. Co. v. Gulf Ins. Co., 776 F.2d 1380, 1382 (7th Cir. 1985) (applying Ill. law) (alteration in original) (quoting Dreis & Krump Manufacturing Co. v. Phoenix Ins. Co., 548 F.2d 681, 683 (7th Cir. 1977)) (stating that duty to defend is not extinguished even if the insurer knows of facts which show the claim is actually outside of the insurance coverage). Under the four corners test, only if it is clear on the face of the allegations that the claim is beyond policy coverage can the insurer conclude that he has no duty to defend the lawsuit. State Farm Fire & Casualty Co. v. Shelton, 531 N.E.2d 913 (Ill. App. Ct. 1988).

24. Insureds will take this position only if the underlying facts cast doubt on the existence of coverage. It is typical for an insured to file a motion for summary judgment as to the duty to defend. Of course, factual issues could defeat such a motion.
obligated to defend the insured for claims made against it that are outside the insurance coverage. While the insurers have contractually bound themselves to defend the insured against claims even if the claims are false, there is no obligation to defend the insured against claims that, whether true or false, are not covered by the policy of insurance. Many insurance coverage cases are simple cases involving one insured, one insurer, and a discrete incident that is alleged to be the loss. In such cases it may be possible, and reasonable, for the court to compare the policy document with the underlying complaint to determine the existence or nonexistence of the duty to defend.

However, in a case where there are multiple insurers involved, with varying policies, a loss that took place over a period of years, and with potentially thousands or millions of dollars at stake, it would not be reasonable, or acceptable, for the court to determine the existence of the duty to defend in a sterile atmosphere, deprived of available evidence relevant to its determination. The courts should, and must, look beyond the four corners of all competent evidence that the parties can produce. This is not without precedent. The courts do look beyond the four corners of the complaint and the policy when the policy contains the narrow defense clause. According to the Ohio Supreme Court, as stated in Preferred Risk v. Gill, where the insurer only promised to defend claims for bodily injury or property damage to which its coverage applied, the true facts of the case are determinative of the insurer's duty to defend the insured. Thus, under the narrow defense clause, the court must consider the facts of the underlying case, rather than simply the allegations of the complaint. The insurer has no duty to defend the insured where it can demonstrate the act of the insured was outside the policy coverage. This reasoning should likewise hold true in cases involving the broad defense clause, since the insurer's

25. Preferred Risk, 507 N.E.2d at 1122.
26. The insurance coverage principles governing today's complex issues were created years ago under such scenarios.
27. 507 N.E.2d 1118 (Ohio 1987) (involving declaratory judgment action to determine coverage obligations where insured, who pleaded guilty to aggravated murder with specifications, was sued for wrongful death and negligent infliction of emotional distress).
28. Id.
29. Id. at 1122. ("It is illogical and unfair to require the insurer to ... defend the insured regardless of the actual facts.").
obligations should be controlled by its contract, the policy with the insured, and the actual facts.

II. ENVIRONMENTAL CLAIMS: ISSUES OF LOST POLICIES AND DELAYED NOTICE

Many claims for insurance coverage for environmental matters arise years after the conduct or event. Two of the recurring issues in insurance coverage disputes are the missing insurance policy and the insured's obligation to provide notice to its insurer.

Since an insurance policy is a form of written contract, any suit, by either the insurer or the insured, requires production of the policy. The federal rules of evidence, which most states have mirrored, generally require the use of the original writing to prove the contents of that writing. This is commonly known as the "best evidence rule." An exception to the best evidence rule provides that the absence of the original writing is excused, and secondary evidence is admissible, if the original has been destroyed or, following a good faith search, determined to be lost.

The party seeking coverage under an insurance policy has the burden to prove the policy's existence and its terms. The failure to prove the existence of policy or terms could result in a finding of no insurance coverage for certain periods of time. The majority of courts hold that the terms of an insurance policy must be established by clear and convincing evidence. There is contrary authority holding that a preponderance is sufficient to prove

30. JOHN APPLEMAN & JEAN APPLEMAN, INSURANCE LAW AND PRACTICE, § 12094 (1980).
31. FED. R. EVID. 1002.
32. FED. R. EVID. 1004(1). Secondary evidence in a coverage dispute may take many forms, including: oral testimony of employees, sworn statements, business records, certificates of insurance, correspondence between policyholder and carriers, and proof of premium payments.
the existence and terms of a missing insurance policy.35

Regardless of the burden of proof which rests on the insured, both the insured and insurer will be compelled to look for and produce all relevant insurance documents. The insured strives to find documents so as to invoke insurance coverage, and it is therefore in its interest to locate the documents. From the insurer's perspective, the documents may raise policy limitations, exclusions or defense, and may even identify additional insurers which could share in the coverage of the risk. In any event, documents retained by the insurer related to the insured are generally discoverable and will likely be produced.36

The second issue stemming from delayed environmental claims is whether the insured provided its insurer with notice of the claim or potential claim within the time limitations of the insurance policy. Just as the insurer is contractually bound to provide a defense to the insured in certain situations, the insured is contractually bound to follow the policy's notice provisions.37

Insurance policies contain provisions requiring the insured to provide notice of claims or potential claims. While standard in insurance policies, they may be phrased differently - “reasonable notice,” “notice as soon as practicable,” or “notice immediately.” All are interpreted as imposing upon the insured the duty to provide notice to the insurer within a reasonable time.38

35. See, e.g., Turner v. Ewing, 232 So. 2d 468 (La. 1970). See also Zurich Ins. Co. v. Northbrook Excess & Surplus Ins. Co., 494 N.E.2d 634 (Ill. App. Ct. 1986) (holding the existence of the insurance policy was not a prerequisite to proving a valid contract of insurance since a suit to enforce liability of an insurer may be brought on the contract for insurance itself as well as on the policy). According to Zurich, it is sufficient if the coverage agreed upon is capable of being ascertained.

36. JOHN APPLEMAN & JEAN APPLEMAN, INSURANCE LAW AND PRACTICE, §§ 12080, 12081 (1980).

37. Id. at § 4732.

38. “As soon as practicable”: “The words in the clause ‘as soon as practicable’ are considered to be ‘roomy words’ that ‘provide for more or less free play.’ (citation omitted). The words do not require immediate notice or notice within a particular number of days, nor do they even provide for notice ‘as soon as possible.’” Bolivar County Bd. of Supervisors v. Forum Ins. Co., 779 F.2d 1081, 1084 (5th Cir. 1986) (citing Young v. Travelers Ins. Co., 119 F.2d 877, 880 (5th Cir. 1941) (applying Miss. law); Notice must be given within a reasonable time in view of the facts and circumstances of the case. Reeves v. State Farm Fire & Casualty Co., 539 So. 2d 252 (Ala. 1989); Notice must be given as soon as can reasonably be expected under the circumstances. Employers’ Liability Assurance Corp. v. Travelers Ins. Co., 411 F.2d 862
The determination of a reasonable time for notice is a question of fact for the jury; it is dependant on numerous facts and circumstances of each case. The two most significant factors are the length of the delay (the time from when the insured knew or should have known of the claim or potential claim until it gives notice to the insurer) and the reasons or excuses for the delay.

Courts have been called upon to address delays ranging from days to years. Obviously, the shorter the period of delay, the better the position of the insured in invoking coverage. But, it is also in the insurer's best interest to receive prompt notice of potential claims. There is no guarantee the court will relieve the insurer of its obligations under the insurance policy under a late notice argument. Prompt notice permits the insurer to investigate the facts of the potential claim. As early as the turn of the century, the Ohio Supreme Court noted the need for prompt notice to the insurer and opportunity to investigate.

In a very little time the facts may, in a great measure, fade out of memory; or become distorted; witnesses may go beyond reach.

(2d Cir. 1969) (applying Conn. law);

"Immediately":

Requirement that insured "immediately" forward notice of claim against insured to insurer meant within reasonable time. Aetna Casualty & Sur. Co. v. Martin, 377 S.W.2d 583 (Ky. 1963); Action taken on the part of the assured within a reasonable time under the circumstances. Heller v. Standard Accident Ins. Co., 160 N.E. 707 (Ohio 1928);

"Prompt":


39. See, e.g., Employers' Liab. Assurance Corp. v. Roehm, 124 N.E. 223 (Ohio 1919). Insured, who eventually lost eyesight from injury, did not immediately report injury to insurance company because he did not realize the consequences of injury. The court stated that the insured had a right to have the jury consider all circumstances to determine if delay in giving notice was justified.


41. John Appleman & Jean Appleman, Insurance Law & Practice, § 4734 (1980) (discussing delay of one day (Schott v. Continental Auto. Ins. Underwriters, 31 S.W.2d 7 (Mo. 1930)) to fifteen years (Florio v. General Accident Fire & Life Assurance Corp., 396 F.2d 510 (1968))).

42. Travelers' Ins. v. Myers, 57 N.E. 458 (Ohio 1900) (holding the notice provision is the essence of the insurance contract).
physical conditions may change; and, more dangerous than all, fraud and cupidity may have had opportunity to perfect their work. Therefore this stipulation is vital to the contract...

Additionally, notice allows the insurer to maintain the proper reserves on its accounts.

While there is no *per se* unreasonable length of delay, the time lapse will be considered along with the excuse or justification for the late notice. The universe of excuses for late notice is broad. The issue is under what circumstances should the insured be relieved of a contractual obligation. The Connecticut Supreme Court in *Aetna Casualty & Surety Co. v. Murphy* looked to Judge Benjamin Cardozo's opinion in *Jacob & Youngs, Inc. v. Kent* in order to evaluate whether a late notice excused the insurer from providing coverage. Cardozo stated, with reference to determining whether a party in default of a contractual provision should be entitled to relief from the provision, "[W]e must weigh the purpose to be served, the desire to be gratified, the excuse for deviation from the letter, the cruelty of enforced adherence. Then only can we tell whether literal fulfillment is to be implied by law as a condition."

The Connecticut Supreme Court then turned its attention to the issue of whether the insurer had been prejudiced in any way by the insured's failure to give it prompt or reasonable notice. This prejudice analysis is today found throughout the body of caselaw dealing with late notice. Some courts require a showing of prejudice to the insurer before allowing a defense of late notice.

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43. *Id.* at 459.
44. See, e.g., *Southern Guaranty Ins. Co. v. Thomas*, 334 So. 2d 879 ( Ala. 1976) (both delay and excuse are factors to consider).
45. Caselaw does provide some examples of insureds' successful and unsuccessful excuses for late notice. The Fifth Circuit has held lack of knowledge of coverage and lack of knowledge that a claim could be made are not good excuses, as a matter of law, for complying with the provisions of the policy concerning notice. *Sandefer Oil & Gas, Inc. v. AIG Oil Rig, Inc.*, 846 F.2d 319 (5th Cir. 1988) (applying Tex. law). The District Court for Middle District of Georgia also discussed the insured's ignorance of coverage of a particular occurrence. *Insurance Co. of N. Am. v. Waldroup*, 462 F. Supp. 161 (M.D. Ga. 1978) (ignorance of coverage "might be" a valid excuse).
46. 538 A.2d 219 (Conn. 1988).
47. 129 N.E. 889 (N.Y. 1921) (involving a construction contract).
49. *Aetna Casualty*, 538 A.2d at 222 (quoting *Jacob & Youngs, Inc. v. Kent*, 129 N.E. 889, 891 (N.Y. 1921)).
50. *Aetna Casualty*, 538 A.2d at 224.
The courts are divided as to whom carries the burden of proving this prejudice. In some jurisdictions, prejudice to the insurer is presumed. These courts place upon the insured the burden to demonstrate its recalcitrance did not prejudice the insurer. Other jurisdictions require the insurer, as part of its defense of late notice, to prove it was prejudiced in some way. Finally, there are courts which strictly apply the insurance policy notice provision and hold that the insured’s failure to comply is a bar to the application for coverage regardless of any prejudice.

III. WHAT THE POLICY COVERS

A. The Issue of an Occurrence

Standardized liability insurance policies were developed in the 1930’s covering risks that were "caused by accident." In the 1940’s, this standard language was broadened to include gradual happenings, and the term "occurrence" replaced "accident." Standard Comprehensive General Liability (CGL) policies today are occurrence-based policies. These policies generally define "occurrence" as: "[A]n accident, including continuous or repeated exposure to conditions, which results in bodily injury or property

51. E.g., Rovira v. LaGoDa, Inc., 551 So. 2d 790 (La. Ct. App. 1989) (holding that delayed notice of wrongful discharge claim would relieve insurer of obligation to defend only where the insurer was actually prejudiced by the delay.); Columbia Union Nat. Bank v. Hartford Accident & Indem. Co., 669 F.2d 1210 (8th Cir. 1982).

52. See, e.g., Ruby v. Midwestern Indem. Co., 532 N.E.2d 730 (Ohio 1988) (holding unreasonable delay in giving of notice may be presumed prejudicial absent evidence to the contrary); Aetna Casualty & Sur. Co. v. Martin, 377 S.W.2d 583 (Ky. Ct. App. 1963) (prejudice to the insurer by unreasonable delay (64 days) presumed).

53. See, e.g., Aetna Casualty & Sur. Co. v. Murphy, 538 A.2d 219 (Conn. 1988) (holding insured seeking to be excused from the contract provision has burden to establish lack of prejudice on the insurer).

54. E.g., Baugh Constr. Co. v. Mission Ins. Co., 836 F.2d 1164 (9th Cir. 1988) (applying Wash. law) (prejudice presumed only in extreme cases); State Farm Mut. Auto. Ins. Co. v. Milam, 438 F. Supp. 227 (S.D. W. Va. 1977) (holding insurer failed to show prejudice in that no additional facts could have been developed if earlier notice).


57. Id.
damage neither expected nor intended from the standpoint of
the insured."\textsuperscript{58} The application of this definition has been a matter
of dispute and, accordingly, has been developed by caselaw.

Occurrence has a broader meaning than accident in that it
includes events that happen even over a long span of time.\textsuperscript{59}
While accident is a special type of occurrence, occurrence goes
even farther.\textsuperscript{60} For example, the release of chemical pollutants
from deteriorating drums over a period of years would constitute
an occurrence.\textsuperscript{61}

The issue of whether an insured expected or intended an
occurrence will be discussed in terms of two subissues. First,
what is meant by "expected or intended?" Second, is this a
reference to the event itself (the act) or to the damages? Each
subissue will be discussed in turn.

As with any provision within an insurance policy that may be
used to limit coverage, standard rules of construction require
"occurrence" to be broadly and liberally construed in favor of
coverage for the insured.\textsuperscript{62} Accordingly, the limitation of coverage
with respect to that which is expected or intended has been
scrutinized by the courts.\textsuperscript{63}

By example, one federal district court determined that the
terms "expected" or "intended" are susceptible to more than one
meaning and hence ambiguous within the insurance policy.\textsuperscript{64} The
court found that "expected" in an insurance policy means "con-
sidered more likely than not to occur ... and that coverage exist[ed] for property damage which the insured did not consider
more likely than [n]ot to occur."\textsuperscript{65} The court went on to state:

[The insurer] obviously excluded coverage of intentional and ex-
pected "occurrences" because such occurrences are not actuarially

\textsuperscript{58} Miller & Lefebure, supra note 7 at 409 (emphasis deleted).
1972) (holding emission of air pollutants over seven years is an occurrence).
\textsuperscript{60} Id.
\textsuperscript{61} E.g., Kipin Indus., Inc. v. American Universal Ins. Co., 535 N.E.2d 334 (Ohio Ct.
\textsuperscript{62} See generally, Barry R. Ostrager & Thomas R. Newman, Handbook on Insurance
\textsuperscript{63} Id.
\textsuperscript{64} C. Raymond Davis & Sons, Inc. v. Liberty Mut. Ins. Co., 467 F. Supp. 17 (E.D.
Pa. 1979) (examining language in liability policies; court located varying definitions of
"expected" in Webster's Dictionary).
\textsuperscript{65} Id. at 20.
random. Intentional harm is entirely under the control of the insured; "expected" harm is far more likely to occur than is the "feared" harm (risk) with which normal actuarial calculations are designed to deal.66

Courts have reached inconsistent holdings as to whether "expected or intended" is to be determined subjectively (what did this particular insured know?) or objectively (did the insured behave as a reasonable person?).67

Courts are generally in agreement with respect to the other subissue. The Second Circuit Court of Appeals in Brooklyn Law School v. Aetna Casualty & Surety Co. discussed the distinction between intended or expected acts and intended or expected damages or injuries.68

The distinction is drawn between damages which flow directly and immediately from an intended act, thereby precluding coverage, and damages which accidentally arise out of a chain of unintended though expected or foreseeable events that occurred after an intentional act. Ordinary negligence does not constitute an intention to cause damage; neither does a calculated risk amount to an expectation of damage. To deny coverage, then, the fact finder must find that the insured intended to cause the damage.69

This is the majority view - the insured must have intended or expected the damage.70 However, insurers typically argue that in order to deny coverage it is sufficient for them to demonstrate that the insured expected or intended the activity or event which resulted in the damage or injury.

66. Id.


70. See, e.g., City of Johnstown v. Bankers Standard Ins. Co., 877 F.2d 1146 (2d Cir. 1989) (applying N.Y. law) (CERCLA case; allowing recovery under the insurance policy only if the insured intended the damages).
B. When Did the Occurrence Take Place: The Trigger of Coverage

Another significant "occurrence" issue is the determination of when the occurrence took place. Pinpointing when the occurrence took place is significant in the determination of which insurance policy was in effect. There could be different carriers on the risk at different times, or one carrier may have been the insurer with different policy conditions, including policy limits, for different time periods. The insured also has an interest in identifying the date of occurrence, and, hence, the appropriate carrier because it may have had greater deductibles or lesser limits in certain years.

This issue is often referred to as the "trigger of coverage" in that the objective is to identify when coverage was triggered so the applicable policy or policies and insurer or insurers can be identified. There are four theories as to when coverage is triggered - 1) exposure, 2) manifestation, 3) injury-in-fact, and 4) continuous trigger.

The exposure theory holds that coverage is triggered for environmental claims at the moment the discharge or release has occurred. The Sixth Circuit adopted the exposure theory in 1980 in the context of an asbestos case in Insurance Co. of North America v. Forty-Eight Insulations, Inc. The court's decision was based less on academics than on economics. One commentator who analyzed the decision concluded the court's purpose was to maximize insurance coverage - "it chose the exposure theory because the plaintiff was effectively uninsured after 1976, and any other theory would have put the date of occurrence after 1976." The court itself acknowledged its adoption of the exposure theory maximized coverage. Other federal and state courts have also adopted the exposure theory.

71. See discussion infra note 75 and accompanying text.
72. See discussion infra note 79 and accompanying text.
73. See discussion infra note 84 and accompanying text.
74. See discussion infra note 86 and accompanying text.
75. 633 F.2d 1212 (6th Cir. 1980), clarified, 657 F.2d 814 (6th Cir. 1981).
77. The construction also, in the court's opinion, best respected the intent of the parties. Forty-Eight Insulations, Inc., 633 F.2d at 1223.
Under the manifestation theory, the applicable insurance is that which is in effect at the time the injury manifests itself.\(^7\)

In other words, the coverage is triggered when environmental contamination or damage caused by the insured manifests itself and is actually discovered by the insured or other persons. The leading case is a 1982 asbestos case from the First Circuit, *Eagle-Picher v. Liberty Mutual Insurance Co.*\(^8\)

According to the *Eagle-Picher* court, the common, ordinary meaning of the policy language concerning coverage for occurrences supports the manifestation theory.\(^9\) The manifestation trigger has been applied in both environmental and non-environmental cases.\(^8\)

The third trigger theory is the injury-in-fact theory. With respect to this theory, coverage exists under the policy in effect at the time damage actually occurred. This would be between exposure and manifestation.\(^8\)

The Second Circuit, applying New York law, adopted the injury-in-fact trigger in *American Home*
Products Corp. v. Liberty Mutual Insurance Co. The appellate court noted that:

An exposure that does not result in injury during coverage would not satisfy the policy's terms. On the other hand, a real but undiscovered injury, proved in retrospect to have existed at the relevant time, would establish coverage, irrespective of the time the injury became manifest.

The fourth theory, the continuous trigger theory, holds all insurance carriers which provided coverage from the time of exposure through manifestation jointly and severally liable. This is the broadest trigger of coverage. Under this theory, the question, "When did the occurrence take place?" might be answered, not by reference to a single day, week, or month, but by ten, twenty, or thirty years. For example, an underground storage tank may have begun leaking upon installation in 1960, an event unknown until its removal in 1990. Under the continuous trigger theory, every insurer that issued a policy during that thirty year time period is potentially jointly and severally liable for the damages.

