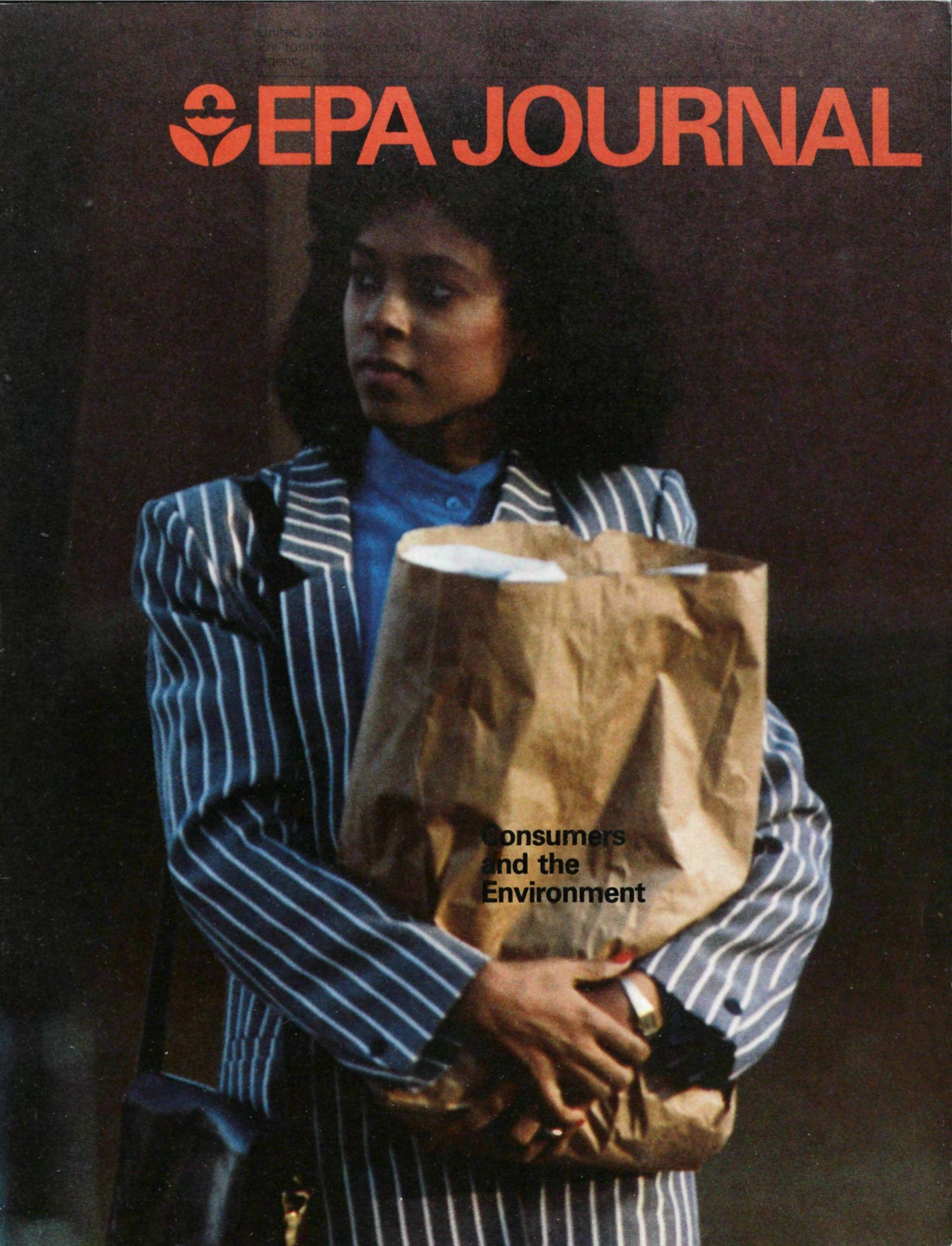
EPA JOURNAL



Consumers and the Environment

Steve Delaney

Pedestrians at a busy downtown thoroughfare. Polls consistently show a high degree of public concern about environmental problems. Part of EPA's job is to make sure the public has the information to make responsible environmental decisions.

Consumers and the Environment

Once viewed largely as conservation of natural resources, environmental protection has become a "people" issue as well, concerned with human health and well being. Reflecting the people-oriented dimension in EPA's work, this issue of *EPA Journal* provides information of potential use to consumers in their everyday lives.

In an interview, Jennifer Joy Wilson answers questions about EPA and consumers. Wilson is EPA's Assistant Administrator for External Affairs. A Consumers' Bill of Rights is explained by Virginia H. Knauer, the President's Special Adviser for Consumer Affairs.

Guidance for the consumer is provided in a series of articles. Leading off, the first article explains how to reduce lead in drinking water, and discusses EPA actions to deal with it in air and gasoline. Other articles provide consumer information on radon testing; managing household hazardous wastes; incentives for recycling; using pesticides more safely around the home; warranties for environmentally-safe automobiles; and EPA hotlines, as well as the latest techniques for controlling that ubiquitous pest, the cockroach. Another article reviews the pros and cons of options to restrict gasoline fumes during vehicle refueling, a matter affecting almost all consumers. And a piece on Cleveland's Cuyahoga River illustrates the "people" benefits of environmental cleanup.

On another subject, the *Journal* reports on actions by American Indians to protect environmental quality at reservations around the country and explains EPA's policy to support such steps.

The magazine concludes with two regular features—Update and Appointments. □

United States
Environmental Protection
Agency

Office of
Public Affairs (A-107)
Washington DC 20460

Volume 13
Number 3
April 1987

EPA JOURNAL

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EPA is charged by Congress to protect the nation's land, air, and water systems. Under a mandate of national environmental laws, the agency strives to formulate and implement actions which lead to a compatible balance between human activities and the ability of natural systems to support and nurture life.

The EPA Journal is published by the U.S. Environmental Protection Agency. The Administrator of EPA has determined that the publication of this periodical is necessary in the transaction of the public business required by law of this agency. Use of funds for printing this periodical has been approved by the Director of the Office of Management and Budget. Views expressed by authors do not necessarily reflect EPA policy. Contributions and inquiries should be addressed to the Editor (A-107), Waterside Mall, 401 M St., S.W., Washington, DC 20460. No permission necessary to reproduce contents except copyrighted photos and other materials.

Front Cover: Going shopping. Photo by Dick Luria for Folio, Inc.

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Consumers: The EPA Role

An Interview with Jennifer Joy Wilson

What is EPA's role regarding consumers and their concerns? How does EPA provide information of use to consumers? What responsibilities do consumers have to help ensure a clean, safe environment? To get the answers to questions such as these, the EPA Journal *interviewed Jennifer Joy Wilson, the Agency's Assistant Administrator for External Affairs. The interview follows:*

Steve Delaney

Jennifer Joy Wilson

Q Most people see EPA's primary mission as protecting the environment. How did the Agency become so identified with consumers?

A Although the emphasis varies somewhat among the several laws EPA is responsible for, for the most part the Agency's primary mission has always been to protect human health. Under the Clean Air Act, for example, the *primary* air quality standards are set to protect health; the secondary standards are to protect welfare. In a very broad sense, anybody who breathes the air and drinks the water is a consumer of those resources. So it's our job to make sure those resources are both saved—in the sense of preserved for the future—and safe. In those terms, you could say that all the laws we implement benefit the consumer.

When we protect wetlands, for example, we also protect water quality, help control floods, and filter and break down pollutants. That's in addition to providing habitat for fish and wildlife.

