

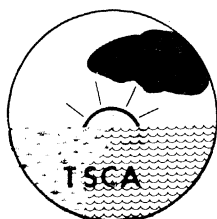
- Res. Facil. Contr. No. 17 (1973); R. S. MacNeish, A. Nelken-Turner, I. W. Johnson, in *The Prehistory of the Tehuacan Valley*, D. S. Byers, Ed. (Univ. of Texas Press, Austin, 1967), vol. 2, pp. 52-81.
98. D. J. Mulvaney, in *Tribes and Boundaries in Australia*, N. Peterson, Ed. (Australian Institute of Aboriginal Studies, Canberra, 1976), pp. 72-94.
99. J. Kamminga, thesis, University of Sydney (1978).
100. C. White, *Antiquity* 41, 149 (1967).
101. F. P. Dickson, *Mankind* 8, 206 (1972).
102. C. White, in *Aboriginal Man and Environment in Australia*, D. J. Mulvaney and J. Golson, Eds. (Australian National Univ. Press, Canberra, 1971), pp. 141-157; J. Kamminga

- and H. Allen, *Report of the Archaeological Survey, Alligator Rivers Environmental Fact-Finding Study* (Australian Government, Darwin, 1973).
103. S. Oda and C. T. Keally, *Busshitsu Bunka* 22, 1 (1973).
104. J. Golson, in *Ancient Chinese Art and Its Possible Influence in the Pacific Basin*, N. Barnard, Ed. (Authorized Taiwan Edition, 1974), pp. 543-544, extrapolates a date of approximately 15,000 years for edge-grinding at Niah; B. Hayden [in *Sunda and Sahul: Prehistoric Studies in Southeast Asia, Melanesia, and Australia*, J. Allen, J. Golson, R. Jones, Eds. (Academic Press, London, 1977), p. 100] believes Colani's unscientific excavations (1920 to 1935) in Indochina can be reinterpreted to

- document the existence of edge-ground tools before 20,000 B.P.
105. J. P. White, *Terra Australis* 2, 95 (1972); O. Christensen, *Mankind* 10, 24 (1975).
106. D. S. Davidson, *Am. Anthropol.* 38, 76 (1936); *J. Am. Oriental Soc.* 55, 163 (1935).
107. G. Blainey, *Triumph of the Nomads* (Macmillan, Melbourne, 1975), pp. 39-40.
108. R. Luebbers, *Nature (London)* 253, 39 (1975).
109. We thank J. Allen, J. Beaton, P. Bellwood, H. Czuchnicka, C. Groves, C. Haigh, J. Hope, H. Lourandos, R. Jones, N. McArthur, J. Rhoads, A. Ross, and G. Singh for advice and discussions, W. Mumford for the maps, and R. Turner for typing. The present address of J. F. O'C. is Department of Anthropology, University of Utah, Salt Lake City 84112.

## NEWS AND COMMENT

# Toxic Substances: EPA and OSHA Are Reluctant Regulators



Despite a panoply of laws intended to protect society from hazardous chemicals, the regulatory road from discovery of a haz-

ard to its control remains rough. Bureaucratic inertia and delay are permanent features of the process; pressure from affected industries is constantly applied; and statutes are often unworkable from the start. As a result, prompt regulatory action is virtually nonexistent, and when action does occur, it is usually at the prodding of outside citizen groups.

Officials of the Environmental Protection Agency (EPA) and the Occupational Safety and Health Administration (OSHA), the main actors, are often reluctant to take the first step in restricting exposure to a toxic substance because they know what happens next: outside pressure is applied, both directly and through Congress, followed inevitably by a lawsuit, which may expose deficiencies in the original law. Familiarity with this chain of events suggests that a safe approach is to do nothing at all. The result is that, at a time when the use of potentially hazardous chemicals in our society is dramatically increasing, evidence is abundant that the Washington regulatory establishment has not been able to keep up.

As Thomas Jorling, EPA's assistant administrator for water, recently told a congressional committee, "One of the most acute frustrations I have come to

experience is the immense difficulty associated with taking statutory mandates into implementation. Complexity, procedures, and shortages of resources all contribute; but there are also larger, more pervasive reasons related to institutional fears of changing or altering the system."