The leading case applying the continuous trigger theory is Keene Corp. v. Insurance Co. of North America decided in 1981 by the District of Columbia Circuit. The court approached the issue in terms of certainties and risks.

An insurance contract represents an exchange of an uncertain loss for a certain loss. In a comprehensive general liability insurance policy, the uncertain loss is the possibility of incurring legal liability, and the certain loss is the premium payment. By issuing the policy, the insurer agrees to assume the risk of the insured's liability in exchange for a fixed sum of money.

84. 748 F.2d 760 (2d Cir. 1984).
85. Id. at 763 (quoting the lower court decision of 565 F. Supp. 1485, 1497 (1983)).
87. Contrast the other trigger theories utilizing this example. Under the exposure theory, the occurrence would have occurred in 1960 when the leak began, and the insurer on the risk at that time, all other coverage provisions met, would owe coverage. Under the manifestation theory, the occurrence would have occurred when the damage manifested itself or was discovered, presumably near 1990 (this would have required the removal of the tank). The insurer on the risk at that time would owe coverage. Under the injury-in-fact theory, the occurrence would have taken place when actual damage occurred (i.e., the impact on the environment). In this example that would most likely be when the leak began. Again, the insurer on the risk at that time would owe coverage.
89. Id. at 1041.
If the court were to apply a narrower trigger, then the insured’s purchase of insurance would not constitute a purchase of certainty with respect to liability for injuries that develop over time. “A latent injury, unknown and unknowable to [the insured] at the time it purchased insurance, must, at least, be covered by an insurer on the risk at the time it manifests itself. Any other result would violate very reasonable expectations of [the insured].” 90 Thus, the court concluded coverage was triggered by exposure and the manifestation of the injury. The continuous trigger theory has also been applied by several other courts. 91

C. The Number of Occurrences

Aside from the issue of when the occurrence took place, environmental cases often involve the question of how many occurrences took place. The number of occurrences is significant in the consideration of policy limits; 92 and, as discussed above, is also significant in the consideration of which carrier was on the risk at what point, 93 and whether multiple occurrences took place at different points in time. 94

The majority rule when considering the number of occurrences is the “cause” rule. Under the “cause” approach, the number of occurrences is determined by referring to the cause or causes of

90. Id. at 1044.
91. Acands, Inc. v. Aetna Casualty & Sur. Co., 764 F.2d 968 (3rd Cir. 1985) (discussion of arguments as to the different trigger theories; Court found ambiguity and applied the continuous trigger theory); Owens-Illinois, Inc. v. Aetna Casualty & Sur. Co., 597 F. Supp. 1515 (D.D.C. 1984) (applying Ohio law) (holding insurer’s duty to indemnify is triggered if a policy was in effect at any time between a claimant’s initial exposure to asbestos and the manifestation of the injury); New Castle County v. Continental Casualty Co., 725 F. Supp. 800 (D. Del. 1989) (continuous trigger applied to determine date of occurrence with respect to spread of leachate from landfill).
the damage, rather than the number of injuries or claims. The court must determine whether there was one proximate, uninterrupted and continuing cause which resulted in all the injuries and damage. If so, then there has been only one occurrence. This is true even if several items of damage resulted. The insured must therefore look to the insurer which was on the risk at the time of that occurrence. The minority or "effects" rule, on the other hand, holds that the number of occurrences is determined by referring to the number of injuries.

IV. THE INSURING AGREEMENT: SUIT AND PROPERTY DAMAGE ISSUES

Standard CGL policies provide coverage for suits seeking damages because of bodily injury and/or property damage.

The company will pay on behalf of the insured all sums which the insured shall become legally obligated to pay as damages because of bodily injury or property damage... the company shall have the right and duty to defend any suit against the insured seeking damages on account of such bodily injury or property damage...

In the environmental context, issues arise as to what constitutes a "suit," and also as to what constitutes "damages." Both issues can be discussed by drawing on Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) cases for illustration.

97. Id.
98. See Owens-Illinois, Inc. v. Aetna Casualty & Sur. Co., 597 F. Supp. 1515 (D.D.C. 1984) (applying Ohio law) (the number of injuries or claims, even if temporarily removed from their causes, are irrelevant when determining the number of occurrences).
99. Anchor Casualty Co. v. McCaleb, 178 F.2d 322 (5th Cir. 1949) (oil well blew wild; consider effects rather than cause).
100. MILLER & LEFEBURE, supra note 7 at 411 (emphasis added).
101. 42 U.S.C. §§ 9601-22 (1980), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA). CERCLA authorizes the United States Environmental Protection Agency to clean up sites and creates a fund to pay for such clean ups.
The United States Environmental Protection Agency (USEPA) or its state counterparts often notify parties of potential liability relating to environmental contamination at hazardous waste sites by issuing what are known as “potentially responsible party” (PRP) notice letters. The PRP letter may ask the party to investigate and clean up the site. The issue is whether the issuance of administrative letters constitutes the filing of a “suit.” Insureds typically take the position that the definition of “suit” is ambiguous and should be construed broadly to include nonjudicial claims against an insured, particularly in the above-described situation, where the claim is a direct and immediate threat to the insured. Under this argument, the receipt of a PRP letter would constitute a suit for the purpose of CGL insurance coverage. Insurers typically take the converse position, arguing that the receipt of such a notice does not constitute a suit within the context of an insurance policy.

Arguments are also waged over the definition of “damages.” Under CERCLA, a party may be ordered to perform remedial work, or to reimburse the government or a third party for payment of “response costs.” The courts are split on the issue of whether such payments are legal damages or equitable remedies. Traditionally, insurance coverage has been reserved for legal damages, such as a judgment for compensatory damages, as opposed to equitable remedies, such as restitution or specific performance. If an insured is ordered to perform an environmental cleanup or to reimburse the government, is that order simply an equitable remedy to the controversy?

In CERCLA cases, the issue is framed as whether response costs are “damages.” There are state and federal courts which


104. See Stephen J. Smirti, Jr. and James F. Stewart, Recent Developments in Environmental Insurance Law, 622 PLI/Comm. 51 (PLI Order No. A4-4380), May-June, 1992 for exhaustive list of cases.


106. See A.Y. McDonald Indus., Inc. v. Insurance Co. of N. Am., 475 N.W.2d 607 (Iowa 1991) for a detailed discussion and list of references.
have answered this query with a “yes.”\textsuperscript{107} There are also state and federal courts which have answered the query in the negative.\textsuperscript{108} At this point, it is difficult to anticipate which way courts will go. As a matter of guidance though, generally, courts that have ruled in favor of insureds on other coverage issues, such as late notice or trigger of coverage, will likewise hold that response costs are insurable “damages.”\textsuperscript{109}

V. EXCLUSIONS TO COVERAGE

A. The Celebrated “Pollution Exclusion” Clauses

The change from accident-based coverage to occurrence-based coverage broadened the coverage for the insured; and, of course, the exposure for the insurer.\textsuperscript{110} This broader exposure, along with greater awareness of the effects of decades of business and industrial waste practices and the resulting potential environmental claims of monumental magnitude, led to the incorporation in 1973 of a “pollution exclusion clause.” The clause was standard in CGL policies from 1973 until approximately 1986.\textsuperscript{111}


\textsuperscript{109} Smirti and Stewart, supra note 104.

\textsuperscript{110} See supra notes 56 & 57 and accompanying text.

\textsuperscript{111} See discussion of absolute pollution exclusion clause infra, note 115.
The standard form pollution exclusion incorporated into CGL policies provides:

This insurance does not apply ... to bodily injury or property damage arising out of the discharge, dispersal, release or escape of smoke, vapors, soot, fumes, acids, alkalis, toxic chemicals, liquids or gases, waste materials or other irritants, contaminants or pollutants into or upon land, the atmosphere, or any water course or body of water; but this exclusion does not apply if such discharge, dispersal, release or escape is sudden and accidental. 112

Essentially, the exclusion removes coverage for pollution events unless the event occurs suddenly and accidentally. 113 This “exception to the exclusion” has been the subject of litigation and commentary. 114 The greatest controversy has been the proper interpretation of the phrase “sudden and accidental.” The issue of ambiguity, and the interpretation of the entire exclusion hinges on these three words.

The earliest courts to consider the pollution exclusion clause found the clause to be ambiguous. 115 Three early cases remain important decisions as they are still cited as authority for this position. In 1975, the Superior Court of New Jersey, Chancery Division, in Lansco, Inc. v. Department of Environmental Protection set forth the standard for interpretation of “sudden and accidental.” 116 The court noted there was no specific definition in the policy of the terms “sudden and accidental.” 117 In such a case, the words must be interpreted, according to the court, in accordance with their plain, ordinary and commonly understood meaning. 118 Citing Webster’s New International Dictionary and Black’s

112. MILLER & LEFEBURE, supra note 7 at 411.
115. A judicial finding of ambiguity invokes the standard construction principles which cause the exclusion to be strictly construed in favor of coverage. The result almost inevitably is that the exclusion does not exclude what is at issue from the insurance coverage.
116. 350 A.2d 520 (N.J. 1975) (involving act of vandalism carried out on insured’s property - the opening of valves on storage tanks and release of 14,000 gallons of asphalt oil).
117. Id. at 523-24.
118. Id.
Law Dictionary, the court determined that "sudden" meant happening without previous notice or on very brief notice; unprepared for, unforeseen; or unexpected.119 "Accidental" was defined as happening unexpectedly or by chance; taking place not according to usual course.120

In 1980, a New York court followed suit in Allstate Insurance Co. v. Klock Oil Co. with its interpretation of "sudden and accidental."121 This case is significant for its dramatically broad definition of "sudden" - the court refused to restrict sudden to an instantaneous happening.122 Even a gradual pollution event could be "sudden."

The Superior Court of New Jersey, Law Division, in 1982, in Jackson Township Municipal Utilities Authority v. Hartford Accident & Indemnity Co., took the analysis one step farther by holding the pollution exclusion clause "can be interpreted as simply a restatement of the definition of 'occurrence.' "123 This essentially wrote the exclusion out of the policy.

Some courts have adhered to the analysis charted by this early trilogy of cases;124 others have rejected the arguments of ambi-

119. Id. at 524.
120. Id.
122. Id. at 605.
There has been no agreement on which is the majority view, or which is the trend. This author has entered the fray of attempting to delineate a majority view, and offer an opinion as to the proper resolution of the issue, and has been countered. As a result of the uncertainty as to the interpretation and application of the 1973 pollution exclusion clause, a new "abso-


126. W. Roger Fry and Jonathan P. Saxton, Interpreting the Pollution Exclusion Clause in the Comprehensive General Liability Policy - Ohio's Next Step, 23 AKRON L. REV. 507 (1990); W. Roger Fry and Jonathan P. Saxton, The Ohio Supreme Court's Interpretation of the Pollution Exclusion Clause - A Step Not Yet Taken, 16 U. DAYTON L. REV. 679 (1991). Note that these articles, while focussing on the unsettled law in the courts of Ohio, analyze, with a national perspective, the positions of other jurisdictions.

lute” pollution exclusion began appearing in CGL policies in the 1980’s.\textsuperscript{128} The clause is typically worded as follows:

This insurance does not apply ... to bodily injury or property damage arising out of the discharge, dispersal, release or escape of smoke, vapors, soot, fumes, acids, alkalis, toxic chemicals, liquids or gases, waste materials or other irritants, contaminants or pollutants into or upon land, the atmosphere, or any water course or body of water ....\textsuperscript{129}

This clause has also been the subject of judicial scrutiny in environmental coverage cases. Unlike the 1973 exclusion, this provision has been held to be free from ambiguity.\textsuperscript{130} Thus, the clause is permitted to operate as an exclusion of personal injury or property damage claims stemming from environmental releases.

\textbf{B. The Owned Property Exclusion}

An additional exclusion contained within CGL policies, and the subject of litigation in environmental coverage cases, is the “owned property exclusion,” also known as the “care, custody or control” provision.\textsuperscript{131} This provision excludes coverage for damage to property owned, occupied, rented, used, or in the custody or control of the insured.\textsuperscript{132} The public policy interest is that it is most appropriate to place the risk of loss upon those who are

\begin{itemize}
\item \textsuperscript{128} OSTRAGER \& THOMAS, supra note 63 at § 8.02[c].
\item \textsuperscript{129} MILLER \& LEFEBURE, supra note 7 at 411.
\item \textsuperscript{131} Paul M. Zieff, The Owned Property Exclusion and Environmental Insurance Claims, 4 ENVTL. CLAIMS J. 31 (1991).
\item \textsuperscript{132} Id.
actually in control of the property, thus encouraging proper care of the property.\textsuperscript{133}

The most controversial issue in the application of the owned property exclusion is whether expenses incurred relative to the insured's own property, for example, cleanup costs, are covered when the cleanup is prompted by the danger of off-site damage.\textsuperscript{134}

Some courts will allow recovery under the policy if the cleanup is prompted or required by the danger of off-site damage.\textsuperscript{135} For example, it may be necessary to remediate a portion of the insured's property in order to prevent spread of some contamination to the property of others.

In the unique context of environmental contamination, where prevention can be far more economical than post-incident cure, it serves no legitimate purpose to assert that soil and groundwater pollution must be allowed to spread over boundary lines before they can be said to have caused the damage to other people's property which liability insurance is intended to indemnify.\textsuperscript{136}

The amount, though, may be limited to what is related to preventing the off-site damage.\textsuperscript{137} There are difficult apportionment computations involving technical or scientific arguments.

\textbf{VI. CONCLUSION}

This article has presented some of the most litigated issues in environmental insurance coverage cases. These issues are a great source of uncertainty for both the business community and the insurance industry. Further, the continuing debate over the res-
olution of these coverage issues is placing a strain on the resources of our courts. Briefs by counsel are mini-treatises peppered with assertions of trends and emerging majorities and supported by unpublished case authority and law review commentary. Courts are lodging decisions on virtually a daily basis. Litigation will continue at this pace until courts of the highest appellate level rule on each of the issues. Until that point is reached, it is incumbent on counsel practicing in this area to remain diligently abreast of the most current cases in the relevant jurisdictions.
NEGLIGENT VIOLATIONS OF THE ENVIRONMENTAL LAWS: WHAT STANDARD FOR CRIMINAL PROSECUTION?

by John Armstrong West*

I. INTRODUCTION

It may be fairly said that the bedrock principle of criminal jurisprudence in the United States is intentional conduct. A particularly eloquent statement of this principle is contained in Morissette v. United States,1 where Justice Jackson, speaking for the Supreme Court, stated:

The contention that an injury can amount to a crime only when inflicted by intention is no provincial or transient notion. It is as universal and persistent in mature systems of law as belief in freedom of the human will and a consequent ability and duty of the normal individual to choose between good and evil.2

What, then, can be said of recent legislative enactments that provide for negligent conduct as a standard of criminal liability?3 These statutes no doubt represent a legislative response to the "felt necessities of the times," as Justice Holmes might have said.4 But criminalizing negligent conduct raises several important issues, among which are the following: Does a negligence standard

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2. Id. at 250.
of criminal liability present a viable constitutional issue of denial of substantive due process of law? If negligent conduct as a standard of criminal liability passes constitutional muster as a general proposition, what standard should the courts use in defining the criminal conduct? Is it the tort definition of simple negligence, that is, the failure to live up to the reasonable man standard, or is it something more, such as the gross deviation standard contained in the Model Penal Code?

These are not issues that are of interest only to the legal scholar who chronicles the evolution of law. The stakes are particularly high in the environmental setting in view of the enactment of the Sentencing Reform Act of 1984 and the promulgation of sentencing guidelines for environmental crimes. Those guidelines mandate substantial prison terms for violations of the environmental laws, including negligent violations. Given the announced policy of the United States Department of Justice to make environmental crimes a prosecutorial priority, individuals, 

5. See Herbert L. Packer, Mens Rea and the Supreme Court, 1962 SUP. CT. REV. 107, 150-51 (1962) ("No one should be sentenced to imprisonment or its equivalent without being afforded the opportunity to litigate the issue of mens rea."); Francis Bowes Sayre, Public Welfare Offenses, 33 COLUM. L. REV. 55, 56 (1933) ("To inflict substantial punishment upon one who is morally entirely innocent, who caused injury through reasonable mistake or pure accident, would so outrage the feelings of the community as to nullify its own enforcement."). See also, State v. Hamilton, 388 So. 2d 561 (Fla. 1980) (state statute that purported to criminalize simple negligence held unconstitutional).


7. E.g., Restatement (Second) of Torts §§ 282-83 (1965).
12. Press release, United States Department of Justice (November 15, 1990), reported in Toxics L. Rep. (BNA) 831 (November 28, 1990): The Justice Department's Environmental and Natural Resources Division announced November 15 a record number of criminal prosecutions of environmental violators during 1990. . . . Among the greatest percentage of those prosecuted were corporations and their managers. . . . More than half of the individuals convicted for environmental crimes this year were given prison sentences, and 84 percent of these are actually serving real jail time. . . . The reality for many corporate man-
particularly corporate managers, are now at risk of being prosecuted and sent to prison for conduct involving no element of intention.\textsuperscript{13}

The consideration of the constitutional issue is beyond the scope of this article and has been treated elsewhere by eminent legal scholars.\textsuperscript{14} Rather, the focus here will be on the appropriate standard for adjudicating a criminal prosecution for an environmental violation resulting from negligent conduct. The article will first survey the historical use of negligence as a basis for criminal liability; it will then argue that, for criminal prosecutions for environmental violations, negligent conduct should be evaluated under the Model Penal Code standard for criminal negligence, rather than the reasonable man standard used in most jurisdictions for tort liability purposes.