Q Could you cite examples of some actions specifically directed at consumers?

A I guess the example that springs to mind first is our pesticides program. We register them for use, which means that we evaluate them for all sorts of potential adverse effects on human health before they are permitted to be sold or used. We also ensure that they are labeled properly. I think this is particularly helpful to, say, the average homeowner going out to buy weed killers or bug sprays. Pesticides are among the most toxic substances people will ever come in contact with in their everyday lives, and it's important that we make that contact as safe as possible.

Other examples: EPA's drinking water regulations protect the quality of your tap water, and right now we're taking special action against the problem of lead in drinking water. Alerting the public to the dangers of radon in homes and reducing the amount of lead in gasoline are other actions we've taken that specifically affect the consumer.

Q You're the Assistant Administrator for External Affairs. What role does that office play in serving the consumer?

A Well, we've got a practical side and a more abstract side. On the "how-to" side, we provide practical advice on problems that really hit home, such as radon, asbestos, lead, and pesticides.

More indirectly, the public has a vested interest in what we do. We raise public awareness about various issues, and we are trying harder to show people how they can participate in our decisionmaking.

We produce publications, slide shows, films, videos, public service announcements, etc. Right now, for example, we're finishing a training video that will be distributed to our regional offices and be available to the general public. Developed primarily for contractors, inspectors, and state and local officials, it explains how to test for and abate radon pollution. It's a simple way to reach thousands of people who need to get some technical information.

Basically, we're the communications conduit for the Agency. Our public, by the way, includes not only the general public, but also Congress and various other constituencies. We work with environmental groups, industry, labor, and community organizations, as well as with other government agencies at all levels. So I think we have a pretty good handle on a very broad and representative range of concerns.

Q Do you think consumers are generally aware of the ways in which EPA can help them? Do they take advantage of Agency expertise?

A Let me say that I think EPA is among the most famous, maybe infamous, agencies in the federal government. That's because we deal with so many issues right in people's backyards. By and large, however, I think the American public does understand EPA's overall mission.

But does that translate into an awareness of our specific programs? In some cases, yes. For example, the publicity about radon last fall triggered in one month alone over 11,000 citizen inquiries to EPA's Public Information Center. So when we've made a particular effort to communicate an issue, we have gotten very good results.

But I think there are a lot of other places where we need to do better. Our actions affect people absolutely on a direct basis. We promulgate somewhere between 200 and 300 regulations a year, almost all of which are published in the *Federal Register*. Well, the average citizen does not read the *Federal Register*. We have a real challenge on our hands to make sure that we actually get the information out in a way that is understandable by someone whose life's work is not environmental protection.

For example, we run some 20 hotlines that offer assistance on everything from hazardous wastes to asbestos to small business compliance. But how many people know about them? Making those hotlines better known to the public would be a tremendous step in the right direction.

National Park Service

Assateague Island National Seashore, a wetlands area along the Maryland/Virginia coast popular with canoeists and birdwatchers. Benefits of wetlands protection include improved recreation opportunities as well as improved water quality and flood control.

Q What else do you feel the Agency could do to make EPA's expertise more generally available?

A Of course, our funds are not limitless, so it's always a problem to decide where our priorities should be. We're trying more public service announcements on radio and TV, and we're also making sure that when issues come up, our officials and experts are available for interviews, talk shows, that sort of thing.

Another thing we'd like to do more is to use various organizations to help spread our information to their members and constituencies. Civic groups, environmental groups, business and labor organizations—these can be immensely helpful in passing on information to and through their local chapters.

Q One topic that has started to percolate into public debate is the issue of the costs of environmental protection, for example, in higher water and sewer bills. In your view, how far should consumers share in these costs?

A Well, I certainly think that users and consumers of the environment have a responsibility to pay for protecting and cleaning it up. And unless you're completely out of the mainstream of American life—you don't use any manufactured products or treated water or buy agricultural products, for example—you are a user and consumer. We all are. We all share that responsibility.

Q But as far as consumers as a specific group—as opposed, say, to manufacturers—do you think they're benefiting more from EPA's efforts than they are paying for? Not only in dollars but in terms of adjusted lifestyles and so on?

A That's a hard one. Take the issue of the ozone standard. We have some 70 major metropolitan areas in the country that are not going to attain that standard by the deadline at the end of this year. Some states and cities maybe, just maybe, could meet the standard by taking measures such as imposing odd/even driving days, taxing second vehicles at high enough rates to discourage their purchase, or relocating ozone-producing industries out of the non-attainment area.

Taking away industries could have major economic repercussions, especially in terms of jobs. And many driving restrictions enrage and inconvenience a lot of Americans. On top of that, we anticipate that even with the most draconian measures, more than 20 of the non-attainment areas will simply not be able to meet the standard by the end of 1987.

Where do you allocate the costs in this issue? We all will benefit by getting rid of the ozone, no question, but how do you decide how to pay for it? Congress, EPA, the states, local governments—they're all grappling with this.

A problem like lead in drinking water, on the other hand, does belong more appropriately to the individual consumer. If the city is providing safe, clean water through safe pipes, and the lead is coming from my solder, my lead pipes, then I feel it's my problem.

When we require a power plant to install a scrubber, or when we take lead out of gasoline, you can argue that the consumer is paying the bill through an increase in his electric bill or an increase in the price of gasoline. But the costs, when measured against the benefits, are insignificant, and according to the polls I've seen, the American public is more than willing to share them. Further, when you consider that the gasoline buyer, or consumer, is not only benefiting himself when he pays for unleaded gasoline, but is helping to prevent lead poisoning in children, the bargain becomes irresistible.

Q What about less specific benefits that come to the public as a result of EPA's efforts—the recreational opportunities from protecting wetlands, for example. What's EPA's role in highlighting these?

A Well, we walk a fairly delicate line there. Let me take the Chesapeake Bay, for example. One reason the Chesapeake Bay, which includes wetlands areas, enjoys so much attention is because the people around it can physically experience the benefits it brings, recreational and aesthetic as well as economic and ecological. So even though the Chesapeake Bay program involves about 17 different federal agencies and departments, three states and the District of Columbia, and dozens of local communities and citizen groups, the final objective has always been clear and unanimous—to clean up and save the Bay. EPA didn't have to

convince anyone that the Bay was a valuable resource.

Now that situation is very rare. Even with the Bay program, there were and are serious conflicts about proper uses and measures to be taken. Normally, the potential benefits vary with the eyes of the beholders, be they developers or birdwatchers.

EPA has to be very careful not to use its information and education resources in a way that enlists support for particular appropriations or authorizations. It's not our job to persuade Americans to support our stance on particular issues.

We need to be very clear about the benefits that we think will result from our decisions, but we can't get emotional about them. We can point to the benefits, but we can't persuade.

Q The polls consistently show that the public is highly concerned about environmental problems, but has this translated into individual responsibility?

A No, I don't think we're there yet. We're much more sensitive to environmental issues than we were when EPA was established, and that's good, but I believe most of us still think of the polluters as "them." Well, to quote Pogo's famous phrase, "We have met the enemy and he is us." To a distressing degree, some people tamper with their catalytic converters, use leaded fuel improperly, pour used motor oil down storm sewers—and don't think they are harming the environment.

Where the concept of individual responsibility runs into trouble is when the economic cost of voluntarily doing the responsible thing seems too high. Take a situation where someone has to drive 20 miles and wait in line for two hours to dispose conscientiously of household hazardous waste. It's going to be hard to get people to go through that time and trouble.