These fears are often revealed in the statements of EPA and OSHA regulators that what they do is so complex they hardly know where to begin. As an example, EPA has been considering for some time whether to regulate cadmium, a highly toxic heavy metal discharged into sewage systems by the electroplating industry and by the deterioration of rubber auto tires. Exposures to high amounts of cadmium have been linked to birth defects, cancer, and damage to kidneys and livers. EPA has three laws at its disposal to control cadmium exposures, and environmentalists firmly believe that the regulations are long overdue. But nothing major is likely to happen soon. Sweb Davis, the deputy assistant administrator for EPA's water-treatment program, says, "I wouldn't understate the cadmium problem, but it is simplistic to think that it can be solved easily. Because of the complexity of this, there are legitimate reasons for not moving more quickly."

The consequences of such an attitude are twofold. First, regulatory agencies typically do not act until pressure is exerted by outside citizen groups. According to Sidney Wolfe, who has initiated several petitions for regulatory action on toxic substances as director of Ralph Nader's Health Research Group, unions or

public interest groups have been the initiators of OSHA, EPA, or Food and Drug Administration action in 22 of the 26 instances through 1976 when the agencies regulated carcinogens. This record suggests that EPA and OSHA have been taking a passive role, acting as judges and not prosecutors in environmental protection.

## Chronic Indecisiveness

Second, when either OSHA or EPA actually begins to regulate a toxic substance, the length of time spent deciding exactly what to do is immense. According to Jorling, the average time for rule-making by EPA "is now approaching 4 years." A case in point is the regulation of polychlorinated biphenyls (PCB's), which have been linked to neurological and reproductive disorders as well as to cancer. PCB's remained unregulated for at least 3 years after these hazards were widely known; Congress, acting in large part because of EPA's waffling, included a provision in the Toxic Substances Control Act of 1976 to prohibit the manufacture of PCB's.

Such delay is frequent. As a result, the gap between awareness of potential hazards and the efforts to control them continually widens. The EPA estimates, for example, that one-third of the 1500 active ingredients of registered pesticides are toxic and that one-fourth are carcinogenic. Although the agency has established limits on the amounts of pesticide residues permitted in food, it has restricted the use of only five (heptachlor/chlordane, aldrin/dieldrin, DDT, Mirex, and DBCP, three of which had been targeted in Rachel Carson's 1962 book, *Silent Spring*). Twenty percent of the 70,000 chemicals in commercial use examined by the EPA thus far are suspected carcinogens, says EPA administrator Douglas Costle. (Presumably, the percentage will decline as the agency moves on to chemicals of lesser priority.) Still, the agency has set permanent standards for exposure and effluent limits for only

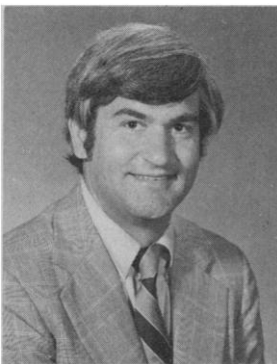
four hazardous air pollutants and six toxic water pollutants\* in the 8 years it has been in existence.

Similarly, the National Institute of Occupational Safety and Health (NIOSH), whose task it is to develop the scientific basis for occupational health standards, has compiled a list of 28,000 toxic chemicals, 2200 of which it has classified as suspected carcinogens. Although NIOSH has recommended exposure limits for more than 100 of these found in the workplace, OSHA has promulgated permanent standards for only 23 during the 8 years it has been in existence.† This record prompted the General Accounting Office to conclude in a 1977 report that "based on the past rate of progress, it will take 100 years for OSHA to establish needed standards for *existing* substances" [emphasis added]. The agency is currently attempting to reduce the delay by promulgating a broad policy for occupational exposure to carcinogens.