\section*{II. HISTORICAL PERSPECTIVE}

As a standard of criminal liability, negligence has been a troublesome issue for the courts. Indeed, the concept of criminal negligence has been largely left to judicial definition, and the courts have struggled with this task. As one commentator has written,

\begin{quote}
[judicial] opinions run in terms of "wanton and wilful negligence," "gross negligence," and more illuminating yet, "that degree of negligence that is more than the negligence required to impose tort liability." The apex of this infelicity is "wilful, wanton negligence" which suggests a triple contradiction — "negligence" implying inadvertence, "wilful" intention and "wanton" recklessness.\textsuperscript{15}
\end{quote}


Further complicating the consideration of this issue is the substantial body of legal commentary that argues against the imposition of any penal sanctions for negligent behavior. The proponents of this position argue that since the actor is simply careless by hypothesis, the "threat of punishment for negligence must pass him by because he does not realize that it is addressed to him."[17]

While the courts have had difficulty articulating an acceptable legal standard for criminal negligence, the concept of negligence as a standard of criminal liability has long been ingrained in Anglo-American jurisprudence. One author states that "[i]t is a rule of the common law even from the earliest times that criminal intent may be inferred from negligence...."[18] This construction recognizes the concept that *mens rea* is a necessary element for criminal liability but that negligent behavior may in some circumstances — or, perhaps more accurately, in some albeit unexplained way — serve to satisfy this element of proof. The supposition is that "[t]he natural consequences of one's acts are presumed to be intended by him and a negligent performance or omission of a legal duty is proper evidence of intent unless a specific intent is required."[19]

The concept of negligence as a standard of criminal liability took root in cases involving manslaughter. The earliest reported case is *Hull's Case*,[20] decided in 1664. There, John Hull, a "master workman," was sent to obtain some timber that was on the second story of a house under construction. Upon gaining the second story, Hull decided to throw the timber to the ground and shouted loudly for those below to stand clear. Everyone left except Henry Cambridge who was struck and killed by the falling timber. Presaging the difficulty that courts would have with negligent behavior in a criminal setting, the opinion in this case states:

Lord Chief Justice Hyde held this to be manslaughter, for he said he should have let it down by a rope, or else at his peril, be sure

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19. *Id*.
no body is there: but my brother Wylde and myself held it to be
misadventure, he doing nothing but what is usual with workmen
to do... .21

In modern times, the Supreme Court of Missouri considered
the legal import of these facts in State v. Emery.22 The defendant
had been brandishing a loaded "self-cocking" revolver in his
saloon when it accidentally discharged, killing a patron of the
saloon who was a friend of the defendant. The defendant was
indicted for murder in the second degree but was convicted of
manslaughter in the fourth degree under a criminal statute that
provided for "culpable negligence" as a standard of criminal
liability. The court declared the law to be that "it is sufficient
to show that the shooting, though unintentionally done, was the
result of negligence in handling the fire-arm, indicating on the
part of such person a carelessness or recklessness incompatible
with a proper regard for human life."23 Noting that this was a
case of first impression, the court went on to state that "if we
may judge from the reports of the daily press, instances are not
infrequent within our borders where human lives are sacrificed
by playful carelessness in handling firearms."24

This undoubtedly is the only reported decision that defines
criminal negligence as "playful carelessness." Nevertheless, this
case illustrates the justification for criminalizing negligent be-
havior where human life is at stake: the threat of punishment
for creating an unreasonable risk that results in death will have
the salutary effect of making people more careful.25

One issue with which the courts have had to grapple in man-
slaughter cases is the basis for liability: Is it the result of conduct
that is careless to some degree? Or, does criminal liability depend
on proof that the defendant's conduct represents a gross depa-

21. Id.
22. 78 Mo. 77 (1883).
23. Id. at 78.
24. Id. at 80 (emphasis added).
25. See Model Penal Code § 2.02 cmt. 4 at 243 (1985):
When people have knowledge that conviction and sentence, not to speak of punish-
ment, may follow conduct that inadvertently creates improper risk, they are
supplied with an additional motive to take care before acting, to use their faculties
and draw on their experience in gauging the potentialities of contemplated conduct.
To some extent, at least, this motive may promote awareness and thus be effective
as a measure of control.
ture from the reasonable man ideal?26 In time, the courts reached agreement that negligent behavior in a criminal setting is something different — and requires something more — than negligence in a civil setting.27 Negligence was seen as an exceptional basis of criminal liability that, in almost all instances, involved a manslaughter offense.28 Indeed, one commentator has stated "[t]he law of criminal negligence is inextricably mixed with that of culpable homicide."29 This common law view eventually found expression in criminal statutes that, for example, described the standard of liability as "culpable negligence,"30 "criminal negligence,"31 "gross negligence,"32 or "wantonness."33 In interpreting these statutory terms, courts generally hold that, as stated by the Court of Appeals of New York, "a distance separates the negligence which renders one criminally liable from that which establishes civil liability."34

The transition of negligence as a standard of criminal liability in manslaughter cases to a standard of liability for other criminal offenses that do not involve death or serious bodily injury is

26. See, e.g., People v. Warner-Lambert Co., 414 N.E.2d 660 (N.Y. 1980), cert. denied, 450 U.S. 1031 (1981) (manslaughter prosecution against chewing gum manufacturer that had an explosion at a manufacturing plant which resulted in the death of six employees; in the course of the opinion, the court stated: "[T]he People would invoke an expanded application of proximate cause principles lifted from the civil law of torts. We have rejected the application of any such sweeping theory of culpability under our criminal law, however." Id. at 665).

27. See, e.g., id. at 665; People v. Rosenheimer, 102 N.E. 530 (N.Y. 1913); Fitzgerald v. State, 20 So. 966 (Ala. 1898); Commonwealth v. Welansky, 55 N.E.2d 902 (Mass. 1944); McCreary v. State, 371 So. 2d 1024 (Fla. 1979); State v. Wright, 148 A. 141 (Me. 1929); State v. Lunt, 260 A.2d 149 (R.I. 1969); State v. Barnett, 63 S.E.2d 57 (S.C. 1951).

28. MODEL PENAL CODE § 2.02 cmt. 4 at 244 (1985).

29. O'Hearn, supra note 14, at 27.

30. See, e.g., FLA. STAT. ANN. § 784.05 (West 1992); MINN. STAT. ANN. § 609.205 (West Supp. 1992); OKLA. STAT. ANN. tit. 21, § 716 (West 1983).


difficult to trace. Nevertheless, by curious coincidence, the
impetus for this transition seems to have come from judicial treat-
ment of statutory offenses involving no element of fault — the
so-called “strict liability” offenses. Thus, it seems, the judicial
imprimatur given to offenses involving no element of fault\textsuperscript{35} has
emboldened legislatures to transport negligence from the limited
area of manslaughter offenses to the niche it now has as an
important alternative basis of criminal liability for environmental
offenses.\textsuperscript{36}

Until the present century, strict liability offenses played a
limited — and minor — role in criminal jurisprudence. As the
Supreme Court stated in United States v. United States Gypsum
Co.,\textsuperscript{37} criminal offenses requiring no \textit{mens rea} have a “generally
disfavored status.”\textsuperscript{38} Indeed, the Model Penal Code rejects
the concept of strict liability entirely by providing that conduct
involving no element of \textit{mens rea} represents a “violation,” which
may be punished by a fine only, rather than a criminal “offense.”\textsuperscript{39}

Despite its disfavored status, however, beginning around the
turn of the century, strict liability became a legislative panacea
for a variety of perceived social ills, and the criminal offenses
prescribed by legislatures for these ills became known as “public
welfare offenses.”\textsuperscript{40} The River and Harbor Appropriation Act
of 1899,\textsuperscript{41} commonly known as the “Refuse Act,” is a good illustration
of this trend.

The Refuse Act provides for fines and imprisonment (up to
one year) for depositing “refuse matter” into navigable waters.\textsuperscript{42}
As the court in \textit{In re Scow No. 36}\textsuperscript{43} observed, there is no element

\textsuperscript{35} E.g., United States v. Dotterweich, 320 U.S. 277 (1943); United States v. Balint,
258 U.S. 250 (1922); Shevlin-Carpenter Co. v. Minnesota, 218 U.S. 57 (1910).
\textsuperscript{36} See, e.g., ALA. CODE § 22-30-19 (West 1990); ALASKA STAT. § 46.03.790 (1991); CAL.
HEALTH & SAFETY CODE §§ 25189, 25189.5 (West 1992); see People v. Martin, 259 Cal. 3d
770 (1989) (court sustained a conviction of defendant for a negligent offense under CAL.
HEALTH & SAFETY CODE § 25189.5 upon the finding that the legislature could have made
the offense a “strict liability” offense, citing \textit{Dotterweich} at 281).
\textsuperscript{37} 438 U.S. 422 (1978).
\textsuperscript{38} Id. at 438.
\textsuperscript{39} MODEL PENAL CODE § 1.04 (1985).
\textsuperscript{40} Sayre, supra note 5, at 55.
(1988).
\textsuperscript{43} 144 Fed. 932 (1st Cir. 1906).
of scienter in the offense, "the substance of [the offense being] that a man shall take care that the statutory direction is obeyed, and that if he fails to do so he does it at his peril."\(^{44}\) According to the court in *In re Scow*, strict criminal liability attaches to the offending act

without regard to the question of wilfulness or intent, and without regard to the question of mistake or innocence. The rule is, of course, in derogation of the principles of common law, and its drastic quality is justified upon [the] grounds of necessity, and as in the interest of the public good.\(^{45}\)

Based on a rationale of public necessity, the court had no difficulty in affirming the imposition of a fine for the discharge of oil by a barge owner.\(^{46}\) As has been observed, the court might have had a more difficult time with the concept of strict liability if the criminal sanction had been incarceration of an individual rather than the mere imposition of a fine.\(^{47}\) Indeed, later cases involving Refuse Act offenses have carefully avoided the issue whether the absence of a scienter element poses an obstacle for prosecution and incarceration of an individual violator.\(^{48}\) The statement by the court in *United States v. White Fuel Corp.*\(^ {49}\) is typical: "[Since] a corporate defendant like White Fuel cannot be imprisoned, we need not consider to what extent absolute liability would carry over to cases where incarceration is a real possibility."\(^ {50}\)

The case that secured strict liability's place in criminal jurisprudence, as it pertains to individuals, is *United States v. Dotterweich*,\(^ {51}\) decided by the Supreme Court in 1943. In that case the president of a pharmaceutical company was convicted for violations of the Federal Food, Drug, and Cosmetic Act that involved shipping misbranded products in interstate commerce.\(^ {52}\) The conviction resulted in a fine and a sentence of probation, although

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44. Id. at 933.
45. Id. (emphasis added).
46. Id. at 936.
47. Hare, *supra* note 6, at 942 n.42.
49. 498 F.2d 619 (1st Cir. 1974).
50. Id. at 623-24.
51. 320 U.S. 277 (1943).
52. Id. at 283-85.
the statute authorized a sentence of imprisonment of up to one year for the first offense. 53

In reversing the court of appeals, and reinstating the defendant's conviction, the Court's opinion, per Justice Frankfurter, noted that the purposes of the Food, Drug, and Cosmetic Act "touch phases of the lives and health of people which, in the circumstances of modern industrialism, are largely beyond self-protection." 54 The opinion is premised on the proposition that the Food, Drug, and Cosmetic Act "dispenses with the conventional requirement for criminal conduct — awareness of some wrongdoing. In the interest of the larger good, it puts the burden of acting at hazard upon a person otherwise innocent but standing in a responsible relation to a public danger." 55

The Dotterweich holding drew a vigorous dissent 56 and was otherwise roundly criticized. 57 Nevertheless, the opinion has withstood the test of time and, thirty-five years later, was reaffirmed by the Supreme Court. 58 This case is generally regarded as the seminal authority for the "responsible corporate officer" doctrine, which provides that a corporate manager may be held criminally responsible solely on the basis of holding a portion of responsibility for supervision of the activity that caused the offense, regardless of lack of awareness of the activity. 59 Today, the

53. Id.
54. Id. at 280.
55. Id. at 281.
57. See, e.g., Packer, supra note 5, at 119.
59. See United States v. Brittain, 931 F.2d 1413 (10th Cir. 1991), which involved a "willful or negligent" violation of 33 U.S.C. § 1311(a). The case specifically addressed the Clean Water Act provision which defines "person" to include "responsible corporate officers." 33 U.S.C. § 1319(c)(3). The court noted that the term "responsible corporate officer" is not defined in the Act, and instead relied on the Dotterweich line of cases for a definition. The court stated that a "responsible corporate officer," to be held criminally liable, would not have to "willfully or negligently" cause a permit violation. Instead, the willfulness or negligence of the actor would be imputed to him by virtue of his position of responsibility. Id. at 1419. But see, United States v. MacDonald & Watson Waste Oil Co., 933 F.2d 35, 51-55 (1st Cir. 1991), in which the court held that the responsible corporate officer doctrine does not apply to a specific knowledge element of a violation of the Resource Conservation and Recovery Act (RCRA). In holding that the doctrine did not apply, the court distinguished United States v. Frezzo Bros., Inc., 602 F.2d 1123 (3d Cir. 1979), cert. denied, 444 U.S. 1074 (1980), on the basis that in Frezzo Bros., the defendants could have been found guilty based solely on negligence for a violation of the Clean Water Act, so no presumption of knowledge was necessary to sustain the conviction. MacDonald & Watson, 933 F.2d at 54.
Dotterweich case represents the most important foundation stone for the proposition that there may be individual criminal liability, without criminal intent as traditionally understood, for public welfare offenses.

III. NEGLIGENCE AND THE FEDERAL ENVIRONMENTAL LAWS

Both the Clean Water Act\textsuperscript{60} (CWA) and the Clean Air Act\textsuperscript{61} (CAA) now have criminal provisions for negligent violations.\textsuperscript{62} Aside from the federal manslaughter statute,\textsuperscript{63} these are the only federal laws that provide for negligence as a basis of criminal liability.\textsuperscript{64}

The Clean Water Act was originally enacted as the Federal Water Pollution Control Act of 1948.\textsuperscript{65} As originally enacted, the CWA did not contain any criminal provisions. Congress opted instead for a system of civil sanctions, which were generally considered to be difficult to enforce and, accordingly, were largely ignored.\textsuperscript{66} Indeed, during debate on the 1972 Amendments to the CWA, one senator stated that the nation had “ignored” the problem of water pollution and that “[o]ur planet is beset with a cancer which threatens our very existence, and which will not respond to the kind of treatment that has been prescribed in the past.”\textsuperscript{67} The conclusion in the Senate Report on the 1972 Amendments was that “the national effort to abate and control water pollution has been inadequate in every vital aspect” and that

\begin{itemize}
  \item \textsuperscript{60} 33 U.S.C. §§ 1251-1376 (1988).
  \item \textsuperscript{63} 18 U.S.C. § 1112(a) (1988). This statute provides:
    Manslaughter is the unlawful killing of two kinds ... Involuntary — in the commission of an unlawful act not amounting to a felony, or the commission in an unlawful manner, or \textit{without due caution and circumspection}, or a lawful act which might produce death. ... [Emphasis added].
  \item \textsuperscript{64} See Hare, supra note 6, at 961. (Mr. Hare’s article did not address the 1990 amendments to the Clean Air Act. At the time of his article, the only criminal provisions for negligent violations were found in the Clean Water Act and the federal manslaughter statute).
  \item \textsuperscript{65} Ch. 758, 62 Stat. 1155 (1948) (codified as amended at 33 U.S.C. §§ 1251-1387 (1988)).
  \item \textsuperscript{67} 118 CONG. REC. 33,692 (1972) (statement of Senator Muskie).
\end{itemize}
"[t]he record shows an almost total lack of enforcement ... [with] only one case ... reach[ing] the courts in more than two decades."\textsuperscript{68}

The 1972 Amendments\textsuperscript{69} were passed to address these concerns. With respect to enforcement issues, the Senate Report states:

[S]anctions under existing laws have not been sufficient to encourage compliance with the provisions of the Federal Water Pollution Control Act.

[I]f the timetables established ... [for the restoration of the nation’s waters] are to be met, the threat of sanction must be real and enforcement provisions must be swift and direct. Abatement orders, penalty provisions, and rapid access to the Federal District Court should accomplish the objective of compliance.\textsuperscript{70}

In order to “restore and maintain the chemical, physical and biological integrity of the Nation’s waters,” the 1972 Amendments established a goal of complete elimination of the discharge of pollutants into navigable waters by 1985.\textsuperscript{71} To achieve this goal the amendments provided for criminal sanctions as a part of the enforcement scheme which provided for fine and imprisonment (up to one year) for “any person who wilfully or negligently” discharges a pollutant into navigable waters.\textsuperscript{72}

There is nothing in the legislative history about the propriety of using negligence as a standard of criminal liability under the CWA. The one cryptic reference to prosecutions for negligence serves only to emphasize that the Congress really did not consider this issue.\textsuperscript{73}

\textsuperscript{68} S. REP. No. 414, 92nd Cong., 1st Sess. 5 (1971).
\textsuperscript{69} Id. at 5.
\textsuperscript{70} Id. at 64-65.
\textsuperscript{73} Representative Harsha made a brief reference to the negligence standard during a House floor debate on an amendment to the bill:

Mr. Chairman, I would like to call to the attention of my colleagues the fact that in this legislation we already can charge a man for simple negligence, we can charge him with a criminal violation under this bill for simple negligence. When a violation occurs, the Administrator or the State or the interstate agency, whoever may be involved, can either file a criminal charge under this law if there is negligence or if there is a willful violation of the law.

In 1987 the criminal provisions in the CWA were amended to separate intentional offenses from negligent offenses. The Act currently provides that for a negligent discharge of a pollutant, a violator may be imprisoned for up to one year and fined up to $25,000 per day of violation, or both.

The criminal provisions of the Clean Air Act were added in 1970. As originally enacted, the principal criminal provision provided that it was a felony offense for any person to knowingly violate any requirement or prohibition of an applicable state implementation plan. In 1990 Congress substantially amended the Act, including an additional enforcement provision dealing with negligent releases to the atmosphere. This provision is different from — and more limited than — the negligence offense in the CWA, as a careful reading will disclose:

Any person who negligently releases into the ambient air any hazardous air pollutant ... and who at the time negligently places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be punished by a fine ... or by imprisonment for not more than one year or both.

Thus, under the CAA, for negligent conduct to give rise to criminal liability it must place a person in danger of death or serious bodily injury, an obvious throwback to negligence's roots in manslaughter offenses. The legislative history makes it clear that release and endangerment are separate elements to be proven at trial. Thus, it is necessary to prove both that there was a negligent release and a negligent endangerment. In other words, it is necessary to show that the alleged violator violated a duty to prevent the release and a duty to foresee that a release would endanger someone. The question raised, but not answered

75. 33 U.S.C. § 1319(c)(1) (1988). Under the alternative fine statute, the court has discretion to fine an individual up to $250,000 for a misdemeanor resulting in death, and $100,000 for a misdemeanor not resulting in death. 18 U.S.C. § 3571.
80. See supra note 20 and accompanying text.
by the statute or the legislative history, is the standard by which those duties are to be judged.

There have been no reported prosecutions under the negligence provisions of the CAA. There have been numerous prosecutions, however, for negligent violations of the CWA. In some of these cases the courts have used a simple negligence standard rather than the higher standard that would be used in a manslaughter case. The court’s charge to the jury in United States v. Hoflin is typical: "The term 'negligence' means failure to use reasonable care. Reasonable care is the care which a reasonably careful person would use under similar circumstances."

This trend is not limited to federal prosecutions. In People v. Martin, a California prosecution for the negligent transportation and disposal of hazardous waste, the California Court of Appeals affirmed the conviction of the defendant, stating:

We agree with [the defendant] that this instruction allowed the jury to apply a civil negligence standard of conduct in determining


84. Id.

85. 259 Cal. 3d 770 (1989).
whether he 'reasonably should have known' that he caused the transportation or disposal of hazardous waste. We do not agree that this instruction was error.

... We conclude that [the statute], although not a strict liability offense, is part of a regulatory scheme where it is permissible to find criminal liability based on the violation of a standard of ordinary care.86

Thus, the issue is squarely presented: Should a person be convicted and imprisoned for simple negligence? This issue is all the more compelling in view of the Sentencing Reform Act of 1984 which, it has been observed, "vigorously and zealously [augments] criminal enforcement of the environmental laws."87 Whereas, in the past, courts routinely suspended imposition of jail terms and placed defendants on probation, now, under the Sentencing Guidelines, prison terms will be mandatory.88 Indeed, in two early environmental cases subject to the guidelines, the defendants were sentenced to 21 months and 27 months, respectively, upon their convictions.89 Both cases involved the illegal dredging and filling of wetlands, an offense that had never yielded a jail sentence in any pre-guideline case.90

In the environmental setting, the negligence standard of criminal liability gets caught between two strongly competing policies: the necessity for vigorous enforcement of the environmental laws, on the one hand, and the deeply rooted notion that the sanction of incarceration should result only when there is a culpable state of mind - either intentional conduct or conduct so reckless as to imply intent - on the other. An environmental prosecution involving negligent conduct thrusts the court into the vortex of these competing policies. Some courts have opted for vigorous enforcement by using simple negligence as the standard of liability. But, with the spectre of lengthy prison terms mandated by the Sentencing Guidelines, judges are likely to be increasingly reluctant to do this.

86. Id. at 777-79 (Emphasis added).
87. Starr and Kelly, supra note 11, at 10,096.
88. Id. at 10,097.
90. Starr and Kelly, supra note 11, at 10,097.
IV. A PROPOSAL

At common law simple negligence was not enough to impose criminal liability.\textsuperscript{91} Criminal liability attached only when there was a finding of gross negligence or wilful and wanton conduct that resulted in death or serious bodily injury.\textsuperscript{92} Indeed, historically the difference required for criminal negligence was either (i) conduct that created a higher degree of risk than required by tort liability, or (ii) conduct characterized by the defendant's conscious realization of the risk being created.\textsuperscript{93}

The Model Penal Code brings this issue into clear focus. Under the Code a person is guilty of an "offense" only if he acts in one of the following ways: "purposely," "knowingly," "recklessly," or "negligently."\textsuperscript{94} With respect to negligent conduct the Code provides:

A person acts negligently with respect to a material element of an offense when he should be aware of a substantial and unjustifiable risk that the material element exists or will result from his conduct. The risk must be of such a nature and degree that the actor's failure to perceive it, considering the nature and purpose of his conduct and the circumstances known to him, involves a gross deviation from the standard of care that a reasonable person would observe in the actor's situation.\textsuperscript{95}

The Comments to the Code explain that negligence is distinguished from purposeful, knowing and reckless action because "it does not involve a state of awareness,"\textsuperscript{96} and further:

A person acts negligently under this subsection when he inadvertently creates a substantial and unjustifiable risk of which he ought to be aware. He is liable if given the nature and degree of risk his failure to perceive it is, considering the nature and purpose of the actor's conduct and the circumstances known to him, a gross deviation from the standard of care that would be exercised by a reasonable person in his situation ... [t]he tribunal must evaluate the actor's failure of perception and determine whether, under all the circumstances, it was serious enough to be condemned. The

\textsuperscript{91. WAYNE R. LAFAVE & AUSTIN W. SCOTT, JR., CRIMINAL LAW, § 3.7 at 232 (2d ed. 1986).}
\textsuperscript{92. Id.}
\textsuperscript{93. Id.}
\textsuperscript{94. MODEL PENAL CODE § 2.02(1) (1985).}
\textsuperscript{95. Id. at § 2.02(d) (Emphasis added).}
\textsuperscript{96. Id. at § 2.02, cmt.4.}
jury must find fault, and must find that it was substantial and unjustified; that is the heart of [the matter].