So part of our responsibility is to make sure that people have the information to make proper decisions; the other part is to make sure that we put in place or encourage "user-friendly" systems so that people can carry out those decisions.

Q What about collective responsibility as opposed to individual responsibility—the problems in siting hazardous waste disposal facilities, for example.

A That's absolutely a major issue. We have not yet developed a system that balances the benefits to society of disposing of hazardous wastes properly with the perceived risks to individuals of being near disposal sites. Chris Daggett, our Region 2 Administrator, coined an interesting phrase for this. He calls it environmental gridlock. Generally, we want to dispose of hazardous wastes properly, we realize that as consumers we all contributed to the creation of those wastes, and yet we can't bring ourselves to allow a disposal site anywhere near us. We come up with hundreds of perfectly plausible reasons, but the bottom line is always the same—anywhere but here.

This is very understandable. We've always had a throwaway mentality in this country, so the idea that we're running out of "aways" is hard for a lot of us to grasp. But we have to accept that a highly regulated incinerator is a better risk than an old landfill or improper disposal facility.

Q But is the public at a point where it can balance risk, prioritize it?

A I think that low risks are very difficult for the public to make sense of. It's relatively easy for us to communicate high risks or immediate hazards. If you're talking about an immediate health hazard from contaminated well water, you're going to get an immediate response. Someone who knows he's going to get hepatitis from the water is going to stop drinking it.

What about some contaminant found in parts per quadrillion in a drinking water source, though? That may be below a drinking water standard, but some people will be upset that you're not taking action. There are a lot of people who believe that involuntary risk is simply not to be borne. Voluntary risks—getting in our cars and driving where and as we want—we can accept. But justifying an involuntary exposure to a substance that could possibly have a negative impact over a lifetime is much more difficult.

But everything about environmental protection is much more difficult today. The easy problems have already been tackled. Prevention and cleanup are much more expensive; the decisions are much more difficult; explaining the benefits of our decisions is much tougher. That's another impetus for us to involve the public more extensively in our decision-making process: So they can see that we're not locked in an ivory tower; so we can say, "Look. Here's what our science tells us the benefits are going to be, here's what our analysts tell us the costs are, these are the potential risks, this is what we propose to do. What's your input?"

Q You mentioned earlier the need for EPA to get its message across. Do you think the public, the consumer, understands and supports what EPA is trying to do?

A Consumers certainly do when they want EPA to take some sort of action for them. Communities who find themselves with an abandoned hazardous waste site in their midst certainly support EPA as a useful agency.

EPA's regulations are pervasive; they are truly pervasive. I can't think of any area of the country, or any individuals in the country, who aren't affected directly or indirectly by this Agency. I'd say we have a very large recognition factor, but you know, that can work both ways. We can be villains as well as heroes. Polls show the majority of people see EPA in a positive light, but it's not a huge majority. Maybe 60 percent. We're a little better in the public perception than the IRS, but not a lot.

My feeling is that we've got credibility as a regulatory agency. But that doesn't mean we're liked. Especially when we swoop into a community and say, "No, you can't build on this wetland, no matter what you want to build and no matter that it could provide 600 jobs." That's one group of consumers that won't look on us positively.

Q So what would you like to accomplish with those consumers as head of the Office of External Affairs? What are your goals?

A As I stated during my Senate confirmation hearing, my primary goal is to increase public involvement in EPA's decision-making.

I'm tremendously pleased to be part of a management team that practices the "fishbowl" policy. That means that we're opening our doors and our minds to those who may not agree with us, but who may have insights and perceptions that will help us make better decisions.

We spend a great deal of time debating—often through the court system—the rightness or wrongness of

our decisions. We probably won't ever escape that, because our actions have such a tremendous impact on people's lives, on the environment, on the economy, on industry. But I think that we will spend less time defending our decisions if we've really had representative input.

In fact, at a recent management retreat, the senior managers themselves identified communication and consultation as among the most important elements in achieving our environmental mission.

I'd like to see us get beyond notification only, and let people know what's going on before a decision becomes a *fait accompli*. I think that's a realistic goal. We've already seen some progress. The underground storage tank program, for instance, has an exemplary communications strategy that considers whom the regulations will affect and how to draw them into the regulation development process. That gives us a great foundation even as the regulations are being proposed. The formal public comment periods give us even broader input.

When the regulation is finally promulgated, that preconsultation will make it possible for us to notify all the interested parties and target relevant information to them. The more consultation we have up front, the less litigation and challenge we'll have after.

We've got tremendously complex programs, driven by a lot of deadlines. But we need to do more, and we can do more, to develop broader and better public participation in our major decisions. □

A Consumers' Bill of Rights

by Virginia H. Knauer

The American marketplace wears a vastly different face today than the one it wore 200 years ago. When the U.S. Constitution was created, the Founding Fathers could never have imagined the many forces at work in today's world market. Consumers and businesses now face an incredible assortment of products and services, rights and responsibilities. And it is an increasingly complex and global assortment. Yet it is the Constitution, for all its contrasting simplicity, which forms the framework of our modern marketplace.

Today's marketplace is complex and varied, at least in part, because consumer demands are complex and varied. Few consumers settle for just a cleaning solvent anymore. Some want an effective cleaning solvent at a reasonable price, in a child-proof container, that won't damage their home surfaces, and that is made by a company that donates to charity, and uses safe waste disposal methods. And they want a refund if it doesn't work the way it's supposed to.

These criteria can often represent the design and objectives of a corporate development and marketing plan, too. How did we get from the Constitutional framework to the modern marketplace? First let's look at the marketplace guidelines set forth in the Constitution.

(Mrs. Knauer is Special Adviser to the President for Consumer Affairs, and Director, U.S. Office of Consumer Affairs.)

The United States Constitution established our free enterprise system, gave us a common currency, standard weights and measures, reliable legal procedures, and a framework for interstate and international trade. It provided incentives for invention through trademarks and patents. And it paved the way for a national postal system. Every one of these provisions is still working 200 years later.

This year, consumers focused on these important provisions during National Consumers Week, proclaimed by President Reagan and celebrated from April 19 through April 25. The theme this year was "Consumers Celebrate the Constitution," and many businesses, educators, and media and government officials marked the week with events and activities noting the important role of consumers in our economic system.

Now let's look at how the consumer's role has changed since the creation of the Constitution. Most importantly, consumers today are far more aware of the rights and responsibilities they have in their purchasing decisions, rights that were not so clearly defined in the 1950s, let alone the 1700s. In fact, consumers have what has become known as a "Consumers' Bill of Rights."

Included in the Consumers' Bill of Rights are the right to CHOICE among products and services, the right to INFORMATION so we can make intelligent choices, the right to expect SAFETY in the things we purchase, the right TO BE HEARD when we have a question or complaint, and the right to CONSUMER EDUCATION, a lifelong process. President Reagan and each of his five predecessors have endorsed these rights.

The consumers' responsibility, on the other hand, is to exercise these rights in order to mold the marketplace to meet their needs. Thus, when consumers demand a safer, cleaner environment, cheaper airfare, or a more powerful computer, businesses will respond by competing to meet that demand. Let's take an example.

In the mid-1970s, when the National Academy of Sciences found a link between chlorofluorocarbons (CFCs) used in some aerosols and damage to Earth's protective ozone layer, many consumers became concerned. S.C. Johnson and Son, Inc., then stopped using CFCs in its aerosols. Johnson challenged other companies to follow its lead, but gained an edge over competitors in being first to meet a growing consumer environmental concern. Two years later, when the EPA banned them in most aerosols, CFC propellants had already dropped from nearly half of the total aerosol market to less than five percent.