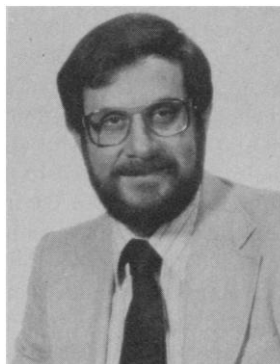
With few incentives to move quickly, the agencies typically do not. As noted in a report prepared for the National Research Council's six-volume study of the EPA, the agency is impelled to act only by the deadlines that Congress has imposed in legislation, as well as by the threat of lawsuits to enforce the deadlines. If no outside lawsuit is initiated, time has a way of slipping past. For example, the Toxic Substances Control Act (TSCA) required that EPA publish an inventory list of new chemicals by 11 November 1977, and its guidelines for safety testing of certain hazardous chemicals by 1 October 1978. Both deadlines have passed and the agency is months away from completing either task. "I would not be candid if I didn't say that I am disappointed in our overall performance to date under TSCA," says Steven Jellinek, EPA's assistant administrator for toxic substances. "Congress underestimated how long it would take to put the list in order. I don't like to lean on the complexity crutch, but the task has been one of bewildering complexity." The toxic substances staff, he insisted, "is doing everything for the first time, and trying to do it right."

\*The air pollutants are vinyl chloride, asbestos, beryllium, and mercury. The water pollutants are PCB's, benzidine, aldrin/dieldrin, DDT, DDE, DDD, endrin, and toxaphene.

†OSHA standards for coke oven emissions, benzene, arsenic, cotton dust, lead, and MOCA are in litigation or have been thrown out by the courts. Standards of exposure are in force for asbestos, vinyl chloride, DBCP, and acrylonitrile. Work practice standards have been set for 4-nitrobiphenyl, alpha-naphthylamine, methylchloromethyl ether, 3,3'-dichlorobenzidine, bis-chloromethyl ether, beta-naphthylamine, benzidine, 4-acetylminofluorene, 4-dimethylaminoazobenzene, and N-nitrosodimethylamine.



Thomas C. Jorling



Steven D. Jellinek



Douglas M. Costle

If the past is prologue, EPA is likely to be sued on TSCA in the near future by one of a group of small, environmentally based law firms who make it their business to call the agency to account for its lack of haste. One firm, the Environmental Defense Fund (EDF), which claims a membership of 46,000 and has a staff of 12 attorneys, recently sued to force EPA to designate and control hazardous wastes under the Resource Conservation and Recovery Act (RCRA) of 1976. The statutory deadline for action was 21 April 1978, and to date EPA has promulgated only one of the 11 guidelines required by the act. Another group, the Natural Resources Defense Council (NRDC), which has 40,000 members and 24 attorneys and scientists, has sued EPA over deadlines three times, most recently over the agency's failure to meet a court-imposed deadline from an earlier suit. Similar examples abound in actions brought by unions against OSHA over occupational health standards.

#### Some Outside Pressure Welcomed

EPA judgments about the value of such outside pressure are mixed. One obvious question is whether or not legislative deadlines have been reasonable in the first place, and many EPA officials agree with Richard Denney, EPA's associate general counsel for toxic substances: "Asking us why we don't meet more of our deadlines is like saying why don't we run the 4-minute mile." The chemical industry, which has intervened on behalf of EPA in the lawsuit over the resource and conservation act deadlines, certainly agrees; it asked the court to give EPA more time. Agency officials claim it is chronically understaffed (*Science*, 10 November), and vigorous action in some areas requires enormous resources. EPA's ultimately successful efforts to suspend use of the pesticide aldrin/dieldrin took 3 years (1972-1975) and prevented the agency's office of general counsel from working on much of

anything else. Only in recent years has the Office of Management and Budget permitted the agency to increase its staff significantly (some of the additions are in jeopardy as the result of the federal hiring freeze imposed as part of President Carter's anti-inflation program). Still, EPA officials have frequently expressed approval of deadlines in congressional testimony; in the areas of pesticides and drinking water, approval was expressed just months before the deadlines were missed.

William Butler, an EDF attorney who has tangled with EPA several times in front of a judge, says that some EPA officials, particularly those at the top, have told him they welcome outside pressure, partly to offset pressures from industry and partly to motivate their own employees. "The larger a bureaucracy, the less action there is, and the greater degree of stability there is," Butler says. EPA is by far the largest regulatory agency in Washington, he noted; in fact, its budget is larger than the sum of those of eight other major federal regulatory agencies. Thus, the intensity of those at the top is often not reflected in the lower echelons. "When things start flying," he says, "the agency just hunkers down like a tortoise and lets it go overhead."