The Model Penal Code approach to negligence offenses is a fair reconciliation of the two problems that have troubled the courts. First, and perhaps most importantly, the provision rejects the tort standard for liability by requiring a "gross deviation" from the standard of care. This is in accord with the historical utilization of negligence as a standard of criminal liability. This approach also effectively answers the criticism that negligence should never be used as a standard of criminal liability because the action is inadvertent. It views negligence as an extension of, rather than a departure from, the values inherent in the concept of *mens rea*.

Secondly, the Code's approach to a negligence standard of criminal liability defines the nature of the risk taken and a reasonable standard of care to be exercised toward that risk. As observed by one commentator, "[i]t provides to the trier of fact a method of analysis for determining when the actor is required by law both to perceive certain risks and to act on those perceptions."

Consider how these respective standards — *i.e.*, the reasonable care standard versus the Model Code standard — might operate in the following case. The ABC Company, its president, and plant manager are indicted for criminal violations of the Clean Water Act. In addition to charging "knowing" violations of the CWA, the indictment also charges the individual defendants with negligent violations.

The case involves alleged unpermitted discharges at ABC's plant from a drain pipe that outcropped on an embankment adjacent to a railroad right-of-way. Neither the president nor the plant manager knew of the existence of the drain pipe. Nor did they know that plant employees had used the drain from time to time to drain contaminated water used in plant operations.

Since the government has no proof that either of the individual defendants actually knew about, or condoned the use of, the

97. *Id.*
100. *Hare*, *supra* note 6, at 963.
offending drain pipe, the case for a knowing violation, i.e., one involving an element of scienter, is weak and likely will be unsuccessful. Thus, the prosecutor has pinned his hopes on the negligent counts in the indictment as the best chance for the conviction of the individual defendants.\textsuperscript{103}

The issue here discussed ultimately comes down to how the judge will instruct the jury on the negligence standard of criminal liability. Here, if the jury is instructed that the defendants may be convicted upon a simple negligence standard, i.e., whether the individual defendants, in the exercise of reasonable care, should have known about the drain pipe,\textsuperscript{104} a jury could conclude that the president and the plant manager should have known about the pipe. The president, after all, has overall responsibility for the company, including environmental compliance, and the plant manager has direct hands-on responsibility for the operation of the plant. The jury could reach this result with very little effort or analysis.

The Model Code standard, on the other hand, would require a more detailed instruction and careful analysis by the jury. Under the Model Code standard the jury must, in effect, make findings on (i) whether the defendants should be held accountable for conduct that created a risk, i.e., whether the defendant should have been aware of the offending activity; (ii) the severity of the risk created; (iii) the standard of care that a person in defendant's situation should be expected to exercise; and (iv) whether the defendant's conduct represents a gross deviation from the standard of care the jury has determined applies to the defendant's situation.

One might argue that generally juries do not make such a fine analysis. But, considering that imprisonment is now a real possibility for negligently-committed environmental violations, is it not desirable that we insist that a jury do just that?

\textsuperscript{103} This assumes that the government will not be able to use the responsible corporate officer doctrine. The case of United States v. MacDonald & Watson Waste Oil Co., 933 F.2d 35 (1st Cir. 1991), indicates that the doctrine is not applicable in a negligence setting because no presumption of knowledge is necessary.

\textsuperscript{104} See People v. Martin, 259 Cal. 3d 770 (1989) (court sustained a conviction of defendant for a negligent offense under Cal. Health & Safety Code § 25819.5 upon the finding that the legislature could have made the offense a "strict liability" offense, citing United States v. Dotterweich, 320 U.S. 277, 281 (1943)).
In the hypothetical case, for example, the jury could easily differentiate between the president and the plant manager on the first factor, i.e., should either of these persons have been aware of the offending pipe. The jury might find that the president could be excused for not knowing of the pipe but that the plant manager could not, since he had direct day-to-day responsibility for the plant. The second factor, the severity of the risk, would require the jury to scrutinize the evidence to determine the size of the pipe, manner and frequency of discharge, content of the discharge, and whether the discharge went into a navigable stream or a tributary thereof. If, for example, the pipe was used for discharges only once a year, the amount of the discharge was small, and the contaminants in the discharge were non-toxic, the jury could conclude that the risk created by the violation of the CWA was small.

The third factor — the standard of care element — is important because it is case specific. Here, the jury could consider such things as what environmental concerns are implicated by the company's activities, i.e., hazardous waste disposal, handling of toxic substances, air emissions, and waste stream discharges, to determine how environmentally conscious and sophisticated the company's management should be. Employees of a small company which has little contact with regulatory programs and authorities might be held to a different standard of care than employees of a large company that is heavily regulated and has an extensive environmental compliance program in place.

Finally, it is not sufficient that the jury find that the defendant's conduct represented merely a violation of the standard of care; the violation must represent a "gross deviation" from the standard of care as determined by the jury. This element obviously requires the jury to find egregious conduct on the part of a defendant before returning a guilty verdict.

V. CONCLUSION

The use of the civil tort standard of liability for environmental prosecutions based on negligent conduct is out of step with the historical role that negligence has played in criminal jurisprudence and is not necessary to have vigorous enforcement of the environmental laws. Courts should use the Model Penal Code negligence standard to accommodate the competing policies that are involved in environmental prosecutions.
ANCIENT FORESTS v. THE TIMBER INDUSTRY: WHAT ARE THE REALITIES?

by Vicki Lee Deisner*

The national forests of the United States - which belong to all its citizens - encompass 191 million acres.¹ As described by George T. Frampton, Jr., President of The Wilderness Society, “[t]hese forests contain some of the most striking natural beauty on earth: from the rich, green rain forests of the Pacific Northwest to the multi-colored groves of the southern Appalachians; from the fjords and misty isles of Southeast Alaska to the bogs and piney mysteries of the old North Woods country around our great lakes.”²

In addition to the surface beauty, the national forests encompass an immense treasure not easily measured in dollars and cents. The wealth of untapped scientific information alone is incalculable.³ Recreational opportunities abound within the 123 national forest management units: there are 99,000 miles of trails, thousands of campgrounds and a variety of other recreational facilities.⁴ The pristine watersheds provide clean drinking water for 1,100 human communities and 3,000 species of wildlife and fish.⁵ Such watersheds and the dependent wildlife support hunters and fishermen, as well as commercial fisheries.⁶ These immeasurable uses of our forest lands are often pitted against measurable uses - development, or what some might term, exploitation of the valuable resources, by logging and mining.

The United States Forest Service (Forest Service), within the Department of Agriculture, bears responsibility for the fate of

* The author acknowledges the invaluable editorial and production contributions of Mr. Edward Anderson.

3. Id.
4. Id.
5. Id.
6. Id.
the national forest system. Created more than 80 years ago, the Forest Service was mandated to manage and conserve the forests for all future generations. Federal laws dictate that management of such lands must be according to the principles of multiple use and sustainable yield. Multiple use is defined as

the management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for public adjustments in use to conform to changing needs and conditions; the use of some land for less than all of the resources; a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources, including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output.

Sustainable yield is defined as “the achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the public lands consistent with multiple use.” Thus, the principles of multiple use and sustainable yield provide for both a “working forest” to utilize natural resources and an “environmental forest” to provide for other public needs. Despite the statutory mandate to manage for multiple use and sustained yield, to maintain balanced and diverse resource uses, the questions always arise: should natural resources be overdeveloped, or should lands remain, as the Wilderness Act advises to be “administered for the use and enjoyment of the American people in such a manner as will leave

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7. Ishee, supra note 1 at 3.
8. Frampton, supra note 2 at 3.
10. 43 U.S.C. § 1702(c).
them unimpaired for future use and enjoyment as wilderness.... 13

The Forest Service has answered these questions in favor of development. Today our forests are "being slashed with the most expensive dirt roads in the world, bulldozed, chainsawed, and cut clear of vast expanses of timber at a frightening pace - all under the direction and leadership of the very agency created to protect them: the Forest Service." 14 The sad truth is that taxpayers are subsidizing this destruction at an annual cost of more than $400 million. 15 This paper will present the realities of current timber practices and their effects on the environment, existing laws established to provide protection for the forests including provisions for restraint on timber harvesting and new bills proposed by Congress to address such matters.

I. HISTORY OF THE NATIONAL FORESTS AND THE LAWS ENACTED TO PROTECT THEM

Vast natural resources have been the foundation of America's economic and political strength for two centuries. 16 In 1897 Congress authorized forested areas to be set aside for the public domain. 17 Congress then specified that the creation of these forests was "for the purpose of securing favorable water flows, and to furnish a continuous supply of timber for the use and necessities of citizens of the United States." 18

By the early 1900's, the newly created Forest Service took over the management of the National Forests. 19 Until 1960, the Forest Service managed the national forests under the single purpose mandate of the Organic Administration Act of 1897 - to furnish a continuous supply of timber. 20 Such a purpose aided our country in becoming a leader of economic and political freedom in both war and peacetime during the first half of the

14. Frampton, supra note 2 at 3.
15. Id.
1900's. But by 1960 there was growing opposition across the nation to the continued extraction and processing of native natural resources based on the alarming rate at which forest land was diminishing. Such a national awareness led to the passage of the Multiple-Use Sustained Yield Act of 1960 (MUSY), the first comprehensive statement of national forest management.

MUSY declares that national forests “shall be administered for outdoor recreation, range, timber, watershed and wildlife and fish purposes.” This multiple use mandate, providing for both a working forest and an environmental forest, prohibits the single purpose management of the national forests as declared in the Organic Administration Act of 1897.

Under the authority of MUSY, the Forest Service has been subject to a legislative mandate “to develop and administer the renewable surface resources of the national forests for multiple use and sustained yield of the several products and services obtained therefrom.” Yet, MUSY provides little direction to the Forest Service for the allocation of lands among these uses - how to assure that the renewable resources of the national forests will be “utilized in the combination that will best meet the needs of the American people . . . .” It simply states broadly defined concepts of multiple use and sustained yield. This has resulted in few, if any, judicially discoverable standards to limit the Forest Service's land management discretion.

The Forest and Rangeland Renewable Resources Planning Act of 1974 (RPA) reaffirmed the principle of multiple use and sustained yield and established a national planning system for the

21. Agricultural products and processed native resources were the heart of America's economic power throughout the early 1900's, and today the National Forest System provides over one third of our country's domestically processed lumber and plywood. Rutzick, supra note 16.

22. In 1620, when this country was first settled, virgin forests covered approximately 60% of the current forty-eight contiguous states. By 1850, the virgin forest was reduced to perhaps 50%. Yet by 1989, less than 10% of the original ancient forest existed. It's 95% Gone, And It Will Never Be Back, FOREST VOICE, (Native Forest Council, Eugene, Or.), Sept. 1989, at 3.

24. Id.
25. Id.
national forests. Most notably, RPA requires the Forest Service to prepare a renewable resource program every five years.

The 1976 National Forest Management Act (NFMA) Amendments to RPA reiterate the multiple use concept. The principle sponsor of NFMA, Senator Hubert Humphrey, saw the act as one designed to build our forests into a bulwark of renewable resources, providing a perpetual high yield of multiple use benefits. This would be accomplished by controlling land use planning at the individual forest level, thus channeling the Forest Service's land management discretion through procedural and substantive mechanisms.

Procedurally, the discretion of the Forest Service is channelled through a forest plan developed under public scrutiny. An interdisciplinary team develops the forest plan with considerable public involvement using the National Environmental Policy Act (NEPA) process. After public comments on the forest plan are reviewed, a final forest plan alternative is adopted that "maximizes long term net public benefits in an environmentally sound manner." The forest plan (under the direction of the Forest Service) controls the allowable land uses for the next ten to fifteen years unless the plan is renewed or amended.

In addition to the procedural constraints, NFMA also imposes substantive constraints on timber harvesting. NFMA provides guidelines for furthering these constraints.

31. The renewable resource program was created to identify areas of renewable timber resource according to budget needs and set output levels accordingly. 16 U.S.C. § 1602 (1988).
35. 16 U.S.C. §§ 472, 1604(a).
36. A draft and final environmental impact statement (EIS) must be prepared for each forest plan, and the EIS must present a broad range of alternative plans emphasizing different multiple use values. 16 U.S.C. § 1604 (b)-(g); 36 C.F.R. §§ 219.10(3)(b) and 219.12 (1991).
38. 36 C.F.R. § 219.10(g) (1983).
40. The goals of the program provide for protection of Forest Resources to provide
A. Procedural Constraints - Forest Planning

Forest planning determines which lands are suitable for timber harvesting. This is accomplished through the timber resource land suitability process.\(^1\) Forest planning also sets the level of timber extraction that is allowed from these suitable lands over the life of the forest plan.\(^2\)

1. Forest Planning - Determining Suitable Lands

The Forest Service assures the suitability of land through a three-stage timber resource land suitability process.\(^3\) First, lands suitable for timber production are identified according to the following physical or environmental criteria: (1) insufficient forest coverage,\(^4\) (2) technology unavailable to ensure that timber harvesting will not irreversibly damage soil productivity or watershed conditions, (3) inability to provide reasonable assurance that the lands can be adequately restocked within five years of timber harvesting, and (4) previous disqualification of the land from timber production.\(^5\)

Second, the remaining lands are categorized according to similar economic costs and returns if timber harvesting were to occur.\(^6\) At this point lands are not eliminated. Instead, those lands most economically appropriate for harvesting are identified.\(^7\)

Finally, lands identified for harvesting in stage two may yet be eliminated based on environmental constraints designed to protect wildlife or roadless-area values.\(^8\) Lands may be so iden-

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\(^1\) The timber resource land suitability process allocates lands to different management areas based on the particular resource values and uses. 16 U.S.C. § 1604(g)(3)(A)–(E).
\(^3\) 36 C.F.R. § 219.14(a)(1)–(4).
\(^4\) Insufficient forest coverage may be measured by the definition of forest land. Forest land must be (1) currently or in the past having had tree coverage of at least 10% and (2) not currently under development for non-forest use (that is used for crops, pasture, residence, roads, power lines, etc.) 36 C.F.R. § 219.14(a)(1); 36 C.F.R. 219.3.
\(^6\) 36 C.F.R. § 219.14(b)(among factors considered is a cost benefit analysis).
\(^7\) Id.
\(^8\) 36 C.F.R. § 219.14(c).
tified if (1) the land use proposed would preclude timber harvesting, for example, recommendation for legislative designation into the National Wilderness Preservation System, (2) harvesting would not meet the minimum management requirements or environmental constraints, or (3) harvesting would not be cost-effective. Lands identified as not suitable for timber production under either stage one or three are removed from consideration for timber harvesting for at least ten years.

2. Forest Planning - Determining the Timber Supply

The NFMA requires that a forest plan determines the timber output objective. The timber output objective is described in two terms.

First, the allowable sale quantity (ASQ) is determined. ASQ is defined as “[t]he quantity of timber that may be sold from the area of suitable land covered by the forest plan for a time period specified by the plan.” Second, a sale schedule is set specifying the allowable quantity of timber planned for sale by time period.

Several factors are considered in determining the ASQ and sale schedule: (1) the Forest and Rangeland Renewable Resources Planning Act (RPA) timber production goal set for a National Forest in the regional guide, (2) the principle of non-declining timber flow, (3) postponement of harvesting until optimal tree growth has occurred, and (4) economic factors.

49. Id.
50. 36 C.F.R. § 219.14(d).
51. The timber output objective is the level of harvesting and the allowable sale quantity necessary to meet the forest plan. 16 U.S.C. § 1604(c)(2), (f)(2).
52. ASQ is expressed in terms of the average number of board-feet that may be harvested each year during the first decade of the forest plan. 36 C.F.R. § 219.3.
54. 36 C.F.R. § 219.4(b)(2).
55. The principle of non-declining timber flow is the presumption that the ASQ for the plan’s first decade should be less than equal to every subsequent decade and less than the long-term sustained yield capacity of the forest. This principle promotes a stable timber supply over time. 16 U.S.C. § 1611(a) (1988); 36 C.F.R. § 219.16(a)(1).
56. Timber harvesting of even-aged stands is barred until they generally have reached the culmination of mean annual increment of growth. 16 U.S.C. § 1604(m)(1) (1988); 36 C.F.R. § 219.16(a)(2)(iii).
57. Economic factors include the expected demand for timber in the area, projected timber prices, timber sale-related costs, and community stability. Lundquist, supra note 19 at 9.
B. Substantive Constraints - Timber Sale Process

Following the procedural process for determining suitable lands, the Forest Service must perform a six-phase analysis before the forest plan and timber sale can be implemented. It is at this juncture that the Forest Service prepares an environmental assessment and an economic analysis. Data necessary to support an appraisal of timber value is gathered and provisions of the timber sale contract are drafted into a timber sale report in phase three. In phase four, the Forest Service appraises the fair market value of the timber and prepares a sample contract and prospectus. In phase five and six, bids are opened on the contracts, the Forest Service chooses the highest responsible bidders, and then awards the harvesting contract.

II. REALITIES OF CURRENT TIMBER PRACTICES AND THEIR EFFECTS ON THE ENVIRONMENT

According to the Multiple-Use Sustained Yield Act of 1960, Congress has directed the Forest Service to maintain the national forests for all of their multiple uses in a carefully balanced manner - for outdoor recreation, clean water, protection of fish and wildlife habitat as well as natural resource use. Yet before this mandate, less timber was harvested from the national forest system than currently occurs. In 1949, the cut from the entire National Forest System, coast to coast, was just 2.6 billion board

58. Id.
60. Id.
61. Id.
64. All timber sales which exceed $10,000, are advertised for a 30 day period before the bidding is open. 16 U.S.C. § 472a (a)-(d); 36 C.F.R. §§ 223.80 - 82 (1985).
65. The terms of timber contracts vary - most last less than 10 years and require Forest Service approval of operations. Under some contracts, the government bears road construction costs - other contracts, the company bears this cost. Timber contracts ordinarily require a down payment and advance payment for each area to be harvested. Timber contracts also contain provisions for cancellation to prevent serious environmental damage. 36 C.F.R. §§ 223.100-103 (1979); 36 C.F.R. §§ 223.30-223.49 (1986).
In 1990, 16 billion board feet of public and private timber were hauled out of Washington and Oregon alone, representing an unbelievable line of log trucks more than 20,000 miles long. Furthermore, the clearcut harvesting method used by the Forest Service destroys the area for other uses such as recreation and leaves a visual blight on the landscape.

The timber industry would argue that the harvesting of old-growth and new-growth forest in the National Forest System is necessary for the economy of the nation, the timber industry, and the timber-dependent communities. The argument has even been raised by the timber industry to the public regarding what is more important, human beings or spotted owls? Yet the timber industry fails to tell the public that the domestic timber demand could be entirely filled by private forest lands alone, which comprise the majority of forest land in the United States.

By permitting timber sales below replacement cost, the government engages in a kind of "predatory pricing" that places downward pressure on the market price for timber, thus reducing economic incentives to invest in intensive management of the more productive private forest land.

67. Supra note 22 at 3.
68. Id.
69. Clearcutting is the low cost method used by private companies to harvest timber. They cut all the trees standing in a suitable harvest area. This method, as opposed to selective cutting which is more expensive but maintains the land, causes soil erosion, mud slides, pollution of watersheds, and species destruction. The long-term result is the inability of the land to reproduce as before and the renewal of timber as a natural resource is lost forever. Currently, the laws do not require a method, such as selective cutting, by which renewal of the forest is assured. The Destruction of the Forests, THE WASTING OF THE FORESTS, (Wilderness Society, Washington, D.C.), at 8.