Consumers exercised several of their rights in this example. They exercised their right to choice by deciding not to purchase an aerosol that used CFC propellants. The right to information was satisfied by the National Academy of Sciences report as well as by media coverage of its findings. And the right to safety was represented by consumers who used their marketplace dollars to reward companies whose products were safe to the ozone layer.

This market model has been so successful in other consumer areas that it may well be the appropriate one for implementing any marketplace changes on which a majority consensus can be reached.

In today's vast marketplace, consumers and businesses are learning they do not have to be adversaries. Rather, they are learning from each other, and continuously working together toward a better, more responsive marketplace. □

Dealing with the Dangers of Lead

by Joel Schwartz
and Ronnie Levin

"All right, lead is bad for me, and I've heard that many people have high lead levels in their homes. What should I do about it?" This is a question that more and more people are asking—along with, "What is EPA going to do about it?"

To determine what you, the consumer, should do about the potential risk from high lead exposure in your drinking water, you need to know what those risks might be. Lead gets into drinking water from two major sources: lead pipes, usually connecting the main water pipe to homes, and the lead solder used to connect copper pipes inside homes. Lead contamination can result from the corrosive action of water upon the materials in the plumbing system.

If your plumbing system has any lead in it (pipes or solder or anything else) the water can have lead in it. All water is corrosive to some degree, but some water is more corrosive. Typically, soft water, acidic water, and water with low calcium levels are the most corrosive (these categories overlap, but are not identical). The longer the water stays in contact with the plumbing, the higher its lead concentrations will become. So first you need to find out which if any of these risk factors you face.

Almost everyone today has copper pipes with lead solder, so that risk factor is common, and it is the newest solder that contributes the highest lead levels. After about five years, however, a protective layer of calcium carbonate usually builds up on the inside of copper pipes, reducing the problem of lead corrosion. Very new housing (built within the past five years and especially within the past two years) is most likely to have high lead levels. How long it takes to build up protection depends (among other things) on how corrosive the water is, how warm it is, and how much calcium it contains. Galvanized metal and plastic pipes are not joined with lead solder.

To find out if the connector from the water main to your home is lead, look at the pipe coming into your house from outside. This will be the pipe coming into the basement, if you have one. If it is a dull silver color or scratches easily with a key, it is lead. If your home or apartment building was built more than 30 years ago, it is likely to have a lead connector, but some were used more recently as well.

If you think that your home is ***at risk, you should have it tested for lead.***

You can call your local water utility to find the pH and alkalinity or hardness of your water. If the pH is less than 7 or the alkalinity or hardness are less than 60, the water is likely to be corrosive.

Finally, because the pipes in apartment buildings and office buildings are long, the water you drink may have been in contact with the pipes for a longer time than in single family homes.

In summary, the major risk factors are old, or very new housing, corrosive water, and the length of time the water sits in the pipes before you drink it. All of these factors do not need to be present for you to have high lead levels; for example, very corrosive water can produce high lead levels in homes more than five years old, without lead pipes. Any of these factors presents a potential problem.

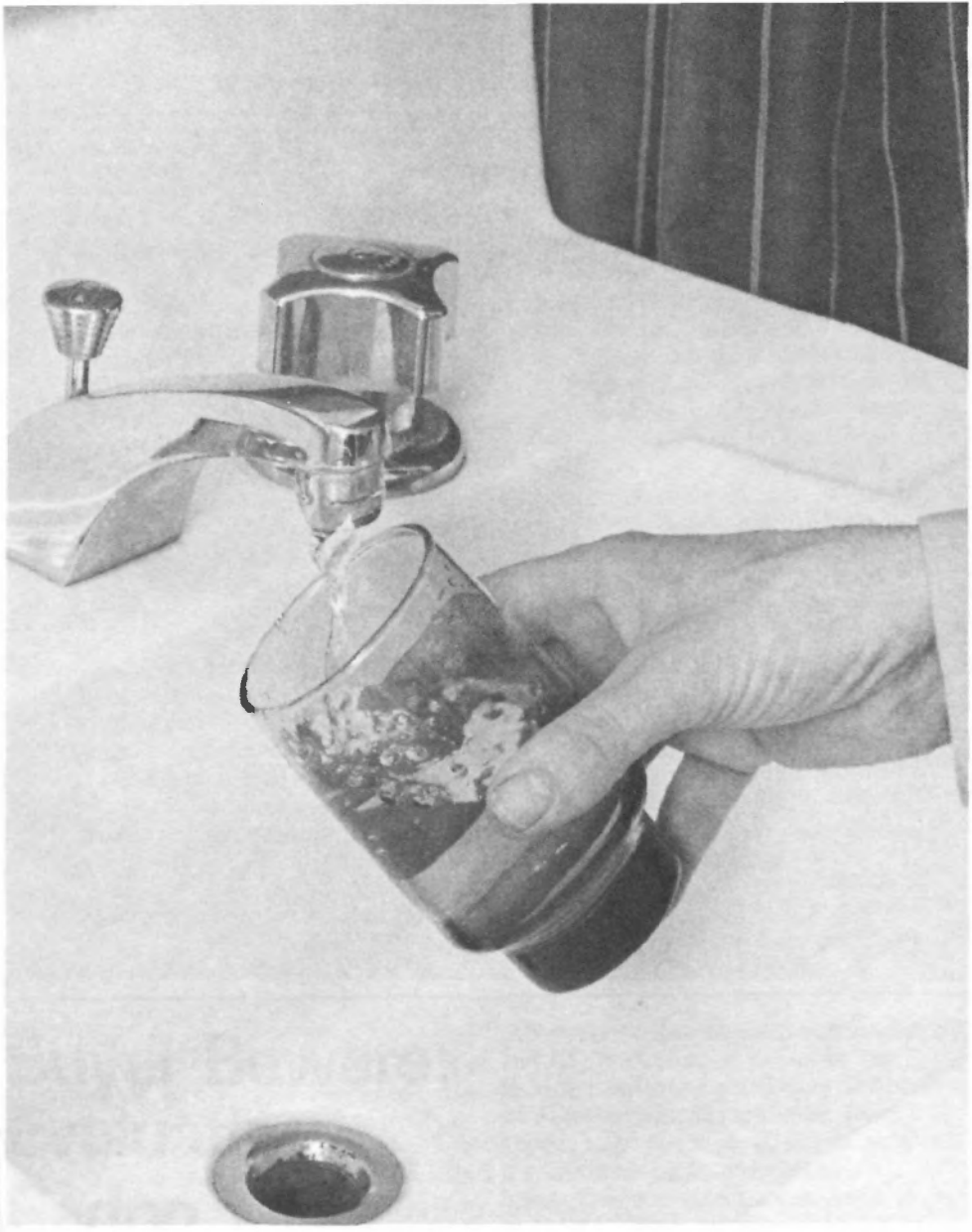
If you think that your home is at risk, you should have it tested for lead. Many public water utilities will do this if you request it. Because there are so many variables, which change from house to house, only such tests will give you a definitive answer.

If you do decide to have your water tested, it is important to have it done in the morning, preferably with the first water out of the kitchen tap, because that water has been sitting overnight accumulating lead. This is likely to be your highest household sample, and since many people drink coffee or juice made with water from the tap in the morning, it is the most important sample to take. Indeed, studies have found that "first draw" morning tap samples correlate best with people's blood lead levels. You should also get a sample taken after running the water for a few minutes; that will tell you how much you can reduce your risk by letting the water run.