An indication that EPA officials actually welcome outside environmentalist pressure may be found in the agency's recent approval of grants totaling \$106,000 to locally based public interest groups in New York and New Jersey, which harbor a great number of chemical firms. The groups are expected to develop a model for citizen involvement in toxic substances control. A similar grant has been made to NRDC, so often EPA's legal antagonist, to train public interest outsiders for involvement in EPA's water pollution efforts. Apparently, EPA is attempting to build itself a constituency to countervail pressures from the businesses it regulates.

The effort is significant because if the EPA takes a neutral, adjudicative stance

in disputes between environmentalists and polluting industries—as many believe it does—environmentalists are typically overwhelmed by the economic and political firepower of their adversaries. The point is illustrated by the current controversy over the registration of ferriamicide, a pesticide proposed for use on fire ants in nine southern states. The agency has been pressured by congressmen from those states into approving the use of ferriamicide, despite the objections of much of the EPA staff as well as outside environmentalists.

Attempts at eradicating fire ants have been clouded with misfortune for those who live on or near the 190 million acres

they infest.<sup>‡</sup> The pesticides used against the ants have been DDT, aldrin/dieldrin, heptachlor/chlordane, and Mirex, each one banned in turn as a suspect carcinogen by the EPA. Mirex, the last, was banned in 1976 after a long battle between environmentalists and the southern states, particularly Mississippi, where most of the ants are encamped.

Less than 2 months after Mirex was

<sup>‡</sup>A curious fact surrounding the fire ants controversy is that the number of acres they infest has been increasing every year, despite consistent applications of various pesticides including Mirex. Expertly using reverse logic, the D.C. District Court recently concluded that “this fact must be deemed irrelevant in the absence of a clear indication as to the extent of the infestation which would have resulted had there been no Mirex.”

banned, Mississippi officials asked EPA for emergency permission to fight the ants with ferriamicide. Ferriamicide is a mixture of Mirex, an amine, and ferrous chloride. In practical application, it is three-fourths Mirex, but in the new formulation it is thought to photodegrade more rapidly. EPA received more than 20,000 letters supporting Mississippi's application to use ferriamicide, including 14 from U.S. senators, 47 from representatives, and three from governors.

At the same time the application was pending, amendments to the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)—EPA's basic pesticide authority—were pending in a House-Sen-

## Briefing

### Do Trains Still Run on Time Because of Mussolini?

Totalitarian government is not to be recommended, Mancur Olson says, but it has done wonders for the countries that have experienced it in the 20th century. Olson, an economist at the University of Maryland, won grants from the National Science Foundation (NSF), the National Bureau of Economic Research, and three foreign governments (Germany, Japan, and France) to present his theory at an international conference in Washington, D.C., on 8 December. The audience included a number of distinguished economists, among them Nobelist Sir John Hicks of Oxford, Karl Christian von Weizsacker of the University of Bonn, Raganar Bentzel of the University of Uppsala, R. C. O. Matthews of Cambridge, and about 40 others.

Olson began work on this project in 1975 when he was looking into the reasons why the noncommunist nations have widely differing rates of economic productivity. Rather than examine the incentives to growth, which preoccupy most analysts, he decided to focus on the obstacles. In particular, he wanted to find out why the United States and Britain—two countries with a long record of political freedom and stability, friendly settings for capitalist enterprise—have not grown as fast as the former Axis nations, Germany, Japan, and Italy. The United States and Britain are now near the bottom of the heap when nations are ranked by productivity.

One cannot attribute the difference to

the personal industriousness of the natives, Olson decided, or to the idea that the Axis countries had their dilapidated factories destroyed by war. He concluded that more attention should be given to the role of narrow-based interest groups in slowing innovation and growth. He argued that the broadness or narrowness of a nation's labor unions and trade associations is what distinguishes one economy from another.

The working hypothesis, he wrote, is that “highly encompassing organizations will prefer policies which are less restrictive of growth than common-interest organizations or collusions that control only a negligible proportion of the resources in a society.” Japan and Germany are growing rapidly, he argued, because their totalitarian rulers wiped out the narrow-based economic groups and these have now been replaced by broad-based groups. The latter tend to weigh national economic interests along with parochial group interests when making demands on the government. Thus, “countries which have had democratic freedom of organization without upheaval or invasion the longest will suffer the most from growth-repressing organizations and combinations.” As they age, countries with stable economies begin to suffer what Olson calls “institutional sclerosis,” a disease that has been cured most effectively in this century by the kind of surgery that totalitarian government performs.