70. Native old-growth forests are remarkable, self-regenerating, balanced ecosystems that withstand fire, insects, disease, drought, and competition, and help mitigate global warming. The forests provide abundant clean air and water, wildlife and complex biological diversity, to benefit all mankind. Once lost, they cannot be replicated or reconstructed as an entire, self-sustaining, complex forest ecosystem. The species of the old-growth forest cannot survive in new growth forests. Only 5 per cent of the virgin, or old growth forest remains in the continental United States, and in Oregon and Washington less than ten per cent of the ancient old-growth remains. It's 95% Gone, And It Will Never Be Back, FOREST VOICE, (Native Forest Council, Eugene, Or.), Sept. 1989, at 3.

71. Even Weyerhauser admitted that they could grow all the nation's timber needs on one third of the nation's forest lands. Forest Industry Council Study (1980). Id. at 4.
Over the past five years, 76 of our 123 national forests lost money selling timber. In 1985 alone, to administer its timber sales and build logging roads, the Forest Service spent $600 million more than it received from the sale of the timber. This enormous tax subsidy benefits Japan, China, Taiwan, Korea, and other Pacific Rim countries, and their industries that refine the raw wood into finished products.

The irony lies in the fact that taxpayers pay for the Forest Service to sell its stock below cost to these private companies who profit by having cheap foreign labor finish the products. Examples of such waste just in the area of the Tongass have been put into print by the President's Office of Management and Budget. Between 1985 and 1986, less than 1 cent for every dollar spent by the Forest Service was recovered for the administration of timber sales and logging road construction. Between 1977 and 1986, the total cost of administration over revenue received from timber sales was more than $300 million. In fact, "[t]he public is charged $1 for Forest Service maps of the Tongass; for the same price a timber company can buy a western hemlock tree, 100 feet tall."

That the Forest Service can continue in its mismanagement points to the fact that the existing laws for protection of the forests are weak and are not truly designed to assure multiple use and a renewal of natural resources for future generations.

74. Id. (citing the President's Office of Management and Budget).
76. The Forest Service is doing something no private company could ever do without going into bankruptcy: selling its stock in trade far below the cost of production. Private companies behaving this way would be driven out of a free-market economy. But the Forest Service has an advantage - it has access to the pockets of the taxpayers. The Bankruptcy Factor, THE WASTING OF THE FORESTS, (Wilderness Society, Washington D.C.), at 4.
77. Id.
78. Id.
79. Id.
80. Id.
III. WEAKNESSES IN EXISTING LAWS AND AVAILABLE AVENUES FOR RESTRAINT ON TIMBER HARVESTING

Under NFMA and current regulations, below-cost timber sales are permitted.81 As previously discussed, even though the fair market value of the timber is determined in phases three and four of the timber sale process, during phases five and six, the Forest Service opens bids and chooses the highest responsible bidder.83 Add to a bidding process that may come in below fair market value the fact that the Forest Service bears the cost of road construction in a vast number of contracts, it is no surprise that the majority of forest units - 76 out of 123 - have lost money.84

The problem is that there is no statute or regulation that "requires the Forest Service to only proceed with a timber sale on a positive cash flow basis."85 In fact, the relevant NFMA provisions merely state that the Forest Service should consider "economics."86 Congress has stated that the "greatest dollar return" or "greatest unit output" should not be the primary factor for selecting a timber harvesting system.87

The Forest Service points to the fact that below-cost timber sales may be justified on several grounds to enhance non-timber resources such as environmental and aesthetic values.88 For example, the Forest Service states timber harvesting has helped create habitat needed by the threatened grey wolf and other species, helped defray the cost of road construction for areas of recreation and fire protection, and has assisted timber-dependent communities.89 The argument regarding wildlife habitat falls short

82. Id.
86. 16 U.S.C. §§ 1604(k)-08(a) (1976)(consideration should be made of relevant economic and environmental factors).
89. Id.
since the Forest Service only considers wildlife an issue when harvesting timber creates habitat, not when harvesting would destroy habitat (i.e. the northern spotted owl). As far as timber-dependent communities are concerned, jobs are disappearing anyway because the timber industry is sending the raw old-growth logs to the Pacific Rim to be milled.\textsuperscript{90} In addition, more jobs are lost as mills become more automated.\textsuperscript{91} Yet, no matter how economically or environmentally disastrous below-cost timber sales are, they are legal under NFMA and are hard to challenge.

Avenues for restraint of timber harvesting are better pursued under challenges to the forest plan itself. Claims of inadequate National Environmental Protection Act (NEPA) compliance regarding the required analysis under NFMA have been a favored approach. Under NEPA, the Forest Service must prepare a programmatic environmental impact statement (EIS) on the forest plan and an environmental assessment (EA) on timber sales where there is a chance of environmental impact.\textsuperscript{92} Successful litigation has pursued the following NEPA theories: (1) a group of timber sales requires an EIS;\textsuperscript{93} (2) the EA inadequately assesses cumulative impacts and the impacts of road construction associated with timber harvesting;\textsuperscript{94} and (3) the EIS did not sufficiently address site-specific impacts.\textsuperscript{95}

Another approach that is currently being invoked as a constraint on timber harvesting in virtually all timber regions of the country is protection of wildlife under either the "well-distributed" rule of the Endangered Species Act (ESA).\textsuperscript{96} Under


\textsuperscript{91} Id.


\textsuperscript{93} Sierra Club v. United States Forest Service, 843 F.2d. 1190 (9th Cir. 1988).

\textsuperscript{94} Save the Yaak Committee v. Block, 840 F. 2d. 714, 718 (9th Cir. 1988); Thomas v. Peterson, 753 F.2d. 754, 759 (9th Cir. 1985).

\textsuperscript{95} City of Tenakee Springs v. Black, 778 F.2d. 1402, 1407 (9th Cir. 1985).

\textsuperscript{96} Protection of wildlife as a constraint to timber harvesting is being used in litigation across the nation: the red cockaded woodpecker in the southeast; the caribou in Maine (timber harvesting in Maine has caused new-growth forest which introduces both white-tailed deer and their symbiotic parasite, the brainworm, which causes neurologic disease and death to the caribou); the grey wolf in Minnesota and Idaho (biological studies differ as to whether old-growth or new-growth forest is needed for grey wolf habitat - the
the well-distributed rule wildlife protection can be interpreted to
be an absolute priority over conflicting uses to the extent nec-
essary to comply with the rule (a departure from the basic
multiple-use mandate of MUSY and NFMA). 97 Currently, the well-
distributed rule is the primary wildlife protection constraint on
timber harvesting within the agency. 98 The Forest Service can
decide to interpret it as they choose. An example of the Forest
Service's current approach to the well-distributed rule can be
seen in the northern spotted owl controversy.

In 1989, the Forest Service (through an interagency committee)
set up a task force of wildlife biologists to develop a management
plan for northern spotted owls in seventeen National Forests in
the states of Washington, Oregon, and California. 99 The following
year the biologists released a proposal indicating that 5.3 million
acres of forest should be permanently set aside for spotted owl
protection in some 194 “habitat conservation” areas. 100 If this
proposal were enacted, no timber harvesting would be allowed
based solely on the well-distributed rule - resulting in a 30 per-
cent reduction in timber harvest. 101 Though the Forest Service itself
had not adopted its proposal, 102 the courts did in decisions block-
ing old-growth logging on national forest and Bureau of Land
Management (BLM) lands. 103 In May, 1991, U.S. District Judge
William Dwyer halted old-growth logging on national forest
lands, 104 and in February 1992, U.S. District Judge Helen Frye

Forest Service feels new-growth and harvesting is best, many biologists feel old-growth
is necessary); the Mexican spotted owl in the southwest; and the northern spotted owl,
marted murrelet, and fisher in the northwest. Mark C. Rutzick, Wilderness Constraint on
Timber Harvesting, 5 A.B.A. SEC NAT. RESOURCES, ENERGY AND ENV'T. 10, 11 (1991); 16
97. To insure that 'viable populations' of wildlife will be maintained on Forest Service
land, the well-distributed rule requires that "habitat must be provided to support, at
least, a minimum number of reproductive individuals and that habitat must be well
distributed so that those individuals can interact with others in the planning area". This
regulation was issued by the Forest Service six years after the enactment of NFMA.
Mark C. Rutzick, Wilderness Constraint on Timber Harvesting, 5 A.B.A. SEC NAT. RESOURCES,
98. Id.
99. Id. at 11.
100. Id. at 12.
101. Id.
102. Id.
103. Judge Halts Logging on BLM Old Growth Forests, NATIONAL NEWS REPORT, (Sierra
F.2d 297 (9th Cir. 1991).
followed suit by issuing a preliminary injunction to halt old-growth logging on BLM lands. The Forest Service was to respond to Judge Dwyer by March, 1992, with a plan to preserve the owl’s habitat. In response, the Fish and Wildlife Service announced the Administration’s proposal for critical owl habitat which was immediately attacked by environmentalists for falling short of the acreage required to protect the species and the ecosystem. The injunction by United States District Judge Helen Frye will remain in effect until the BLM produces an adequate EIS for logging in the spotted owl habitat.

Though the well-distributed rule can only be utilized as a constraint by the Forest Service itself, litigants have successfully used ESA to restrict timber harvesting. The ESA is rigid in that all other federal laws must yield to its provisions. Species that are listed as threatened or endangered are entitled to a wide scope of protection. Such a wide range of protection is based on the fact that all federal agencies including the Forest Service, must abide by the restrictions of the ESA. Section 7 of the ESA requires all federal agencies to “insure that any action authorized . . . by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the

110. Thomas v. Peterson, 753 F.2d. 754 (9th Cir. 1985).
112. 16 U.S.C. § 1531(c)(1) (congressional policy declared to be that all Federal departments and agencies act to conserve endangered and threatened species and to cooperate with state and local agencies in this regard).
destruction or adverse modification of habitat of such species which is determined ... to be critical.” 115 This mandate significantly constrains federal agency action by prohibiting a wide variety of activities.

Yet the impact of the ESA may be weakened 116 as former President Bush, the “environmental President,” has proposed to weaken the act itself, in addition to proposing to insulate governmental management of the spotted owl from further review in the courts. 117 In May 1992, the Bush Administration made a decision to override the 19-year old ESA under the pretext of saving timber jobs, by halving the amount of protected acreage set aside by the recent court decisions. 118 The “God Squad” committee, appointed by President Bush, voted to allow the BLM to sell off 13 tracts of old-growth forest in Oregon to timber companies. 119 Despite this decision, the 13 tracts of forest have remained unlogged due to legal battles 120 and the continuing injunction. 121 So even though recent decisions have leaned toward restricting logging in an effort to save the spotted owl, the

115. Id. at § 1536(a)(2) (1988).
118. In May 1992, the cabinet-level Endangered Species Committee - known as the “God Squad” (formed through a 1976 amendment to the ESA) - voted to override the ESA and allow the BLM to sell off its old-growth areas in Oregon. Thicket of Forest Bills Growing in Congress, NATIONAL NEWS REPORT, (Sierra Club, San Francisco, Cal.), June 8, 1992, at 2; Bush Opens Fire on Owl Endangered Species Act, NATIONAL NEWS REPORT, (Sierra Club, San Francisco, Cal.) May 22, 1992, at 1.
119. “The BLN had been trying to sell off 44 tracts of forest, but was unable to because government scientists had determined that logging in the area would endanger the survival of the northern spotted owl. The committee’s five-to-two vote was the minimum needed to approve the sales.” God Squad May Have Bowed to Higher Authority, NATIONAL NEWS REPORT, (Sierra Club, San Francisco, Cal.), Sept. 21, 1992, at 2.
120. The Sierra Legal Defense Fund has commenced legal action against the administration for allowing the committee to exempt critical habitat without determining that the economic benefits clearly outweigh alternative courses of actions and for administration officials illegally pressuring committee members to vote to exempt the forests from ESA restrictions. God Squad Never Saw Key Economic Study, NATIONAL NEWS REPORT, (Sierra Club, San Francisco, Cal.) July 23, 1992, at 3; God Squad May Have Bowed to Higher Authority, NATIONAL NEWS REPORT, (Sierra Club, San Francisco, Cal.) Sept. 21, 1992, at 1.
administration and various bills in Congress would act to create new avenues for timber harvesting. Other bills in Congress would restrict timber harvesting.

IV. CONGRESSIONAL BILLS ADDRESSING TIMBER HARVESTING

Numerous ancient forest and biodiversity bills have arisen in the last two years addressing various needed avenues of protection. As the 102nd session of Congress drew to a close, none of the bills proposed on the floor of Congress addressing ancient forest or biodiversity passed into law. A summary of these bills and their potential resurrection in the 103rd Congress will highlight the effort being spent on both sides to have definitive laws regarding logging established.

A. H.R. 1969 - Forest Biodiversity and Clearcutting Act

This bill, introduced by Representative John Bryant (D-Tex.), would have banned clearcutting on all federal lands based on the effect on wildlife, clean water, global warming, and recreational opportunities. This proposed legislation was a positive move to protect all forest lands from the devastating effects of clearcutting without eliminating other methods of harvesting timber. This bill was short lived on the floor of Congress and disappeared early in 1992.

B. H.R. 3263

This bill, introduced by Representative Les Au Coin (D-Wash.), was a good bill gone bad. The bill addressed the needed

122. In addition to bills on the floor of Congress which favor the timber industry, a vehicle of choice for insulating federal agencies from environmental laws has been to insert provisions called 'riders' into Congress' annual spending bills for the Department of Interior and related agencies. These riders limit or eliminate federal judicial review of logging practices that are rapidly destroying ancient forests. Id.; J.A. Savage, Timber Companies Can't See the Forest for the Trees, BUSINESS & SOCIETY REVIEW, (Business & Society Review, New York, N.Y.) Summer 1990, at 44-47.


124. Memorandum from Carl A. Zichella, Sierra Club to Forest Activists (8/26/91)(on file with author).
designation of various old-growth forests on BLM and Forest Service lands into an "Old-Growth Forest Service System." But this bill ignored ancient forests in the Sierra Nevada, Eastern Washington, Oregon, and other areas throughout the Pacific coast states. It would have specifically forbade designation of forest reserves in two key national forests in Washington where scientists had recommended reserves be created. In addition, the plan would have allowed cutting in the range of 2.6 to 3.0 billion board feet - a range that would not have provided the necessary protection for the northern spotted owl. The most dangerous aspect of the bill was a three-year interim period where no legal challenges could be brought based on ESA, NEPA, or any other federal environmental statutes. It was felt that this provision was proposed in an effort to overturn the May, 1991, decision by Federal Judge Dwyer which prohibited logging and timber sales on federal lands which are essential habitat for the northern spotted owl. This bill was also short lived - on the floor of Congress and disappeared early in 1992.

C. H.R. 2501 - National Forest Timber Sales Cost Recovery Act

This bill, introduced by Representative Jim Jontz (D-Ind.), would have phased out below-cost timber sales in national forests. This proposed legislation would have driven prices up, making it more cost-effective for the timber industry to harvest on private lands, thus preserving the ancient forests and critical habitat for endangered species. Unfortunately, this critical bill also disappeared from the floor of Congress early in 1992.

126. Id. at 6.
127. Id.
128. Memorandum from Carl A. Zichella, Sierra Club to Forest Activists (8/26/91)(on file with author).
130. Memorandum from Carl A. Zichella, Sierra Club to Forest Activists (8/26/91)(on file with author).
132. Id.
D. H.R. 842 - Ancient Forest Protection Act (Jontz Bill)

This bill, also introduced by Representative Jim Jontz (D-Ind.), established the process by which forest areas in California, Oregon, and Washington could be designated as a National Ancient Forest Reserve System. This proposed legislation would have created a 'network of forests' as connecting patches of ancient forests, thus allowing plants and wildlife to effectively migrate and reproduce. In addition, this bill would have guaranteed that actions taken which conflict with the act could be appealed. This bill would have preserved the right of legal challenge. From its introduction in 1991 until March, 1992, this comprehensive bill had been active on the floor of Congress but had never been passed into law. Since this bill stagnated on the floor of Congress, Representative George Miller, chairman of the House Interior Committee, drafted a two and one-half page "shell bill," which established his committee's intent to craft ancient forest legislation, but left specific details for the future, in an attempt to move an ancient forest bill before the 102nd Congress adjourned.

E. H.R. 4899

This "shell bill" was created and introduced just before Easter recess 1992 by Representative George Miller (D-Cal.) in an attempt to have some ancient forest legislation pass during the 102nd Congress. While significant elements of the Jontz Bill had been incorporated in H.R. 4899, and the bill was based on

135. Id.
sound scientific data,\textsuperscript{138} there was concern that the timber industry's allies in Congress would take advantage of the bill's short length and add a number of weakening or even destructive provisions.\textsuperscript{139} The intent of the bill was to establish ancient forest reserves (though not in eastern Washington or Oregon),\textsuperscript{140} institute land management practices that would preserve both forest wildlife and a stable timber program, and address the needs of timber workers and communities.\textsuperscript{141} Environmental proponents were working to see that the bill maintained the right of citizens to challenge forest management plans.\textsuperscript{142} An amendment was proposed by California Democrats Leon Panetta and George Brown which would provide for the study and protection of the Sierra Nevada.

As of May, 1992, this bill was being marked up in the House Agriculture Committee.\textsuperscript{143} Unfortunately, this bill stalled in the House Interior Committee due to opposition by House Speaker Thomas Foley of Washington State.\textsuperscript{144} Since the Interior Committee failed to report a bill, the only ancient forest bill that could have made it to the House floor before adjournment was the marked up version of H.R. 4899 from the Agricultural Committee,\textsuperscript{145} far less protective than Miller's original proposal.\textsuperscript{146} As

\begin{footnotesize}

\begin{itemize}
  \item[138.] The strength of H.R. 4899 lies in the fact that it was based on last fall's Congressionally commissioned science report on the status of ancient forests. \textit{Outlook for Ancient Forests: Promising, but Perilous}, \textit{NATIONAL NEWS REPORT}, (Sierra Club, San Francisco, Cal.), April 27, 1992, at 1; \textit{Ancient Forests Story}, \textit{PUBLIC LANDS ACTIVIST}, (Sierra Club, San Francisco, Cal.), March 30, 1992, at 1.
  \item[139.] \textit{Outlook for Ancient Forests: Promising, but Perilous}, \textit{NATIONAL NEWS REPORT}, (Sierra Club, San Francisco, Cal.), April 27, 1992, at 1.
  \item[140.] \textit{Senate Follows House Trail to Save Ancient Forests}, \textit{NATIONAL FOREST REPORT} (Sierra Club, San Francisco, Cal.) July 14, 1992, at 1.
  \item[142.] In March 1992, Secretary of Agriculture Edward Madigan proposed the elimination of the Forest Service’s citizen's appeal process in an effort to "eliminate burdensome regulations." \textit{Plan Could Force Logging Foes to Sue to Save Forests}, \textit{SIERRA CLUB NATIONAL NEWS REPORT}, (Sierra Club, San Francisco, Cal.), April 13, 1992, at 1.
  \item[143.] \textit{Action Alert}, (Sierra Club, Madison, Wis.), May 25, 1992.
  \item[144.] \textit{Senate Follows House Trail to Save Ancient Forests}, \textit{NATIONAL NEWS REPORT}, (Sierra Club, San Francisco, Cal.), July 14, 1992, at 1.
  \item[146.] The Agricultural Committee's version of H.R. 4899 had been analyzed by environmentalists as giving the northern spotted owl only a 50-50 chance of survival, \textit{Senate Followed House Trail to Save Ancient Forests}, \textit{NATIONAL NEWS REPORT}, (Sierra Club, San Francisco, Cal.), July 14, 1992, at 2.
\end{itemize}

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it turned out, when Congress adjourned, there was no ancient forest legislation proposed by the House.147 Yet, it is likely that remnants of H.R. 4899 and H.R. 842 will surface in the House in the next session.