Even if you decide that the risk in your home is so low that it is not worth testing the water, there are still things that can be done to reduce your risk of lead exposure:

- Let the water run from the tap for a few minutes first thing in the morning, or whenever it has been unused for several hours. This will eliminate the water with the highest lead levels from the system. But this must be done with each faucet; taking a shower will not clear out your kitchen tap.
- Also, never use water from the hot tap for drinking or cooking. Heat increases the corrosion of lead substantially, so hot water will generally have much higher lead levels than cold water.

(Schwartz is a benefit economist in EPA's Office of Policy Analysis, and Levin is a policy analyst in that office and the author of a major report on lead in drinking water.)



Steve Delaney

If your plumbing contains lead, your water may contain lead also.

Lead and Your Health

How bad is lead for you? Recent research has shown harmful effects of lead at much lower levels of exposure than previously thought. Indeed, some subtle biochemical and enzymatic changes, and possibly some other health consequences, have been shown at levels as low as we can measure them.

Blood lead levels as low as 15 ug/dl (micrograms of lead per deciliter—or 100 cubic centimeters—of blood), which was the average blood lead level for pre-school children in the late 1970s, have been shown to result in reduced IQ, and poorer mental development has been detected at even lower lead levels in prenatally exposed infants.

Lead has also been linked to slower growth in children, to lower birth weights of infants, to minor hearing impairment, and to reduced levels of vitamin D, all at exposure levels that are about half of the current definition of lead toxicity. In adults, high levels of lead can cause kidney disease, and even minor lead exposure appears to increase blood pressure.

EPA has set a maximum acceptable blood lead level of 15 ug/dl as a goal for all of its environmental protection efforts.

• It is also a good idea to let the water run a bit before drinking from fountains and taps at work and in school. This water sits unused overnight for even more hours than household water, and can have much higher lead levels.

If you do have your water tested, and it is above the detection limit, but below the proposed EPA goal of 20 parts per billion (ppb) it is still a good idea to use the above procedures. Your test results may be in micrograms per liter (ug/l) or thousandths of a milligram per liter (.001 mg/l), both measures equal to parts per billion.

If your test results were above 20 ppb, 20 ug/l, or .02 mg/l, talk to the water utility about instituting corrosion control treatment. Meanwhile you need to act immediately to reduce your own exposure.

Boston, which had very high lead levels because of corrosive water and lots of old lead pipes (as well as new and old solder), substantially reduced the lead levels in everyone's drinking water by adopting corrosion control measures that cost only about 50 cents per person per year. Other cities have had similar experiences. Such measures cost you even less than using bottled water, and save water companies money by slowing down the rate of leaks and breaks in their pipes caused by corrosion. Also, less corrosive water results in longer life for your hot water heater and water pipes in your house. This benefit usually far exceeds the cost of corrosion controls.

If it was only your first draw (or first flush) sample that was high, and the test on water run for perhaps for two to three minutes was acceptable, then running your water for that amount of time before using it will lower your exposure until your water is made less corrosive.

(Continued on next page)

EPA's Approach

EPA has proposed lowering the health-based, nonenforceable goal for lead in drinking water to 20 parts per billion. The current enforceable standard is 50 parts per billion, which was set by the U.S. Public Health Service in 1962 and accepted by EPA in 1974. By mid-1988, EPA expects to have in final form revised versions of both the lead goal and the lead standard.

Consumers should be aware that the technical name for a drinking water goal is "Maximum Contaminant Level Goal (MCLG)." A standard is called a "Maximum Contaminant Level (MCL)."

The major risk factors are old, or very new housing, corrosive water, and the length of time the water sits in the pipes before you drink it.

Under the Safe Drinking Water Act, water utilities are responsible for ensuring that the lead levels at consumers' taps—not just at the water treatment plant—meet the current enforceable standard of 50 ppb. That is why they are responsible for corrosion control measures to help prevent contamination of the water after it leaves the plant.

EPA is working with the water utilities to educate them about the problem, and to encourage them to begin corrosion control efforts even before the Agency's final revised standard for lead becomes enforceable. EPA is working with the states to implement the Safe Drinking Water Act's ban on the use of materials containing lead in public water supplies and in residences connected to them. As these measures take effect, everyone's risk will be reduced. □

Editor's Note: Consumers worried about the problem of lead-contaminated drinking water will be interested in reading a pamphlet EPA expects to publish at the end of May: "Lead in Drinking Water: Should You Be Concerned?" For your free copy, write to EPA's Public Information Center, Mail Code PM 211B, 401 M Street SW, Washington, D.C. 20460.

Other Lead Problems

While high levels of lead have long been known to cause mental retardation and death (articles were published about these effects in the middle 1800s), recent research has shown that significant adverse effects also occur at low blood lead levels.

EPA has taken steps to reduce the pollution of our environment by lead from many sources. EPA's phaseout of lead in gasoline has almost eliminated what was the major source of lead in the environment (over 170,000 tons per year were emitted in the 1970s). This has reduced average blood lead levels by about half since the mid-1970s. EPA also controls emissions from lead smelter and battery plants.

Now that air levels of lead have been reduced, the next largest controllable source of lead exposure is drinking water. EPA has proposed reducing the nonenforceable goal for lead in drinking water to 20 parts per billion (ppb). The current enforceable standard is 50 ppb. By mid-1988, EPA expects to have in final form both a revised lead goal and a revised lead standard.

The major remaining sources of high lead exposure are lead paint and high levels of lead in soils that were contaminated by exterior lead paint or by gasoline fallout. EPA is investigating what to do about lead-contaminated soils, but it has no authority over the use of lead paint. (The Consumer Products Safety Commission banned use of lead-based paints in housing in the 1970s.) Most housing built before 1960 contains some lead paint, and residents should be careful about their children's exposure to lead in household dust. If you live in an older house, you should certainly have your child's blood lead level tested.

Steve Delaney

Householders should beware of firms promising to measure indoor radon with a Geiger counter, like that shown here. Although the instrument can measure gamma and beta radiation, it is of no use in measuring the alpha radiation produced by radon.

Buyer Beware: Evaluating Radon Tests

by Miles Kahn

As people have become more aware of radon and its possible long-term health effects, opportunists have sought to cash in on public anxieties. EPA regional offices and state radiation program offices around the country have received numerous reports of radon measurement scams. Consequently, EPA's Radon Action Program, working primarily through states, has begun a major education campaign not only to explain and put into perspective the potential hazards of indoor radon, an odorless, colorless, tasteless natural phenomenon, but also to educate the public regarding radon measurement and mitigation.

(Kahn is a public affairs specialist in the EPA Office of Radiation Programs.)

Because indoor radon occurs naturally and its concentration depends on unique conditions existing at individual residences, federal regulation does not appear to be the most effective solution. It's therefore up to individual homeowners to select a company to perform radon measurements and to decide whether and how to act on the results. Fortunately, many indoor radon problems can be corrected relatively inexpensively. "But the key element," according to Richard Guimond, Director of the EPA Radon Action Program, "is an informed homeowner. There's a real potential for rip-offs."

Homeowners should be particularly careful in selecting a firm to conduct the initial radon measurements. The types of frauds reported in this area have ranged from pseudo-scientific to downright mystical. Some firms, after drumming up business by placing alarmist ads in local papers, have responded to prospective customers by showing up prepared to conduct radon measurements using a geiger counter. While this instrument does measure radiation, it cannot measure the radiation of concern in indoor radon. The harmful effects of radon are produced by alpha radiation, whereas a geiger counter measures only gamma and beta radiation. In this case, the person making the measurement would probably report that there was no problem, collect his fee, say "thank you," and disappear.