Olson's paper is controversial, needless to say. His office already has received 1000 requests for reprints, and economists around the world are sharpening their pencils for the counterattack. Participants in the Washington confer-

ence had many criticisms, a common one being that the thesis itself was too narrow. Nevertheless, it will be an important subject of debate. With the help of the NSF and interested foreign governments, Olson is preparing to gather data from around the world to buttress his thesis with more concrete evidence.

### The New Wave in Testing: Computer to Measure IQ

Bureaucrats are not thought to be great innovators, yet the latest development in IQ or ability testing comes from the federal government. Richard McKillip, director of the U.S. Civil Service Commission's (CSC) office of personnel research, recently described a technique developed by his staff which he believes is in the forefront of psychometry. (McKillip gave a general report on his office's work during a public meeting on the use of standardized tests in the United States, held at the National Academy of Sciences on 17 and 18 November. The NAS has asked a committee chaired by Yale psychologist Wendell Garner to examine the fairness and accuracy of testing procedures used in education and business.)

The new technique, called tailored testing, uses microcomputers to accomplish in a fraction of the time, and with possibly greater accuracy, what paper and pencil tests are designed to do. In McKillip's vision of the future, a candidate applying to the CSC will sit at the television screen of a microcomputer and, in

ate conference committee. Sitting on the committee were seven (of 24) congressmen from the nine states seeking permission to use ferriamicide. Because EPA earnestly desired most of the FIFRA amendments in order to revamp its ailing pesticide program, agency officials needed to avoid alienating the conference committee members. As a result, agency staffers struggled to find a way to approve the petition: an aide to Steven Jellinek wrote his boss that he "found the argument for the existence of an emergency (on ferriamicide) a bit thin but am at a loss at how to make it stronger."

On 8 March, while the conference

committee was still empaneled, EPA administrator Costle granted the ferriamicide petition, despite the opposition of EPA's pesticide branches of fish and wildlife, chemistry, and toxicology. The agency acknowledged that no data were available on ferriamicide's rate of photodegradation, toxicity to humans, expected residues in food, bioaccumulation, biomagnification, and toxicity to mammals—in short, every critical issue but that of political pressure. In a note to Jellinek about a strategy for disclosing the approval, EPA deputy administrator Barbara Blum wrote, "If it's a political decision, we want to make the most of it." EDF, which had lobbied against the

approval of ferriamicide, subsequently sued EPA to reverse the decision. Although EDF lost all but a technical issue of proper notice and hearing in a federal district court, the group intends to appeal to a higher court, and thinks it may win. "It was like a hydra," says Butler. "We lopped off Mirex and it came back as ferriamicide."

The incident is not, of course, the only time EPA policy has been affected by congressional pressure. EPA delayed for 5 years its guidelines for controlling chemical spills—which occur more than 700 times each year—under the Federal Water Pollution Control Act because it feared alienating members of Congress.

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## Briefing

taking a 30-minute quiz, earn a mental ability score just as valid as the one he would earn today by taking a 4½-hour written exam. In trial runs, the computer was able to measure an examinee's verbal ability with great accuracy after asking an average of only eight questions. According to the CSC, 90 percent of the people who were given the test as an experiment liked it better than the regular Civil Service exam.

One of the test's creators, CSC researcher Vern Urry, said he was not surprised that most people thought the test was about right because it is designed to give them that feeling. The beauty of the tailored test, Urry said, is its efficiency. It eliminates questions that are too hard or too easy and asks only those that seem to be in the applicant's range of ability. It works as follows. Although there are as many questions on file in a computerized test as on a regular exam, the questions are kept in banks rated according to difficulty. When the examinee begins the test, he is first asked a question of median difficulty. If he answers correctly, the computer immediately moves on to a higher bank. If he makes a mistake, the computer drops to an easier level. The machine quickly zeroes in on what it considers to be the applicant's true ability and keeps asking questions until it has confirmed its judgment, and then gives a score.

The government is far ahead of private industry in this technology, and the test's inventors are eager to put it to use. Urry and McKillip would like to begin using microcomputer testing for the Civil Service by 1980, but they believe they may be prevented from doing so by budget trimmers. Urry said that the tailored test, de-

spite a large initial cost, is in fact cheaper than the system now in use. He calculated that if the Civil Service PACE exam were converted to a computerized system, the changeover would cost \$1.3 million at first, but would pay for itself in 3 years from savings gained in the printing, distribution, and scoring of tests. From then on, Urry said, it would reduce actual costs.