F. S. 1536 - Adams Bill (Ancient Forest bill)

Initially, Senate bill 1536, introduced by Senator Brock Adams (D-Wash.), would have created Ecosystem National Areas - areas permanently protected from logging.148 It addressed both the needs of the timber industry and the environment by (1) providing additional unemployment benefits for workers in the timber industry and associated jobs, (2) creating funds for communities based on timber, and (3) providing three to five years interim protection for remaining old-growth forests and salmon habitat until they could be designated.149

This bill as originated, is no longer on the floor of Congress. But components of Senate bill 1536 have been resurrected in a new ancient forest bill, co-sponsored by Senators Brock Adams and Patrick Leahy.150

G. S. 2895 & S. Amendment 2710 - Rural Development and Ancient Forest Ecosystem Conservation Act

Senators Brock Adams (D-Wash.) and Patrick Leahy (D-Vt.) resurrected remnants of Adams Ancient Forest bill in S. 2895, the Rural Development and Ancient Forest Ecosystem Conservation Act,151 which would have permanently set aside ancient forests in Washington, Oregon, and northern California.152 Senator Alan Cranston (D-Cal.) quickly added a free-standing amendment

149. Ancient Forests Action, PUBLIC LANDS ACTIVIST, (Sierra Club, San Francisco, Cal.), Oct. 9, 1991, at 4, 4; Memorandum from Carl A. Zichella, Sierra Club to Forest Activists (8/26/91)on file with author).
152. Senate Follows House Trail to Save Ancient Forests, NATIONAL NEWS REPORT, (Sierra Club, San Francisco, Cal.), July 14, 1992, at 1.
to protect the Sierra Nevada forests.\textsuperscript{153} This bill would have incorporated permanent protection for old-growth forests throughout northern California and the Pacific Northwest with worker protection provisions,\textsuperscript{154} such as economic assistance to timber-dependent communities and restriction of whole log exports.\textsuperscript{155} In addition, this bill provided interim protection during a study of eastern Washington and Oregon forests (not included in H.R. 4899) and Cranston's Amendment provided the same for Sierra Nevada forests.\textsuperscript{156} It was is a positive bill for the environment and the timber workers - a negative bill on the part of the timber companies since it would affect their profits (they will be forced to buy from private timber lands). Unfortunately, when Congress adjourned there was not ancient forest legislation proposed by the Senate.\textsuperscript{157} Yet, it is likely that remnants of S. 2895 and S. Amendment 2710 will surface in the Senate in the 103rd Congress.

\textit{H. S. 1156 Packwood bill (Forests and Families Protection Act)}

This bill, introduced by Senator Bob Packwood (R-Or.) and supported by Senators Slade Gorton (R-Wash.) and Mark Hatfield (R-Or.), would have amended the NFMA to formally establish the doctrine of timber primacy, also known as commodity protection.\textsuperscript{158} If this bill were enacted into law, it would have required the Secretary of Agriculture to maintain maximum stability of communities or economic enterprises dependent on the National Forest System.\textsuperscript{159} This would have guaranteed logging on most forest lands by requiring the Forest Service to de-emphasize

\textsuperscript{153} Id.
\textsuperscript{156} Id.
\textsuperscript{159} Memorandum from Carl A. Zichella, Sierra Club to Forest Activists (8-26-91)(on file with author).
hard-to-quantify forest values such as wildlife and watershed protection and to emphasize timber use above all other values.\textsuperscript{160} In fact, as the bill was written, it would have weakened ESA by allowing the agency to adopt in-part plans for species recovery under ESA.

Other damaging aspects of this bill were (1) the restriction of a citizen's right to review agency decisions, and (2) the ability of the Forest Service to revise every 15 years Forest Service plans by which ancient forests are protected - even ones previously designated.\textsuperscript{161} This bill, if it had passed, would have been a nail in the coffin of the principle of multiple-use in all environmental statutes, and the last nail in the coffin of ancient forests. The only success of the 102nd Congress regarding ancient forest protection was the defeat of this proposed bill.\textsuperscript{162}

V. CONCLUSION

This paper has addressed the realities of current timber production, the weaknesses of current laws under which the Forest Service operates, provisions in such laws which constrain timber harvesting, and current bills which must be passed to preserve forest land for today, for the economy, and for future generations. There is an option available to the timber companies. Private forest land can be utilized to meet the economic demands of this nation without devastating the ancient forests and their irreplaceable ecosystems.

\textsuperscript{160} Ancient Forest Legislation Moves, THE FOREST NETWORKER, (Midwest Sierra Club, Madison, Wis.), Sept. 1991, at 5.
THE E.P.A.'S EMISSIONS TRADING POLICY: A CLOUDED PAST, BUT A BRIGHT FUTURE

by Winston R. Griffin

I. INTRODUCTION

In 1989, the Office of Technology Assessment (OTA)\(^1\) released a major study of air quality problems in the United States.\(^2\) The study estimated the changes in emissions of volatile organic compounds (VOC's)\(^3\) and reductions in ground-level ozone\(^4\) that would result in the years 1994 to 2004 from the application of all currently available VOC control technologies in nonattainment areas,\(^5\) and some added control in clean areas.

As estimated by the OTA, by the year 2004 these control measures would reduce total annual emissions of VOCs in non-attainment areas from about eleven million to almost seven million tons, representing a thirty-five percent reduction.\(^6\) Depending on the particular urban area in question, the annual VOC reduction would vary from twenty percent to fifty percent by 1994.\(^7\)

The VOC controls that the OTA considered were projected to bring thirty-one of ninety-four areas in mild violation of the ozone

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1. The Office of Technology Assessment is an analytical arm of Congress established to provide early indication of both adverse and beneficial impacts of technology and to develop other information of assistance to Congress. 2 U.S.C. § 472 (1988). The area of environmental law is heavily laden with acronyms.


4. Ozone is a problem resulting in large part from emissions of volatile organic compounds from cars and trucks, from industrial operations such as painting, coating and degreasing, from some natural sources, and from handling petroleum. ARBUCKLE ET AL., ENVIRONMENTAL LAW HANDBOOK, 549 (11th ed. 1991).

5. "Nonattainment area" refers to a region within which the national ambient air quality standards (NAAQS), whether primary of secondary, have not been met. 42 U.S.C. § 7407 (d)(1)(A)-(H) (1988).

6. OTA Study, supra note 2, at 139.

7. Id. at 135-39.
standard in 1985 into attainment by 2004. Areas such as Los Angeles, however, were predicted to remain in violation even after controls were implemented.

According to the OTA, the annual cost associated with this ambitious set of measures would be $6.6 billion to $10 billion in the nonattainment cities alone, or about $1,800 to $2,700 per ton of VOC reduced. Adding in the costs that would be borne in attainment areas raises the estimated total to $8.8 billion to $12.8 billion per year.

One essential element of these high costs is the method this country has chosen to control its pollution. Government agencies are responsible for creating and enforcing emissions limitations for each individual polluter. These limits must be proscribed for each chimney, pipe, valve or other source that a firm might contain. Unfortunately, the government does not have the resources to help a firm determine how to best conform with these numerous pollutant limitations. Therefore, the agencies must rely on uniform standards which place similar requirements on firms that are of the same type, size or location. These standards do not take into account the various unique aspects of the firm being regulated. This removes any incentive for a firm to devise cheaper ways to achieve the same result. It should come as no surprise that business and industry have vigorously opposed the federal pollution control program.

8. Id. at 137.
9. Id. at 140.
10. Id. at 139-42.
12. Id.
13. Id.
15. Landau, supra note 11, at 742.
17. Landau, supra note 11, at 742-43.
Under this "command and control" approach, a particular emission standard applies to smokestacks, vents, and loading and transfer operations, notwithstanding the difference in costs and ease of controlling emissions from each. Widely criticized, this policy is said to needlessly inflate the costs of obtaining the nation's goals for cleaner air. The U.S. Environmental Protection Agency (EPA) has not been entirely deaf to such criticism. In December of 1986, the EPA published the final policy statement for the Emissions Trading Program. This program includes bubbles, netting, and offsets, as well as banking (storage) of emission reduction credits (ERC's) for future use.

This article examines the basic structure of the Clean Air Act, the Emissions Trading Program and the latest innovation, public trading of ERC's.

II. THE BASIC STRUCTURE OF THE CLEAN AIR ACT

What is commonly known as the Clean Air Act is actually an accumulation of enactments beginning in 1955, with the Air Pollution Control Act of 1955. The most important of these
enactments are the Clean Air Act Amendments of 1970 and 1977.

The Clean Air Act Amendments of 1970 established the foundation for the nation's air pollution control efforts. The 1970 Act had three titles: Title I dealt with stationary sources such as factories. Title II dealt with mobile sources such as cars and airplanes. Title III set forth definitions, provided for citizen suits, and set standards for judicial review. The 1977 amendments kept this structure while rewriting portions of Titles II and III. The amendments also required the newly created Environmental Protection Agency to establish uniform ambient air quality standards, which were to define the maximum allowable concentrations of certain pollutants. Two sets of National Ambient Air Quality Standards (NAAQS) were required. First, the EPA was asked to set a series of primary standards, which limited the pollution that could be allowed without endangering public health. Next, the EPA was directed to establish secondary standards which set the maximum levels of pollution allowable without endangering public welfare.

Under the 1970 amendments, these standards were to be attained by specific dates. Primary standards were to be attained within three years of approval of a state implementation plan (SIP) with the possibility of a two-year extension, if requested by a state's governor. While admirable, these goals were set with extreme optimism. Congress sought enforcement of these standards from state governments as to existing sources of air pollution and federal regulation of new polluting sources.

28. Id.
29. Id.
30. The United States Environmental Protection Agency was created to bring together the more than one half dozen government agencies that had been responsible for federal pollution control programs. The agency was created by Executive Reorganization Plan No. 3 of 1970, 35 Fed. Reg. 15,623 (1970).
32. Id. § 109(b)(1), 84 Stat. 1680.
35. Id. § 110(a)(1), 84 Stat. 1681.
Congress gave states great flexibility in the regulation of existing sources. Each state was required to prepare a state implementation plan (SIP), which detailed enforceable emission limitations on existing sources.\textsuperscript{36} If the SIP demonstrated attainment of the standards by the statutory deadlines, the law required the EPA to approve them.\textsuperscript{37} The Clean Air Act gave the EPA "no authority to question the wisdom of a state's choices of emission limitations"\textsuperscript{38} if the state satisfied the standards set forth in the Act.\textsuperscript{39}

On the other side of this coin were the new source performance standards (NSPS), which were the direct product of EPA rulemaking. These standards were to conform with the stringent statutory requirement that they reflect "the best system of emissions reduction" available.\textsuperscript{40} Congress required EPA to publish within ninety days after the enactment of the amendments a list of source categories it determined would contribute significantly to pollution levels which could reasonably be anticipated to endanger public health or welfare.\textsuperscript{41} Specific standards of performance were then required to be set for each category.\textsuperscript{42}

One major inadequacy of the 1970 Amendments was their failure to address how the states were to continue to develop economically, as such development would surely include the construction of new sources of pollution.\textsuperscript{43} At the same time, the Amendments allowed new source growth in clean air areas until the NAAQS were violated, while prohibiting the construction or modification of any new source in areas where the air quality was below national standards.\textsuperscript{44}

In 1976, the EPA issued an interpretive ruling known as the "emission offset policy" to counter the lack of any provision for

\textsuperscript{36} Id. § 110(a)(1), 84 Stat. 1680.
\textsuperscript{37} Id. § 110 (a)(2)(A)(1), 84 Stat. 1680.
\textsuperscript{39} Id.
\textsuperscript{40} Clean Air Act Amendments of 1970, Pub. L. No. 91-604, § 111(a)(1), 84 Stat. 1676, 1683. "New" sources were those constructed or modified after the publication of the standards applicable to that category of sources. Id. § 111(a)(2), 84 Stat. 1683.
\textsuperscript{42} Id. § 111(b)(1)(3).
\textsuperscript{44} Id. at 291 (citing, Clean Air Act Amendments of 1970, Pub. L. No. 91-604 § 110 (a)(4), 84 Stat. 1676, 1681 (1970)).
new source growth in nonattainment areas.\textsuperscript{45} According to this ruling, the EPA allowed states to permit construction of major new sources in dirty air areas as long as the new sources could locate or produce sufficient reductions in pollution from other sources in the area that more than offset the pollution from the proposed new source.\textsuperscript{46} While this ruling was initially opposed by environmentalists and industry alike, the enactment of the 1977 Amendments made such criticism academic.

The Clean Air Act Amendments of 1977\textsuperscript{47} define the methods by which new source growth would be allowed. Under the 1977 Amendments, if the EPA finds a state not in compliance with the SIP deadlines, the agency can issue an order prohibiting the construction or modification of any major stationary source\textsuperscript{48} in the area.\textsuperscript{49}

The 1977 amendments still require state implementation plans (SIP) but the specifications for a satisfactory plan are set out in greater detail.\textsuperscript{50} These requirements include the implementation of "reasonably available control measures,"\textsuperscript{51} demonstration that the state is making "reasonable further progress" toward the attainment of the standards by the statutory deadline,\textsuperscript{52} establishment of a current emission inventory,\textsuperscript{53} and evidence that local and regional governments have adopted the necessary requirements for compliance.\textsuperscript{54}

Congress also altered the new source performance standards (NSPS) by creating a new source review program. Two permit processes were created for construction or modification of "ma-
ajor" sources in areas where the air quality might be above or below the national standards.55

Major new source growth, in areas that had not yet attained the NAAQS, is allowed by the 1977 Amendments, but the new source must pass a detailed permit process prior to issuance of a permit to construct.56 A new source must meet the "lowest achievable emission rate" (LAER),57 which requires "the most stringent emission limitation" possible without regard to the cost of compliance.58 The owner or operator of the proposed modified or new source must also demonstrate that all major stationary sources it owns or operates comply with all applicable emission limitations.59 Finally, additional pollution will be allowed into the air-shed from the new source only if it will not threaten the state's reasonable further progress toward attainment of the federal ambient standards.60 This standard forces the new source to create, or pay for, emission reductions at other sources to make room for, or "offset," the new source emissions.61

States can use one of two possible techniques to provide "room" for growth in a nonattainment air-shed. First, the state can reduce pollution at a rate greater than necessary to produce reasonable further progress toward the attainment of standards.62 Second, the state can place the responsibility for finding "offsets" with the proposed new sources.63

The 1977 Amendments created a second, more elaborate, permit process for major new sources in clean air areas known as the prevention of significant deterioration (PSD).64 This process was an outgrowth of the Sierra Club's court victory in 1972.65

55. A source can be located either in an area with air quality better than national standards require (a PSD area) or where the quality is worse (nonattainment area). Both nonattainment and PSD permit processes applied only to large sources, referred to as "major stationary sources" or "major emitting facilities."
57. Id. § 7503(2).
58. Id. § 7501(3).
59. Id. § 7503(3).
60. Id. § 7503(1)(A).
61. Id.
62. Id.
63. Id. § 7503(1)(B).
The group persuaded the courts to invalidate a set of EPA regulations that had permitted approval of SIP's that did not "provide against significant deterioration of the existing clean air areas."66 In response, EPA issued its first PSD regulations in December, 1974.67 These PSD regulations specified the maximum allowable increases or "increments" in emissions of two pollutants, particulate matter (PM)\textsuperscript{68} and sulfur dioxide (SO\textsubscript{2}),\textsuperscript{69} from new or modified plants, depending upon the plant's location.\textsuperscript{70}

The focus of the PSD program is on the nation's clean air areas and their preservation from deterioration. Once an area is designated as a PSD area, its proper classification must then be determined. The program divides the entire country into one of three classes of clean air areas with different increments of air quality degradation allowed in each.\textsuperscript{71} Class I areas, in which very little deterioration of air quality is allowed, include national and international parks and wilderness areas.\textsuperscript{72} Urban or industrial locations, in contrast, are Class III areas, and the program allows significantly larger amounts of pollution.\textsuperscript{73} The classification determines the maximum allowable increases that may be added to the area's "baseline concentration"\textsuperscript{74} of PM and SO\textsubscript{2}. In no event may the pollution in a PSD area exceed the applicable NAAQS.\textsuperscript{75}

\begin{footnotesize}
66. \textit{Id.} at 254.
68. The particulate standard has been changed from one measuring total suspended particulates (TSP) to one measuring particulates ten microns in size or smaller (PM10). A micron is equivalent to one-one millionth of a meter. The PM10 standard was adopted in 1987, but earlier TSP standards will remain in force until new emission limitations are formulated to replace the old TSP limitations. \textit{ARBUCKLE ET AL., supra} note 4, at 528-29. The PM10 standard was upheld in \textit{NRDC v. EPA}, 902 F.2d 962 (D.C. Cir. 1990).
69. Sulfur dioxide is a gas that is produced when fossil fuels are burned. This gas is transformed in the atmosphere into acidic compounds that return to earth in rain, snow and dust.
71. The Act designates certain wilderness areas, national and international parks in existence on or before 1977, as Class I and all others as Class II areas. 42 U.S.C. § 7472 (1988). It then gives to states the authority to "redesignate" the Class II areas as either Class I or III within certain guidelines. \textit{Id.} § 7474(a).
74. "Baseline concentration" is defined as the "ambient concentration levels" of a pollutant existing "at the time of the first application for a permit." \textit{Id.} § 7479(4).
\end{footnotesize}
If a major new source wants to locate in PSD areas, the 1977 Amendments require the installation of pollution control equipment conforms to a "best available control technology" (BACT) standard. The BACT standard takes into account energy, environmental, economic impacts, and other costs. Under no circumstances will the emissions limitations be allowed to exceed an applicable new source performance standard. The new source must "conduct such monitoring as may be necessary to determine the effect its emissions ... may have or is having on air quality" in its area, and continually monitor the air quality to determine whether emissions from this facility will exceed PSD limits.

III. THE EMISSIONS TRADING PROGRAM

The Emissions Trading Program was initiated under the EPA's Final Policy Statement of 1986, which became effective on December 4, 1986. The program operates under the premise that any plant with more than one emission point will have different marginal control costs for each. If a plant is allowed to recognize these differences, the costs of control can be reduced significantly with no sacrifice in actual emission reductions. By allowing plants to work with those control costs, emissions trading allows each plant to produce required emission reductions in the most cost effective manner. The EPA's Emissions Trading Policy Statement defines the basic elements of emissions trading as follows:

Emissions trading consists of bubbles, netting, emission offsets, and emission reduction banking. These steps involve creation of surplus emission reductions at certain stacks, vents or similar sources of emissions and use of these emissions reductions to meet or redefine pollution control requirements applicable to other emission sources. Such emissions trades can provide more flexibility to meet environmental requirements, and may therefore be used to reduce control costs and encourage faster compliance.

77. Id. § 7479(3).
78. Id.
79. Id. § 7475(a)(7).
80. Id. § 7475(e)(2).
82. Id.
83. Id.
84. 51 Fed. Reg. 43,830.
The concept behind the emissions trading is straightforward. The process begins when the appropriate government control authority instructs a firm of its emission limitations for each point source. Since each chimney, pipe, valve or other source must have its own emission standard, a plant could easily have several hundred separate standards. Emissions trading allows a firm to change the mix of discharge point controls to meet these standards as long as the overall quality of the ambient air is not affected. Thus, a firm can decide for itself the least costly means of satisfying the emissions standards and trade control responsibility among discharge points. Just as each point source has its own emission limitation, it also has its own marginal cost to achieve that standard. This approach allows firms to control the source with the lowest marginal cost while exercising less control over the source with the highest cost, thereby allowing firms to maximize their control over separate variable costs.

This process, however, is not as easily implemented as one might expect.

One practical difficulty that arises for the control authority is how to ensure that neither local nor regional air quality is degraded as a result of these trades. For non-uniformly mixed pollutants such as sulfur dioxides, nitrogen oxides, and particulates, measured air quality is a function not only of the level of emissions but of their location as well. Therefore, whenever trades involve discharge points with different stack heights or locations, increased degradation in air quality is possible. The essential policy question then is: How can local air quality be protected and long range pollutant addition be limited, while allowing as much cost reducing trading activity as possible?