The "Radon Pen" is another interesting device reportedly used by bogus radon measurement firms. This amazing instrument consists of an ordinary fountain pen case filled with activated charcoal. Not only is the Radon Pen supposed to detect the presence of radon, but its charcoal innards purportedly will absorb any excess, thereby protecting you from the harmful effects! What more could a homeowner ask for, except possibly the police?

One of the earliest reported measurement scams involved the use of mayonnaise jars. The "technician" would show up with his trusty jar, collect an air sample, making sure to close the jar's lid tightly to protect the sample's integrity, and then take the sample back to his van for "analysis."

(Continued on next page)

The analysis would invariably show that no problem existed. The con artist would then collect his fee and vanish.

Some of the frauds don't even pretend to be scientific. One enterprising charlatan out West was reportedly using a divining stick to detect the presence of indoor radon. "The important thing to note," emphasizes Guimond, "is that reports of these types of frauds are becoming increasingly infrequent, which means our informational program is having an effect."

Another pitch to watch out for is the offer of a free radon assessment. EPA's Region 2 received reports of an upstate New York radon reduction firm advertising free measurements. While it is possible that the measurements could follow established procedures and may not be a come-on for some expensive home repair work, as Larainne Koehler of the Region 2 Radiation Staff says, "I'd get a little nervous under those circumstances." Some firms will offer free radon detectors and charge $15 to $50 for the analysis; the catch is that most measurement firms include the detector in their fees, which normally range from $15 to $50 anyway.

Since EPA has no regulatory role in this area, the Agency is working with State radiation programs to help them deal with their particular radon problems. The EPA radon education effort is structured to provide states with the information needed to help citizens wisely choose radon measurement and reduction firms.

To assure the availability of competent firms to measure indoor radon and radon decay products, the Agency is implementing the Radon/Radon Progeny Measurement Proficiency (RMP) Program.

This voluntary program offers companies the opportunity to test their measurement proficiency semiannually.

To participate in the program, a company submits specific numbers and types of radon detectors to EPA for exposure to known radon or radon progeny levels. This exposure takes place at EPA's Eastern Environmental Radiation Facility in Montgomery, Alabama. EPA then returns the detectors without disclosing the exposure levels. The companies have two weeks to "read" the detectors and report their results to the Agency for comparison with the actual exposure levels.

Companies meeting the program requirements are listed both nationally and by state in a semiannual proficiency report. The national listing of all companies is sent to participants and state officials; the state-specific listings are distributed to interested citizens through the state programs. The first cumulative report, published in May 1986, listed 35 companies, universities, and government laboratories; the latest report, issued on February 2, 1987, lists 143. Even though the RMP Program is strictly voluntary and is not a federal certification program, it is having a profound effect on assuring the quality and comparability of the data used by homeowners to make decisions concerning any potential indoor radon problems.

Another pitch to watch out for is the offer of a free radon assessment.

New Jersey has taken this program one step further. In the near future, anyone seeking to conduct radon measurements in New Jersey will not only be required to participate in the RMP but will also have to pass a state-administered exam and obtain state certification. Pennsylvania is considering legislating a similar requirement. As RMP Project Officer Mike Mardis says, "We've got the radon measurement phase pretty well under control from the viewpoint of protecting the public. And we're making a lot of progress in solving the problems indicated by those measurements."

When it comes to solving radon problems in individual homes, things get a little more complicated. Experienced do-it-yourselfers can probably do many of the jobs, but most of us will have to rely on the services of professional contractors. Also, what works in our neighbor's house may not work in ours.

The pitfalls of selecting competent, reputable contractors for radon mitigation work are no different from those in any other home construction project. You have to do your homework. In one instance, a Pennsylvania homeowner was charged around $3,000 for the installation of sub-slab ventilation to reduce basement radon levels. A New Jersey homeowner was charged $400 for a similar job. To help prevent such widely varying charges for similar work and to find out what really works in controlling radon levels, EPA is conducting a two-phased effort.

The first phase, the Development and Demonstration Program, conducted by the Office of Research and Development, is designed to come up with cost-effective construction and repair techniques. So far 45 houses have been modified in this phase. The next phase, conducted by the House Evaluation Program (HEP) of EPA's Office of Radiation Programs (ORP), will test and evaluate those techniques. To date, 80 houses have been included in the HEP. Through these two programs, the Agency is developing a data base of effective reduction methods for specific conditions and the range of costs to implement them. In addition, several states are considering requiring licenses for radon reduction companies.

Consistent with the Agency goal of working through the states to solve radon problems, this information is disseminated through ORP-conducted training courses for state officials, followed, when possible, by field demonstrations. Thus, more is becoming known and is being communicated to the public about repairing existing houses. To prevent radon problems in new construction, the Agency is working with the National Association of Home Builders to make members aware of what can be done during construction. The Agency is also seeking to "institutionalize" radon prevention by working with the Council of American Building Officials to develop building codes that prevent radon problems.

Overall, the Agency's Radon Action Program is achieving its goals. Nationally, most of the scare tactics of opportunistic charlatans have been pre-empted, and people can be reasonably assured of the reputability of firms making radon measurements. As the Agency's home repair and construction data base continues to grow, the Radon Action Program will continue to make progress. □

(To help citizens get a better understanding of radon, EPA and the U.S. Centers for Disease Control published A Citizen's Guide to Radon: What It Is and What to Do About it.

EPA has also published Radon Reduction Methods: A Homeowner's Guide, *which provides information on methods which might be used to reduce the level of radon in homes.*

These publications should be available through your state radiation protection offices.)