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### Califano Takes the Pledge, to Cut HEW Costs \$1 Billion

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One of the masters of political alchemy in the Carter Administration, Joseph Califano, Secretary of Health, Education, and Welfare, displayed his skill again in December when he transformed the leaden subject of HEW bookkeeping into the pure gold of publicity. Califano's "national conference on fraud, abuse, and error," staged on 13 and 14 December in Washington, D.C., was packed to the walls with more than 1200 federal and local officials who came to learn how the Secretary intends to trim his budget in the coming years.

President Carter came to deliver the keynote speech and take credit for winning several victories in the "war on waste and fraud in government," a cause that is close to his heart. Many reporters and photographers were on hand to record the claims and promises, including Carter's boast that the inspector general of HEW, Thomas Morris, has saved taxpayers \$500 million since he began work in 1977. The President said he planned

to ask every federal agency to follow this example.

Califano likes to say that his agency's budget (about \$181 billion in fiscal 1979) ranks beneath only two others in size—those of the U.S. government and the Soviet Union. Because HEW is enormous, even its sneezes cost millions. In the season of the tax revolt, Califano has turned this liability into an asset by giving his own department a public flogging. He promised, for example, that he would slash at waste and fraud so vigorously that HEW expenses for fiscal year 1979 would be reduced by \$1 billion.

Where will the slashing be done? According to a paper published by HEW's inspector general, most of it will take place in the area of health care financing, a category of federal spending that is scheduled to be reduced by \$530 million in 1979. Welfare and other forms of income maintenance will yield a predicted saving of \$189 million next year; education funding, \$306 million; and "other," \$52 million. Health care heads the list for future years as well. The inspector general claims to have identified \$1.9 billion in unnecessary health expenditures that could be eliminated "under current laws and with the current staff resources" allowed by Congress. Most of the cost reductions will come about, it is said, through computerized surveillance of medical aid and income support payments.

According to HEW spokesman Robert Wilson, the conference itself was a bargain for the taxpayer. Participants had to pay their own travel expenses and an admission fee of \$60. The whole exercise cost \$15,000—cheap.

Eliot Marshall

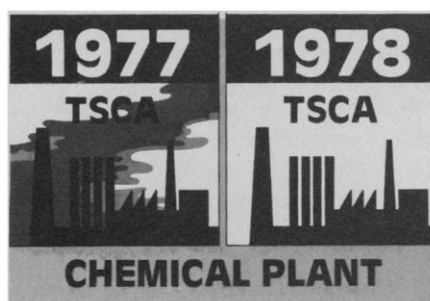
According to a Library of Congress Congressional Research Service report in 1977, which described the delay, the chemical spill guidelines were "held in abeyance because of objections by staff of the Senate Committee on the Environment and Public Works."

#### Litigation Inevitably Ensues

Once the agency has actually imposed a regulation on toxic substances, the forum for pressure from the affected industries shifts from the committee room to the judge's chambers. Lawsuits in this area are inevitable; EPA, in fact, is currently defending itself against more than 70 legal challenges to its regulations. As Kenneth Duncan, the Health and Safety Executive for England, noted at a recent U.S. conference of participants in the toxic substances regulatory process, "You have lawyers the way other people have mice."

It might be expected that, once in the legal arena, political considerations are cast aside and the industry-environmental clash is resolved strictly on the merits of each side according to the laws. This is not what usually happens, as illustrated by the legal challenge to the chemical spill guidelines. Industry intervenors—who thought the guidelines unreasonable—filed their appeal not in Washington, where the policy was made and where it might be most conveniently reviewed, but in the federal court for the western district of Louisiana ("Lake Charles Division"). The filing there was the outcome of a practice known among the legal cognoscenti as judge-shopping: the search for a favorable judge among the nation's 92 federal courts to hear one's case. It is routine when industry and environmentalists or regulators square off.