The Emissions Trading Program attempts to answer this question by allowing sources controlling more emissions than required

85. "Ambient air" refers to any unconfined portion of the atmosphere: open air, surrounding air.
87. Id.
88. Costs associated with controlling the same pollutant from adjacent sources within the same plant can vary by as much as 100 to 1. Malcom Weiss and John Palmisano, Emissions Trading Gives Flexibility In Meeting Clean-Air Laws, POWER, March 1985, at 55.
89. Id.
90. Atkinson and Tietenberg, supra note 86, at 371.
by law to receive an emission reduction credit\textsuperscript{91} (ERC) which can either be used to satisfy the standard at another discharge point or sold.\textsuperscript{92} When a trade between sources is consummated, trading rules are used to prevent adverse air quality impacts.\textsuperscript{93}

An emissions-reduction credit is the basic element of the emissions trading system.\textsuperscript{94} To create a credit, a firm may change a product, change the process that creates a certain product, or change the manner in which a certain pollutant is controlled.\textsuperscript{95} ERCs can also be created by curtailing or discontinuing operations at a facility.\textsuperscript{96} To qualify as an ERC, a reduction must satisfy four requirements.\textsuperscript{97} First, the reduction must be surplus. A surplus reduction cannot be one that was required in the SIP, relied upon for SIP purposes, or used to meet any other regulatory requirement.\textsuperscript{98} Second, the reduction must be enforceable.\textsuperscript{99} Means by which a reduction is made enforceable include SIP revisions, EPA-approved generic bubble rules, and new source preconstruction permits issued by states under EPA-approved SIP regulations, as well as construction permits issued by EPA.\textsuperscript{100} Third, in order to qualify as an ERC, the reduction must be permanent.\textsuperscript{101} Permanence "may generally be assured by requiring federally enforceable changes in source permits or applicable state regulations to reflect a reduced level of allowable emissions."\textsuperscript{102} Finally, the reduction must be quantifiable.\textsuperscript{103} This element requires that reductions be "quantifiable both in terms of estimating the amount of the reduction and characterizing that reduction for future use."\textsuperscript{104} To ensure that all uses of ERCs do

\begin{itemize}
\item \textsuperscript{91} "An Emission Reduction Credit" is an official certification that excess emissions reductions are: surplus, permanent, enforceable and real. Weiss and Palmisano, supra note 88, at 55-56.
\item \textsuperscript{92} Atkinson and Tietenburg, supra note 86, at 371.
\item \textsuperscript{93} S.E. Atkinson and T. H. Tietenberg, The Empirical Properties of Two classes of Designs for Transferable Discharge Permit Markets, 9 J. Econ. Mgt. 101 (1982).
\item \textsuperscript{94} Weiss and Palmisano, supra note 88, at 55.
\item \textsuperscript{95} Id.
\item \textsuperscript{96} Id.
\item \textsuperscript{97} 51 Fed. Reg. at 43,831.
\item \textsuperscript{98} Id. at 43,832.
\item \textsuperscript{99} Id.
\item \textsuperscript{100} Id.
\item \textsuperscript{101} Id.
\item \textsuperscript{102} Id.
\item \textsuperscript{103} Id.
\item \textsuperscript{104} Id.
\end{itemize}
not run counter to the Clean Air Act's ambient attainment and maintenance considerations, the EPA set forth several general principles governing their use.\textsuperscript{105}

\textbf{A. THE BUBBLE CONCEPT}

The purpose of EPA's bubble concept is to allow existing plants (or groups of plants) to compensate for an increase in emissions from one or more sources with a decrease in emissions at other sources.\textsuperscript{106} The rationale behind this concept centers on a firm's "ability to implement less costly ways of meeting air quality requirements."\textsuperscript{107}

To illustrate, consider the following example by one proponent:

A plant may, for example, contain two primary emission sources. At one, the marginal cost of control may be $1500 per ton/year. At another, the marginal cost may be $150 per ton/year. If the pollution control agency were to require a 500 ton/year reduction in pollution from each of the two emission sources at the plant, as is usually done, the costs would be extremely high - $825,000. If the agency were to consider only the aggregate pollution reduction required by placing an imaginary bubble over both the emission

\textsuperscript{105} The general principles for ERC usage are:
1. Emissions trades must involve the same criteria pollutant.
2. All uses of ERCs must satisfy applicable ambient tests.
3. Bubbles must not increase hazardous pollutants.
4. ERCs from existing sources cannot be used to meet technology-based requirements applicable to new sources.
5. States may approve bubbles in primary nonattainment areas which require but lack approved demonstrations of attainment.
6. Sources need not be subject to binding compliance schedules based on current SIP requirements.
7. States may extend certain compliance schedules.
8. States may approve bubbles involving open dust sources of particulate emissions.
9. The Regional Administrator will review lead trades since EPA does not designate nonattainment areas for lead as it does other criteria pollutants.
10. ERCs from mobile source measures may be used to meet SIP requirements applicable to existing stationary sources, so long as such reductions are surplus, permanent, quantifiable, and enforceable.
11. Trades involving sources located in neighboring states may be approved, provided they meet all other requirements.
12. Bubbles must not impede enforcement actions for sources which have failed to take necessary steps to meet required control obligations on time.

\textit{Id.} at 43,833-43,834.
\textsuperscript{106} \textit{Id.} at 43,830.
\textsuperscript{107} \textit{Id.}
sources, the result could be quite different. The plant could reduce the emission source with the cheaper control costs by 1000 tons per year and not control the more expensive source at all. The result in total emissions is exactly the same, but the price tag — $150,000 — is quite different, eighty-two percent different.\footnote{108}

The primary "benefit of the bubble concept is that it reduces the costs of compliance with pollution control regulations."\footnote{109} A study of actual emissions costs at fifty-two DuPont Chemical plants\footnote{110} revealed that the total cost of an eighty-five percent reduction in emissions from all 548 individual emission sources in these plants was $105.7 million per year.\footnote{111} When each plant was placed under a bubble and allowed to search for an optimal mix of controls, the cost to produce the same quantity of pollution reduction fell to $42.6 million per year, a cost savings of more than sixty percent.\footnote{112} The study also found that when the plants were allowed to develop their mix of controls, total pollution could be reduced by as much as ninety-nine percent at an annual cost of $92.4 million — considerably more control at considerably less cost.\footnote{113} By allowing firms to employ a more economically efficient mix of control techniques than those required, the bubble policy encourages low-cost solutions without sacrificing overall pollution control.

Apart from costs savings, the bubble concept also promotes the "innovation and development of more cost-effective control technology through incentives."\footnote{114} Any profit-maximizing firm will attempt to comply with pollution regulations in the least costly manner. This is in stark contrast to the traditional "technology-forcing" control strategy, which in practice significantly discourages the development of new technologies.\footnote{115}

There are three basic modes of forcing technological development so as to achieve desired pollution levels.\footnote{116} First, forcing

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109. Id.
111. Id.
112. Id.
113. Id.
technological development may require merely publicizing technological information and encouraging its implementation in an industry where the technological process may or may not be present. Secondly, the process involves adapting a technological process previously used in one industry for use in another industry where its application is as yet unproven. Finally, development of an entirely new technological approach may be required. The bubble concept attempts to combine these elements. "Since the bubble concept induces innovative developments by providing economic incentives and reducing administrative requirements, rational plant managers will seek to gain the benefits of bubbling by developing new emission control techniques." Industry tends to support the bubble because it gives plants an opportunity to avoid fixed technology-based standards.

Under traditional "technology-forcing" regulations firms were encouraged to keep the outdated equipment on line. Conversely, the bubble concept gives an incentive to retire older, dirtier equipment. One example of this occurred at a Crown Zellerback plant where the company was required to apply expensive pollution control equipment designed to meet the lowest achievable emission rate when it added a new flexographic printing press. Under the traditional approach, the company could not afford to modernize. However, "the company was allowed to shut down the older presses and to replace them with the cleaner flexographic units." This newly created bubble produced a net

117. Id. at 772.
118. Id. at 772-73.
119. Id. at 773.
121. Id. at 194.
124. Flexographic printing is a rotary letterpress technique using rubber or plastic plates and aniline inks for printing on fabrics, plastics, metal foils, and other materials, as well as paper. Aniline is the chemical base of many dyes. It is a colorless, oily, volatile liquid. OXFORD ENGLISH DICTIONARY (Oxford, Clarendon, 2d ed. 1989).
127. Id.
decrease in total plant emissions due to the retirement of the older equipment.\textsuperscript{128}

One obvious benefit of the bubble concept, apart from saving money, is that it allows members of industry to avoid the costs associated with governmental controls. Traditional regulatory practice requires a plant that modifies any of its component operations "to undergo an expensive and time-consuming permit process."\textsuperscript{129} This process may include conformance with uniform emission standards, and long-term modeling and monitoring.\textsuperscript{130} However, by allowing a plant to consider all emissions in the aggregate, an increase of emissions from one process could be countered by a decrease from another, thereby producing a wash in net emissions.\textsuperscript{131} Therefore, since no increase in pollution has resulted, the plant will not be required to endure the permit, modeling, or monitoring processes.\textsuperscript{132}

As with most innovations, the bubble concept has been subject to considerable opposition. One complaint is that the bubble concept allows certain outlets to pollute indefinitely at the same rate since a firm is allowed to reduce emissions from the outlet of its choice.\textsuperscript{133} Another complaint is that the bubble is difficult to enforce while also being a very administratively burdensome process.\textsuperscript{134} Further, checking emissions levels can be very difficult and expensive.\textsuperscript{135} The costs associated with monitoring emissions from a single smokestack can often reach $10,000.\textsuperscript{136} Among the major administrative problems are added record keeping and verification processes that arise as a result of attempts to keep track of changes in emissions from various outlets in each plant.\textsuperscript{137} One possible solution to any increased enforcement cost problem is to pass such costs on to the polluter. At present, an SIP must

\textsuperscript{128.} Id.
\textsuperscript{129.} Id.
\textsuperscript{130.} Id.
\textsuperscript{131.} Id.
\textsuperscript{132.} Id.
\textsuperscript{133.} Rhinelander, supra note 120, at 196.
\textsuperscript{134.} Id.
\textsuperscript{135.} Id.
\textsuperscript{136.} Id. at 196 n. 96 (citing Interview with Richard E. Ayres, Staff Attorney, National Resource Defense Council in Washington, D.C. (March 19, 1981)).
pay all costs associated with a new bubble. However, the EPA could require a polluter to pay all inspection costs in order to implement a bubble.

Another criticism of the bubble concept is that it slows the nation's progress toward the attainment of cleaner air. The theory is that the bubble concept allows a firm that is modifying or improving a new facility to avoid installing the most modern emission controls at its other facilities. However, the use of the bubble concept will not slow the attainment of cleaner air if the SIP can document reasonable further progress toward the attainment of national standards.

Yet another criticism is that allowing an offset for an increase in emissions with a decrease elsewhere in the plant will only make it more difficult to reach the goal of clean air. In other words, critics want every effort put into cleaning the air as opposed to maintaining the status quo. But the bubble concept simply allows a firm to meet the emission limitations placed upon them in the most cost-effective manner. As those requirements become more stringent over time the firm will still be required to meet them. A firm cannot be expected to spend money on goals that have not yet been imposed nor can it be expected to spend every remaining dollar on emission reduction. The most effective way of obtaining clean air is to give industry an incentive to meet individual goals.

1. The History of the Bubble

Intense criticism of the traditional "command and control" approach to obtaining cleaner air as well as heavy industry lobbying persuaded the EPA to apply the bubble concept in each of the Clean Air Act's three permit programs. These permit programs include the new source performance standards (NSPS),

139. Rhinelander, supra note 120, at 196 n. 95.
140. ASARCO, Inc. v. EPA, 578 F.2d 319, 328 (D.C. Cir. 1978).
141. Clean Air Act Amendments of 1970, Pub. L. No. 91-604 § 110(a)(2)(B), 84 Stat. at 1680, specifically states that the SIP must include such materials "as may be necessary to insure attainment and maintenance of such primary or secondary standards...."
142. Rhinelander, supra note 120, at 197.
143. Id.
144. See supra notes 105-115 and accompanying text.
the prevention of significant deterioration program (PSD), and the nonattainment new source review.

a. The NSPS Bubble

The EPA expressly allowed a limited use of the bubble in its 1975 new source performance standard regulations. The definition of a “stationary source” was modified to include not only a “facility,” but also a “combination of facilities.” More importantly, a specific provision of the new regulations stated, “[a] modification shall not be deemed to occur if an existing facility undergoes a physical or operational change where ... the total emission rate of any pollutant has not increased from all facilities within the stationary source....”

However, the EPA strictly applied these standards to all newly constructed or reconstructed “facilities,” regardless of reduction in emissions at other “facilities” in the same plant. According to the EPA, without the distinction between newly constructed or reconstructed facilities that could not bubble and “modified” facilities that could, large sources of air pollution could avoid the application of new source performance standards indefinitely.

The Sierra Club and industrial organizations led by ASARCO, Inc. challenged the 1975 regulations in court. ASARCO argued that a “source” must always be defined as an entire plant regardless of whether a firm constructs a new facility or modifies an old one. The Sierra Club stressed that EPA could never place a bubble over an entire plant for any NSPS purpose and that the NSPS must always be applied to each individual “facility,” “installation,” “structure” or “building” that was a component of a “source.”

In a stinging opinion by Judge Wright, the United States Court of Appeals, District of Columbia Circuit, struck down the use of the bubble concept as being inconsistent with the language and

146. Id. at 58,418.
147. Id. at 58,419.
148. Id. at 58,416-58,417.
149. Id. at 58,417.
150. ASARCO, Inc. v. EPA, 578 F.2d 319 (D.C. Cir. 1978).
151. Id. at 329.
152. Id. at 325.
purposes of the Clean Air Act. The court turned to the statute and noted the term “source” to be defined in terms of single components — a building, a structure, a facility, or an installation. The court further noted that the statute fails to mention a combination of these components. As a result, EPA was found to have exceeded its authority by extending its definition of source beyond the clear limits of the statutory language. Judge Wright reasoned that by allowing operators to avoid best available control technology (BACT) requirements, the bubble concept would “at best [maintain] the present level of emissions.” In conclusion, such a result was found to be in direct contradiction with the Clean Air Act’s goal “to enhance air quality and not merely maintain it.” However, the EPA did not abandon the idea. Within a year of its defeat on the NSPS bubble, the agency incorporated the concept again in a second set of regulations, involving the prevention of significant deterioration.

b. The PSD Bubble

The EPA was once again faced with the task of defining the term “sources” to which the complex and expensive permit requirements applied. The agency simply borrowed the definition from section 111, which defined the term for NSPS regulations. The definition was expanded to include “any structure, building, facility, equipment, installation, or operation (or combination thereof).” In other words, the agency defined a pollution source as a collection of activities under the imaginary bubble instead of as a series of individual regulated units.

The agency then defined “modification” as any net increase in pollution from a source. Thus, as long as no net emission increases resulted, if a plant shut down one portion of its oper-

153. Id. at 329.
154. Id. at 327-28.
155. Id. at 326-27.
156. Id. at 327.
157. Id. at 328.
158. Id. at 327 (quoting from Brief for the Respondents [EPA] at 17). As if that were not enough, the Court then disputed the merits of the bubble policy itself, calling the policy inconsistent and confusing).
159. See supra note 146 and accompanying text.
161. Id. at 26,394.
ations to make room for new emissions from a newly constructed operation, the plant could avoid PSD permit processes.\textsuperscript{162} The bubble concept regulation was again challenged in court. While it was the same court, the panel reviewing the regulations was different, and accordingly a much different result emerged. In \textit{Alabama Power Co. v. Costle},\textsuperscript{163} the court held that not only was the bubble concept allowable under the PSD section of the law; it was required. Writing for a unanimous court,\textsuperscript{164} Judge Wilkey approved the agency's "borrowing" of the NSPS "source" definition from the PSD regulations.\textsuperscript{165} However, the EPA did not have the authority to alter the words of the statutory definition.\textsuperscript{166} The \textit{Alabama Power} panel went further, holding that specifically within the agency's discretion was the ability to define some of the terms used in section 111 — such as "installation" and "facility" — to encompass entire plants.\textsuperscript{167} As this is contradictory to the \textit{ASARCO}\textsuperscript{168} conclusion, the court went to great lengths to narrow the effect of \textit{ASARCO} and to distinguish \textit{ASARCO} from \textit{Alabama Power}.\textsuperscript{169}

In accordance with the \textit{Alabama Power} decision, the EPA published regulations defining the term "source" in exact statutory terms, but it interpreted those terms so as to allow the use of the bubble concept.\textsuperscript{170} The agency defined each of the component terms mentioned in section 111 of the Act to denote "all of the pollution emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control)."\textsuperscript{171}

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\textsuperscript{162} Landau, \textit{supra} note 43, at 306. \\
\textsuperscript{163} 606 F.2d 1068 (D.C. Cir.) (per curiam), \textit{modified}, 636 F.2d 323 (D.C. Cir. 1979). \\
\textsuperscript{164} The final eighty-eight page opinion in this case was written in three parts, each part by a different member of the panel. The reason for this procedure was the scope of the lawsuit, which touched on a great number of complex issues contained in EPA's proposed PSD regulations. \textit{Id.} at 343. \\
\textsuperscript{165} \textit{Id.} at 395. \\
\textsuperscript{166} \textit{Id.} at 396-97. \\
\textsuperscript{167} \textit{Id.} at 396. The court ruled the four terms ("equipment," "operation," "combination thereof" and "source") encompass "all of the types of entities specified in the first sentence of section 169(1), as well as all entities and activities included on a longer list compiled by EPA from which the statutory list was drawn." \textit{Id.} \\
\textsuperscript{168} See \textit{supra}, notes 150-158 and accompanying text. \\
\textsuperscript{169} 636 F.2d 323 at 402. \\
\textsuperscript{170} 45 Fed. Reg. 52,676 (1980). \\
\textsuperscript{171} \textit{Id.} at 52,694. 
\end{flushright}
c. The Nonattainment Area Bubble

The EPA also considered the application of the bubble concept in a new arena, the nonattainment area regulations.\(^\text{172}\) There are two possible applications of the bubble concept in this area. First, for new or expanding industries, EPA could allow them to use the bubble instead of the usual permit processes thereby saving a great deal of money. The overriding consideration, of course, would be that existing pollution levels not be aggravated.\(^\text{173}\) Second, for an existing industry attempting to meet required SIP emission limitations, the bubble could also be allowed.\(^\text{174}\) Ultimately, the EPA applied the bubble to both of these areas.

Surprisingly, the application of the bubble policy to existing sources did not result in litigation. While these sources were still required to undergo stringent review procedures, they were allowed to meet existing limitations in the least costly fashion. The applicable SIP served as the upper limit for the sources thus allowing them to cost-effectively reduce emissions so long as the total remained below this mark.\(^\text{175}\)

In 1980, the EPA began the application of the bubble concept on new sources in the nonattainment areas.\(^\text{176}\) This effort was greeted with little enthusiasm. The controversy it created would last over five years, and would take a decision by the nation’s highest court to put it to rest.

Since nonattainment provisions are primarily intended not merely to prevent excessive increases in emissions, but to reduce emissions, the EPA refused to use the same definition of “source” as it did for PSD regulations. The agency had defined PSD sources as entire plants\(^\text{177}\) yet opted to treat new review sources as either an entire plant or a single piece of process equipment.\(^\text{178}\) The EPA’s reasoning was that a “dual definition” would “bring more units in for review in areas with unhealthy air thereby reducing emissions from the status quo.”\(^\text{179}\) However, the EPA

\(^{173}\) Landau, supra note 43, at 308.
\(^{174}\) Id.
\(^{176}\) 45 Fed. Reg. 52,693 (1980).
\(^{177}\) 45 Fed. Reg. 52,694.
\(^{178}\) Id. at 52,697.
\(^{179}\) Id.
soon proposed that the dual definition was too complicated, that it discouraged retirement of older, dirtier equipment, and was excessively burdensome. On October 14, 1981, the agency made its proposal final. States could now choose the bubble concept as an option for regulating new and existing sources of pollution.

As one might expect, this about-face by the EPA outraged environmentalists who in turn filed suit against the agency. In Natural Resources Defense Council v. Gorsuch, the environmental groups relied on the language and legislative history of the Clean Air Act to support their argument that the application of the bubble concept to new sources in nonattainment areas was illegal and the prior dual definition or “source” was appropriate. The EPA, without citing a single study or survey, maintained that the new definition of “source” was more consistent and that the dual definition would no longer advance the overall policy of the Clean Air Act. The court agreed with EPA that “[w]ith regard to the actual content of the definition of ‘source,’ the legislative history is at best contradictory.”

The court ruled that a “bright line” test could be established by the ASARCO and Alabama Power opinions. The court noted that ASARCO declared the bubble concept impermissible when the Congressional objective was improvement rather than simply preservation of existing air quality. However, the Alabama Power court held that, when the intent was “to preserve [existing] air quality” rather than improve it, the concept was “precisely suited” to its Congressional design. Therefore, the court determined that the bubble concept would be permitted in programs designed to maintain air quality but not in programs designed to improve it. This decision was quickly appealed. The United States Supreme Court agreed to review the Gorsuch decision, and docketed it as Chevron, U.S.A. v. Natural Resources Defense Council (NRDC).