Managing Household Hazardous Wastes

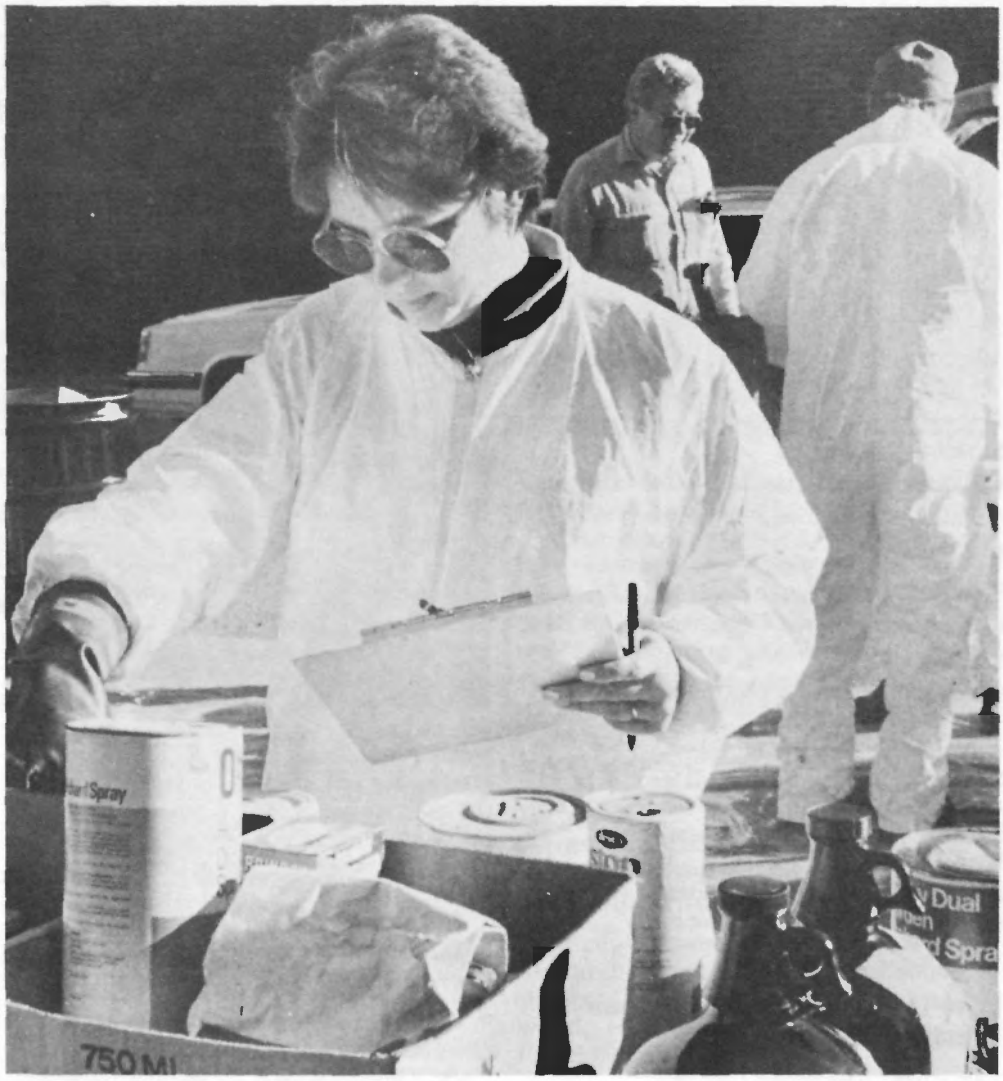
by Marcia Williams and Dana Duxbury

With the proliferation of new chemicals, particularly since World War II, the types and number of consumer products available in our society have risen sharply. Today, every American household uses products that households didn't have 40 years ago. These products, such as medicines, insecticides, cleaners, paints, and plastics, contain a variety of chemicals. Once the useful life of these products is over, they become wastes, some of which are hazardous.

These chemicals must be used properly as everyday household products *and* managed effectively once disposed of as waste. Household hazardous wastes, if stored in large quantities in a garage or basement, can pose serious fire, explosion, and corrosion threats for the homeowner. In addition, potential chemical reactions between wastes can adversely affect the environment if not properly disposed of.

Homeowners need to become familiar with the types of hazardous wastes that may exist in the home, how they can minimize waste generation, and how to safely manage these wastes. Grass roots efforts increasingly have focused attention on the household hazardous waste issue, with most activities occurring at the local and state levels. Congress also addressed household hazardous wastes with the passage of legislation in late 1984. EPA also has become involved by providing technical assistance, through articles, reports and conferences, to state and local agencies.

(Williams is the Director of EPA's Office of Solid Waste. Dana Duxbury is a Senior Environmental Research Analyst with the Tufts University Center for Environmental Management.)



Ann Ringwood, Beacon Communications

Last October, residents of Lexington, MA, brought their household hazardous waste to a central collection point. Here Karen Clarke of Northeast Solvent Services, Inc. logs in the items that people have dropped off, and separates them for neutralization or incineration.

What Is Household Hazardous Waste?

Several states, communities, and private organizations have attempted to define household hazardous waste (HHW) by listing household products with hazardous components. But these lists vary widely, often reflecting different state definitions of hazardous wastes and licensing restrictions for transporters involved in HHW collection programs.

EPA has developed a working definition of household hazardous waste based upon EPA classifications of hazardous waste under the Resource Conservation and Recovery Act (RCRA). A waste is generally considered hazardous if it is corrosive, ignitable, reactive, or toxic. From this definition, EPA has developed a list of generic types of household wastes that contain hazardous components.

Common Household Hazardous Wastes

In the kitchen and bath:

- Drain openers
- Oven cleaners
- Wood and metal cleaners and polishes
- Discarded pharmaceuticals

In the garage:

- Oil and fuel additives
- Grease and rust solvents
- Carburetor and fuel injection cleaners and starter fluids
- Outdated chemistry sets

Ann Ringwood, Beacon Communications

In the workshop:
- Paint thinners
- Paint strippers and removers
- Adhesives

For the lawn and garden:
- Herbicides
- Pesticides
- Fungicides and wood preservatives

Although this list is not comprehensive, and not all products within these broad categories exhibit hazardous waste characteristics, homeowners can use it as a starting point for identifying hazardous wastes that may exist in the home.

Why Is Household Hazardous Waste a Problem?

Almost every one of the 82 million households in this nation produces at least some household hazardous wastes. The average individual alone produces approximately one ton of waste a year in the home, some of which is hazardous. The residential waste stream includes everything that is put out in the trash can, wastes that are accumulated and stored in garages or basements, and wastes that are poured down the drain or dumped on the ground.

Because waste generation data are scarce, no one really knows how much of this waste is hazardous. Studies have not focused on the total amount of waste stored in the home, disposed of illegally or put out for collection. Since these hazardous wastes from homes and small commercial operations contribute to hazardous wastes entering sanitary landfills, EPA is concerned about these wastes making their way into soil, water, or air once they are disposed of. Currently, household hazardous wastes are exempt from EPA's hazardous waste regulations under RCRA. These wastes are not exempt, however, from the provisions of EPA's Superfund program under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

The overall impact of household hazardous waste disposal is not fully known, but potential concerns include:

- Health problems for homeowners, children, and pets from improper storage and disposal by the homeowner.
- Injuries to refuse collection personnel while waste is being emptied, compacted, or transported.
- Spills and fire hazards at collection and disposal sites.
- Pollution of air, ground water, and surface water resulting from improper disposal.
- Contamination of septic tanks and wastewater treatment systems from disposal of hazardous wastes down drains.

How Can Homeowners Manage Their Household Hazardous Wastes?

All household hazardous wastes should be handled so as to prevent them from adversely affecting the environment or our health. Homeowners have a variety of options available to them for effectively and safely managing the waste they produce.

Like garbage, sewage, or any other type of waste, the less household hazardous waste there is, the easier it is to manage. Homeowners first should strive to reduce the amount of hazardous waste they produce. One way to reduce it is to avoid buying products that have hazardous characteristics or ingredients. Consumers should examine product labels in the store and choose products accordingly. Another waste reduction technique is to buy only as much as is needed at a particular time. Over-buying means storing or disposing of unwanted surpluses.

Recycling is an excellent way of handling hazardous waste from the home. Many homeowners already recycle their newspapers and aluminum cans, and some household hazardous wastes can be recycled just as effectively. For example, used motor oil can be turned in at a collection center to be burned as fuel or re-refined for use as a lubricant. Another form of recycling is the sharing of products with friends and neighbors. A homeowner with leftover paint can give it to someone who can use it. A word of caution: such products should change hands only in the original containers with proper labels.

Products that cannot be used up by the consumer or recycled must be managed and disposed of properly. The following rules should be followed by all homeowners in handling their HHW:

- Read and follow label directions for use and disposal. Label warnings such as "Do not refill this container," "Do not incinerate," or "Do not mix with bleach" should be followed to ensure protection of health and the environment.

Judy Marshall of the League of Women Voters in Lexington, MA, surveys people waiting in line to drop off their household hazardous waste.