In one such case, when the EPA administrator announced a decision on the suspension of aldrin/dieldrin that left both Shell Oil Company, the manufacturer of the pesticide, and EDF unsatisfied, each raced to be the first to file an appeal, because the site where an appeal is first filed is the site where the appeal is tried. EDF logged their appeal at the federal court in the District of Columbia—which is considered a liberal forum—at precisely 9:19 a.m., 1 minute after the EPA administrator announced the decision. Shell's appeal, according to a National Research Council report, was somehow logged in at the New Orleans Fifth Circuit clerk's office at 9:18 a.m., but it was discovered later that the clerk's office did not officially open until 9:30, and the race was ceded to EDF. More recently, both the Lead Industries



*This graph is part of a traveling EPA slide show, prepared to acquaint citizens and industry with the impact of TSCA. Its promise is, needless to say, exaggerated; the law will not be fully implemented until at least 1980.*

Association and the United Steelworkers filed suit against a proposed OSHA regulation on occupational exposure to lead. The industry filed their suit in—no surprise—the Fifth Circuit in New Orleans, and the union in the Third Circuit in Philadelphia. Both suits were filed at exactly the same time, setting the stage for a drawn-out squabble over where the case will be heard.

No such squabble occurred in the chemical spills case: the industry was the hands-down winner. The presiding judge at Lake Charles, where they filed the suit, is Earl Veron, who after being told in chambers what the case was about, said he knew about government regulation of pesticides. Forthwith, he pulled out his pesticide applicator registration card to prove it. §

#### Statutes May Prove Unworkable

What happened in the chemical spills lawsuit is not unusual in the toxic substances area: a deficiency in the original law appeared—6 years after the law was passed. Ruling on technical grounds, Judge Veron granted a permanent injunction against the chemical spill regulations, rather vigorously terming them arbitrary, capricious, and—lest there be any doubt—therefore "invalid, void, unenforceable, and of no legal effect."

Most EPA or OSHA regulations, once thrown out by a court, take years to repromulgate or rewrite in Congress (most of the early toxic substances laws have been substantially amended several times). In the chemical spills instance, however, the regulations were in limbo only until the waning hours of the 95th Congress—because the industry adopted an unusual posture. A compromise between the EPA and the Manufacturing

§Theodore Garrett of Covington and Burling in Washington, D.C., the chief industry attorney in the case, several weeks later sought an injunction against the Consumer Product Safety Commission carcinogen policy before the same judge on behalf of Dow Chemical Company, and won it.

Chemists Association (MCA) led to a quick amendment, which was introduced on the floor of the Senate at 4 a.m. on Sunday, 15 October. The handful of Senators still on their feet were a little unsure of what they were voting on—Senator Jacob Javits (R-N.Y.) asked if "this relates to commercial banks handling revenue funds"—but the amendment, patching up the damage done in court, was passed; the House passed it later. An MCA lobbyist, Don Clark, acknowledged that the compromise was rare. "There was a division of opinion among our members about it," he said. "But we had no objection to seeing that a reasonable section of the law was imposed and in return, the penalties for spills were changed to reflect more of our input."

Settlements reached as amicably as this are rare. Years of negotiation between the interested parties, Congress, and EPA typically precede statutory reinstatements. Awareness of this seems not to help, however: so difficult can the statutory language be that regulatory officials are left in a genuine quandary over how to implement the law so that enforcement will not be mired in years of legal guck and political sparring. The process is by now so familiar to OSHA and EPA officials that it affects the way they begin to attack a problem. In EPA's current regulatory development calendar, for example, a major issue regarding the regulation of arsenic as a hazardous air pollutant is listed, "Nature of health risk assessment and the timing of issuance of the standard will lead to reaction from industrial and environmental groups." Similarly, as a major issue of pending regulations on storage of radioactive waste isotopes, the agency lists, "Any standard addressing storage of radioactive waste is potentially volatile."

As the record demonstrates, these are the types of reactions that the agencies prefer to avoid. The way to avoid them has been—and remains—postponement of regulation, and a passive, arbiter's role on the part of EPA and OSHA in resolving disputes between outsiders. Instead of acting themselves according to an ethic of environmental protection, the regulators are typically acted upon by outsiders performing their tasks for them, shielding them from political troubles by forcing adherence to the laws through litigation. In this view, enforcement is a term most relevant to getting the bureaucrats, not industry, to do what they are supposed to. Long accused of chronic indecisiveness, the chief characteristic of EPA and OSHA may better be termed chronic avoidance.

—R. JEFFREY SMITH