181. Id. at 50,766.
182. 685 F.2d 718 (D.C. Cir. 1982).
185. NRDC v. Gorsuch, 685 F.2d at 720 n. 39.
186. Id. at 720.
187. Id.
The arguments of the parties were simple. The EPA argued that the court in Gorsuch could not legally substitute its judgment for that of the agency. Citing basic administrative law principles, EPA stressed that the discretion of an expert agency's decision must be given deference unless its action was clearly contrary to law. In the alternative, EPA maintained that nothing in the language, history or purpose of the Clean Air Act contravened the plant-wide definition for new sources in nonattainment areas. NRDC supported the Gorsuch decision, but not its reasoning. The answer, they argued, lay in the words of the statute itself, not in a bright-line test. Furthermore, since the statute made specific references to single buildings and single structures, as well as more general references to facilities and installations, a dual definition of "source" was mandated.

The Supreme Court unanimously reversed the Court of Appeals. The Court held that the plant-wide definition was allowable and consistent with the Clean Air Act. The basic error noted by the Supreme Court was the failure by the Court of Appeals to discern the true nature of the issues. The Court continued:

"Once [the Court of Appeals] determined, after its own examination of the legislation, that Congress did not actually have an intent regarding the applicability of the bubble concept to the permit program, the question before it was not whether in its view the concept is "inappropriate" in the general context of a program designed to improve air quality, but whether the Administrator's view that it is appropriate in the context of this particular program is a reasonable one."

Congressional intent, therefore, was the key. Unable to find unambiguous evidence of intent, the court faced the reasonableness of EPA's plant-wide source definition. The role of the Court in such a situation is to determine whether the agency decision

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190. Id.
191. Id. at 315.
192. Id.
193. Id.
195. Id. at 845.
is one that Congress will not sanction. The Court found neither language in the Act that contradicted EPA's definition of "source" nor any potential limitations in the legislative history. Finally, the Court refused to examine the agency's administrative flip-flop in defining the boundaries of the bubble. Such policy arguments, the Court held, are more properly addressed to legislators or administrators, not to judges.

The Supreme Court's ruling came as a welcome event for advocates of economically efficient pollution control regulations. Businesses could now offer their developed bubble proposals to the state air quality planning agencies without fear of a lawsuit or a sudden change in the validity of the underlying rules.

2. The Bubble In Kentucky

To date, Kentucky has one approved bubble in its state implementation plan (SIP). On July 28, 1989, Alcan Foil Products in Louisville applied to the EPA for creation of emission reduction credits. On January 29, 1990, EPA published a Notice of Proposed Rulemaking for the facility, the final version of which was approved on May 16, 1990.

The Alcan facility contains ten rotogravure printing/coating machines which are capable of performing either coating or rotogravure printing on aluminum foil. Such operations are generally covered by the papercoating and the graphic arts control-technology guideline (CTG) documents, respectively. EPA mandates, however, that "where both coating and printing are performed on the same machine, the graphic arts CTG shall apply."

The SIP revision allows Alcan to bubble volatile organic compound (VOC) emissions from nine of the ten machines in lieu of

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196. Id. (quoting United States v. Shimer, 367 U.S. 374, 383 (1961)). The Court stated that it would not disturb the agency's interpretation "unless it appears from the statute or its legislative history that the accommodation is not one that Congress would have sanctioned." Chevron v. NRDC, 467 U.S. at 845.
197. Id. at 851.
198. Id. at 865.
199. Id.
achieving compliance with the graphic arts reasonably available control technology (RACT) regulation on a line-by-line basis. Alcan purchased emission reduction credits that had been banked\textsuperscript{203} by the permanent shutdown of Federal Paper Board Company.\textsuperscript{204} Since different presses have varied emission control costs, Alcan was allowed to choose the optimal mix thereby cost-effectively keeping its emissions below state-imposed levels.\textsuperscript{205}

\textbf{B. NETTING}

Netting allows a firm to use emissions credits to exempt "modifications" of existing "major sources from certain preconstruction permit requirements under new source-review, so long as there is no net emissions increase within the major source or any such increase falls below significant levels."\textsuperscript{206} The modification is not considered major due to the "netting out" and is therefore exempt from the preconstruction permit requirements for major modifications. The modification, however, must meet all other applicable standards.\textsuperscript{207} One additional requirement for "netting" is that all emission reduction credits from on-site sources can only be used to compensate for on-site emissions increases.\textsuperscript{208}

In its initial Emissions Trading Policy Statement, the EPA described how netting could be applied:

Netting's scope is determined by the definition of "source" for review of major modifications. In general, PSD areas use a single, plant-wide definition, allowing actual emission reductions anywhere in a contiguous plant to compensate for potential emission increases at individual emitting units within the plant. Nonattainment areas can choose either this single, plant-wide definition or a dual definition, so long as the definition selected does not interfere with attainment and maintenance of NAAQS and is consistent with progress towards attainment. Under the plant-wide definition, significant net actual increases at the plant as a whole will trigger new source review. Under the dual definition, significant increases at either the plant as a whole or individual emitting units will trigger new source review.\textsuperscript{209}

\textsuperscript{203} See infra, notes 223-232 and accompanying text.
\textsuperscript{204} Id. at 20,269.
\textsuperscript{205} Id.
\textsuperscript{206} 51 Fed. Reg. 43,830 (1986).
\textsuperscript{207} Id.
\textsuperscript{208} Weiss and Palmisano, supra note 88, at 56.
\textsuperscript{209} 51 Fed. Reg. 43,830 (1986).
Prior to 1984, netting was permitted only in attainment areas. However, the U.S. Supreme Court, in *Chevron*, confirmed EPA's authority to allow netting in nonattainment areas.  Some experts believe the effects of this decision on industries such as the utilities "may be significant since expensive state-of-the-art LAER and BACT requirements can be avoided." If offsetting emissions decreases can be secured from within a plant, facilities may also be exempted from obtaining permits, offset requirements, and other rules. Any new source, however, must still meet new-source performance standards.

C. EMISSION OFFSETS

In an area that does not meet the NAAQS (nonattainment area), all major new stationary sources and major modifications are subject to a preconstruction permit requirement that they secure sufficient surplus emission reductions to more than "offset" their emissions. This requirement is designed to allow industrial growth in nonattainment areas and further the achievement of the national ambient air quality standards.

In attainment areas, an increase in emissions could prevent some new sources and modifications from being constructed because their emissions would result in an violation of the applicable PSD increment or ambient air quality standard. These emissions might significantly contribute to a violation of an ambient air quality standard in a designated primary nonattainment area, or might significantly contribute to visibility impairment in a Federal Class I area. Emission offsets would allow growth while protecting the particular standard.

For example, a precedent-setting $1.5 million environmental fund to improve air quality in Ventura County, California was

211. Lowest achievable emission rate.
212. Best available control technology.
214. *Id*.
215. *Id*.
217. *Id*.
218. *Id* at 43,830-43,831.
219. *Id* at 43,831.
220. *Id*.
created in July of 1991. Creation of the fund was made possible by the sale of 78 tons of surplus air emission credits by the 3M Data Storage Products division manufacturing plant to the Procter & Gamble Paper Products Co. which was expanding operations.221  

The emission credits were needed for an increase in one type of emission even though other types of emissions were being reduced. All told, emissions increased less than 1 percent after the expansion.222 Interestingly, the $1.5 million proceeds of the sale were donated to the Ventura County Community Foundation because company policy does not allow 3M to profit from the disposition of any surplus air emission credits it may have.

D. EMISSIONS BANKING

Emissions banking is the creation, certification, and storage of ERC's for future use in a bubble or in offset transactions, or for “netting-out” of a new source review.223 Once banked, credits are transferable to third parties.224 The rules governing emissions banking are defined by each SIP.225 States are allowed to develop formal emissions-banking systems or informal banking systems.226 However, banks that fail to meet EPA’s criteria cannot qualify emission reductions as ERC's.227 These banks will also offer significantly less protection in the event of future changes in ambient attainment status or SIP corrections.228

Under the present regulations, a company cannot bank credits unless the local or state air agency has formulated rules governing the deposit and withdrawal of credits.229 Before the air agencies can write such rules, however, many difficult issues must be considered. Basic issues involve decisions by the agencies on

221. APCD Receives $1.5 Million For Air Quality Programs, BUSINESS WIRE, July 26, 1991.
222. Id.
224. Id.
225. Id.
226. Id.
227. For example, failure to make banked emission reductions enforceable by the state by the time the reductions are actually banked, or by not assuring that deposits are taken explicitly into account for SIP planning purposes. Id.
228. Id.
“which emission reductions may be banked, how to quantify and keep track of emission reduction credits, and how sources may use banked credits.” Similarly, the air quality agencies must decide whether to limit the life of banked credits. Due to the complexity in this area, the air quality agencies must resolve these and other issues as well as devote the time and energy to make the bank work. These difficulties are a partial reason for the limited number of banks in existence.

The leading locality in the nation in development of the bubble-banking framework was Jefferson County, Kentucky. In 1979, the county set up the nation’s first emissions bank, and in 1981 it became the site for the initial purchase of pollution rights, when B.F. Goodrich Corp. (Akron, Ohio) sold credits to Borden Chemical Co. (Columbus, Ohio) and Ashland Oil Inc. (Ashland, Ky.). In 1982, Jefferson County was party to another landmark event, the leasing by one firm, General Electric Co. (Fairfield, Conn.), of emission privileges from another, International Harvester Co. (Chicago). GE paid $60,000 to lease some 445 tons of hydrocarbon emission-credits in 1982 and 280 tons in 1983. The credits were returned to Harvester in 1984, when GE’s $2 million modernization of its dishwasher manufacturing plant, intended to cut pollution output, was finished.

IV. PUBLIC TRADING OF ERC’S

While the concept of buying and selling the rights to pollute sounds simple, in reality it becomes quite complex. Take, for example, an Orange County, California print shop that decided in 1990 to locate in Irvine. Before it could move, it needed to obtain a permit from the local smog regulators at the South Coast Air Quality Management District (AQMD). Under the dis-

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234. *Id.*
235. *Id.*
236. *Id.*
district's rules the firm was considered a new pollution source and therefore had to offset any pollution it generated by buying excess credits from another company before it could get its permit to operate.\textsuperscript{238}

The firm needed at least 200 credits, which at a price of $500 to $4,000 per credit, would cost them a minimum of $100,000.\textsuperscript{239} Typically, all a company should have to do is locate another company that has excess pollution credits resulting from a reduction in pollution from a closed plant or piece of equipment, and buy up the credits.

Unfortunately, the transaction did not work quite so smoothly. Even though the company's executives had located a source of credits a year earlier, the deal was delayed several additional months because AQMD auditors said the departing plant had only one-tenth the amount of credits it said it had.\textsuperscript{240} Since the AQMD's figure was less than the Irvine shop needed to start up its plant, the firm was left with the option of looking elsewhere for credits or abandoning their plans to open in Irvine.\textsuperscript{241}

Several months later the AQMD boosted its first estimate of the number of credits available for sale as a result of a second audit of the departing plant.\textsuperscript{242} Fortunately, the new district estimate was high enough to allow the Irvine firm to buy the credits it needed from the departing plant.\textsuperscript{243} However, the Irvine print shop was forced to wait on AQMD's approval for over a year after the deal was first proposed before the final transfer of credits could take place.\textsuperscript{244}

A. STATE-RUN EMISSIONS TRADING

To alleviate problems in trading credits, a committee appointed by the California Air Quality Management District has been designing a market in dirty air.\textsuperscript{245} Rather than holdings in a

\textsuperscript{238} Id.
\textsuperscript{239} Id. The AQMD defines a credit as one pound of smog-producing volatile organic gases, which in a print shop are usually generated from press cleaning solvents and inks.
\textsuperscript{240} Id.
\textsuperscript{241} Id. at 22.
\textsuperscript{242} Id.
\textsuperscript{243} Id.
\textsuperscript{244} Id.
business, every share traded on the smog exchange would rep-
resent the right to emit a certain amount of a pollutant into the
air.246

Under the proposal, more than 16,000 polluters would no longer
be subject to twenty-three AQMD measures that specify equip-
ment, material and processes that must be used to reduce nitro-
gen oxides and hydrocarbons.247 Another forty-three proposed
rules would not be enacted. Instead, each company would be
assigned a definite number of shares. A business would be free
to choose how to stay within its limits, perhaps using new
technology, shutting down a facility or buying shares from an-
other company. To force an overall cleanup of the skies, each
share would be worth five percent less pollution each year.248

This market approach is being closely watched since it is the
largest experiment in the country with emissions trading. Ad-
vocates stress that industry will have a powerful incentive to
find new ways to decrease smog. Profits could be made by selling
off unused pollution shares.249 To environmentalists, the market
represents a potential opportunity, but also a huge gamble with
the public’s health. While all admit that there are flaws in the
current system, the air is getting demonstrably cleaner.250 How-
ever, under this approach, environmentalists could buy up smog
shares and keep them out of circulation to help lessen pollution.251

There is also concern about what emissions trading would mean
for small businesses.

"[Such businesses] might be tempted to sell shares to big business
and close down, or they may not have the financial resources to
compete with big companies in buying pollution rights. To avoid
this, Air Quality Management District is looking at establishing a
bank that would offer pollution rights to small firms at reduced
rates."252

Critics of emissions trading wonder whether it can be en-
forced.253 For example, if an oil refinery could not meet its limit

246. Id.
247. Id. Nitrogen oxides and hydrocarbons are two key elements of smog.
248. Id.
249. Id.
250. Id.
251. Armstrong, L.A. Floats New Plan To Curb Basin’s Smog, CHRISTIAN SCIENCE
252. Id.
253. Id.
and bought pollution rights from an auto-body shop, a dry-cleaning service and a power plant, regulators would have to verify that there had been actual smog reductions, not just shuffled paper. 254 Another problem arises where a bakery, for example, might release ozone-forming gases that may not be as damaging to the environment as ones from a plating facility. 255 Therefore, trades can't be based solely on the amount of pollutants given off. 256 The overriding consideration during the market development will continue to be enforcement. The district must be able to verify that the market is reducing pollution in the air, not just on paper. As one critic put it: "This is either the revolutionary system that is going to clean up the air in Los Angeles, or it is the savings and loan fiasco of environmental regulation." 257

B. EPA-RUN EMISSIONS TRADING

In May of 1991, the EPA unveiled plans to auction off the rights to emit sulfur dioxide. 258 Phase I focuses on the one hundred and ten largest, highest-emitting utility plants. 259 Phase II includes virtually all utility units in the forty-eight contiguous states and the District of Columbia in this stringent emissions limitation program. 260 The proposed regulation is the means by which EPA plans to limit sulfur dioxide emissions in the year 2000 to 10 million tons fewer than was pumped into the atmosphere in 1980. 261 The reduction is required under the 1990 Amendments to the Clean Air Act. 262

With EPA auctions beginning in 1995, 263 electric power utilities and other industries will be able to buy or sell the rights to release the byproduct of coal combustion. 264 These sulfur dioxide auctions will mark the full-scale commercialization of dirty air. Private citizens, market professionals, and practically anyone

254. Id.
255. Id.
256. Id.
257. Id. (quoting Tim Little of the Coalition for Clean Air).
258. 57 Fed. Reg. 29,940 (1992) (to be codified in 40 C.F.R. 73(B)).
259. Id.
260. Id.
261. Id.
263. 57 Fed. Reg. 29,940.
264. Id.
EMISSIONS TRADING POLICY

except federal government employees will be allowed under this plan to enter the market to buy and sell sulfur dioxide "allowances" as they would any other commodity.265

The trading system includes a formula that sets emissions levels on the basis of plants' past consumption of coal or oil.266 One "allowance" or permit under the federal program will give a power plant permission to emit one ton of sulfur dioxide per year. Furthermore, if a plant reduces emissions before the Phase I start date of January 1, 1995, it may receive additional allowances.267 Once the government allowances have been auctioned, private holders will be able to sell their holdings.268

To encourage development of a vigorous market, the plan calls not only for both auction and direct sales but also establishes a system whereby the allowances will be marketed on both a "spot" and "futures" basis. Those purchased in the "spot" market can be immediately used by utilities to come into compliance with their sulfur dioxide emission limits, while "futures" must be held for seven years before they can be applied.269

In May of 1992 the first ever commercial trade of sulfur dioxide credits took place.270 Wisconsin Power & Light was emitting fewer pollutants than allowed and thereby received bonus credits. It therefore sold some of this excess to Duquesne Light Co. and the Tennessee Valley Authority (TVA).271 TVA purchased the right to emit an additional 10,000 tons of sulfur dioxide while Duquesne Light purchased 25,000 tons of credits.272 Though not disclosed in the deal, the utilities negotiated a price between $250 and $400 per ton.273 TVA plans to use the allowances around the turn of the century. While TVA's current sulfur dioxide emissions are about 1.2 million tons, they will decline to 800,000 after the 1995 Phase I deadline and 450,000 tons after the Phase 2 deadline in the year 2000.274

266. 57 Fed. Reg. 29,941-42.
267. Id. at 29,942.
268. Abramson, supra note 265.
269. Id.
271. Id.
272. Id.
273. Id.
274. Smock, WPL Sells First Sulfur Dioxide Credits, ELECTRIC LIGHT & POWER, June, 1992.
As one might expect, such high-priced deal making has encouraged some to specialize in the brokerage of emission credits. A firm called Pure Air installs and operates scrubbers for utilities, then guarantees to find a buyer for their pollution credits. In July of 1992, the first emission credits deal involving a party other than an electric utility was consummated. In this transaction Aluminum Company of America (Alcoa) sold $7.5 million of air pollution credits to Ohio Edison Co. These credits were obtained by Alcoa when it switched to low-sulfur coal at its Newburgh, Indiana plant.

The EPA trading program received a boost on July 16, 1991, when the Chicago Board of Trade voted to create a private market for trading in emission allowances. The decision means utilities can go through a central broker to buy and sell emission rights. The buying and selling likely will be done electronically, rather than by conventional trading methods.

The system will fail, however, unless there is a fair, efficient way to value and trade the allowances. The Board of Trade, therefore, wants to trade agreements to deliver allowances after they are issued by Washington in 1995. By then expanding the market the exchange would allow investors to speculate on the allowances' price movement, just as they do now with futures contracts on everything from hogs to Treasury bills. The volume on this type of futures contract is not expected to be great. Only about 20 percent of annual sulfur dioxide emissions allow-

275. A partnership of Air Products & Chemicals Inc. and Mitsubishi Heavy Industries Ltd. Buderi, supra note 270, at 134.
276. Scrubbers are a form of stationary air-pollution control. For particulates, these units force a liquid into the gas stream thereby contacting with the particles in the stream. The particles are incorporated in a liquid bath or in liquid particles which are much larger and therefore more easily collected. McGRAW-HILL ENCYCLOPEDIA OF SCIENCE & TECHNOLOGY (McGraw-Hill, 1982).
277. Id.
279. Id.
280. Id.
282. Id.
283. Id.
284. Id.
285. Id.
ances are expected to be available for trading. But if it works, it could be the model for other property rights and air pollution credits, including greenhouse gases like carbon dioxide and smog components such as nitrogen oxide. 287

V. CONCLUSION

Everyone will agree that reducing the amount of pollutants released into the air is an admirable, yet expensive goal. Given the large number of sources and the cost of retrofitting each one, the total costs can quickly reach the tens of billions of dollars each year.

Traditional "command and control" techniques have been effective in reducing overall emissions but at a tremendous cost to individual polluters. Also, this approach forces specific technology on groups of sources without consideration to cost or development of new pollution-reduction techniques.

The EPA's Emission Trading Program, however, allows individual polluters to produce emission reductions in the least costly manner. The program defines the term "source" to include entire facilities, not just individual stacks or vents. By viewing the total emissions from a facility (as if an imaginary bubble were placed over it with one emission point) the program takes the ever important factor of cost into account.

Emissions trading consists of bubbles, netting, emissions offsets, and emission reduction banking. The latest innovation under this program is the buying and selling of emission reduction credits in a public forum. While this idea will be difficult to initiate, smaller versions are currently underway with many excited observers in the wings.

Emission reduction credits trading is undoubtedly the future of pollution control. The expensive "command and control" approach will give way to the more efficient system of emission trading. Problems of enforcement will be eliminated by private brokers and auditors specializing in emission trades. Though it got off to a slow start, the emissions trading program has a very bright future.

287. Id.