- Never remove labels from containers of household hazardous waste.
- Never repackage household hazardous wastes in containers that suggest the contents are edible, such as empty soft drink bottles.
- Never pour household hazardous wastes into storm drains, streams, rivers, lakes, or on the ground.
- Consult with local health, waste management or fire departments for advice on disposal options for particular household hazardous wastes.

Ideally, household hazardous wastes should be turned over to a professional collection program. These programs discourage homeowners from storing hazardous wastes for long periods of time or disposing of wastes improperly. However, many communities do not yet provide this type of service. If there is no local household hazardous waste collection program, homeowners should investigate other communities' programs, then contact local civic leaders and officials with suggestions for a new program. Many of the best collection programs in the country today began with one person's concern.

What Are Household Hazardous Waste Collection Programs?

Since 1981, more than 530 locally-sponsored household hazardous waste collection programs have been held in 32 different states. The majority of these have been day-long programs where a local community, state, or private firm has sponsored and financed the effort. On the collection day, residents bring their household hazardous wastes to a designated location where the wastes are identified, packaged, and labeled by trained personnel. The wastes then are taken to licensed hazardous waste management facilities for recycling, incineration, or disposal.

One of the first household hazardous waste collection days was held in 1982 in Lexington, MA, where a total of 93 households participated in the collection and 770 gallons of wastes were collected. Lexington held its fifth annual collection program in the fall of 1986 and 6,033 gallons of household hazardous wastes were collected. Today, similar programs have spread to many states and numerous communities. While most of these collection efforts have been one-day events, more and more sponsors are attempting to establish permanent programs at fixed locations. These permanent programs ensure that collection sites are open as needed and thus maximize participation in the collection programs.

Several communities have experimented with other collection program models, such as door-to-door collection, also known as the curbside pickup approach. This approach is similar to curbside collection of refuse or recyclables in that homeowners identify their household hazardous wastes and on specified dates deposit these wastes on the curbside for pickup. Some communities also have provided phone-in service for hazardous waste collection. For example, San Diego, CA, scheduled hazardous waste collection for specific days in specific areas of the city, and residents telephoned the collection center for individual appointments.

Public awareness of all hazardous wastes and their impacts has grown in those communities where collection programs exist. Since household hazardous waste collection programs are usually preceded by an extensive education effort, collection programs provide an excellent vehicle for increasing public awareness and knowledge about all types of hazardous waste management. Understanding the scope of the HHW problem also will help the public understand the causes of industrial hazardous waste problems and the choices industry has for dealing with these hazardous wastes.

Information on everyday materials and concern for health fosters public recognition of hazardous wastes and the need for proper management of those wastes. Education programs can provide information on the hazardous waste management hierarchy (i.e., reduce, recycle, treat, and then dispose) and what the public can do to protect the environment.

Where Can Homeowners Get More Information on HHW Collection Programs?

For more information on how to start a household hazardous waste collection program in a community, homeowners should send for one of the publications listed below:

- *Household Hazardous Waste Information Kit*

League of Women Voters of Massachusetts
8 Winter Street, Boston, MA 02108
617-357-8380

- *Household Hazardous Waste: Solving the Disposal Dilemma*

Golden Empire Health Planning Center
2100 21st Street, Sacramento, CA 95818
916-731-5050

In addition, for a free bibliography of household hazardous waste information, and a list of expert contacts listed by state, homeowners can write to EPA or telephone the RCRA/Superfund Hotline at:

U.S. EPA, 401 M Street, S.W.
Office of Solid Waste and Emergency Response (WH-562)
Washington, D.C. 20460

Phones:
National Toll-Free 800-424-9346
Washington, D.C. Metro
202-382-3000 □

Recycling: A Situation Report

by Anne Scheinberg and Trisha Ferrand

"Recycle: To make constructive use of materials ordinarily thrown away."

The definition of recycling has not changed in many years, but the way it is practiced has. U.S. industry is taking an increasing interest in recycling as a cost-effective way of handling part of the huge volume of waste it generates every year. In addition, waste-disposal experts in government and industry are trying to make better use of consumer recyclables: recoverable items that consumers are now simply throwing away.

Today's older Americans had an intensive introduction to consumer recycling during World War II, when citizens avidly saved metals and paper to ease wartime scarcity. Younger people first heard about recycling in the 1970s when the energy crisis and Earth Day created a new sense of the limits on our resources. Volunteer drives were organized to gather materials that could be sold, for a profit, by service organizations.

In 1987, recycling is no longer a matter of isolated volunteer drives. Across the United States, towns, cities, and counties are developing consumer recycling programs that are far from spur-of-the-moment. Today's recycling efforts are permanent parts of carefully planned and integrated waste management systems. It is the kind of recycling that will affect all but a few Americans within the next five years.

Consumer cooperation is vital to the success of recycling programs. Experience has shown one feature which is key in securing that cooperation: make it as easy to recycle as it is to put out the trash. As a result, most current recycling systems are similar in design, operation, and management to those for trash collection.

Steve Delaney

Shredded paper in this collection center will be separated by grade and shipped to a paper mill for recycling.

Consumer recycling programs are usually designed by professional recycling coordinators. These experts are hired by a community's public works department or, in some cases, by private companies. Recycling coordinators have to make arrangements for materials collected from consumers to be prepared for reuse, and then sold to an appropriate industry or other market. These markets must be identified in advance in order to avoid problems with storage of collected recyclables.

But their greatest challenge comes *before*, not after collection. Recycling coordinators have to teach consumers many different things. First, the average consumer has to be able to identify recyclable materials. These vary from community to community, but certain rules apply. For example, it is good to save single substances, such as paper, but not combinations, such as envelopes with plastic windows. In addition, consumers have to learn how materials for recycling should be separated and stored prior to collection, and when they should be put out for collection.

It takes more than an ordinance to make recycling second nature. Canada decided to foster this socially desirable behavior by giving every household specially marked pails or boxes in which to store their recyclables. Canadians were encouraged to use these as set-out containers to put at the curb for collection.

In some places, materials are collected by a recycling truck that stops at every house, just like a garbage truck. Some companies use trucks that have been specially designed not just to collect glass, newspaper, cans, and other recyclables but to keep them clean and separate from each other. If you live in a community that has recycling, you may have seen these specialized trucks coming down your street.

Collected materials are then sold to industry. Some industries will take them just as they are, for a low price or for free. Other industries will buy the recyclables for a good price, but only if they have been processed—that is, cleaned, then crushed or baled.

Many community leaders hesitate to get involved in recycling. They believe it would save money in the long run, but only if citizens were to participate at levels they fear are unattainable. These fears are unfounded. Experience with actual programs indicates that between 65 percent and 85 percent of a residential population will follow recycling rules, provided the program is well designed and explained, has the visible and explicit support of public officials, and includes either a recycling ordinance or the distribution of a set-out container to every household.

If your community does not have a recycling program, you can help get one started. Talk to your neighbors, family, and friends. Express your support for recycling to elected officials in your city or county government. In doing so, you could help your community solve waste disposal problems that might otherwise prove crippling in the years ahead. □

(Ferrand is the Executive Director of the Association of New Jersey Recyclers. Scheinberg is a waste management and recycling consultant based in Concord, MA. Their firm, Ferrand and Scheinberg Associates, provides consulting services.)

Safer Use of Pesticides at Home

by Christine Gillis

Although pesticides are very beneficial to our society, they can be dangerous if used indiscriminately or carelessly. EPA has important regulatory powers over pesticides, but it is still crucial for individual consumers to take precautions to protect themselves.

All pesticide products sold in the United States must have prior approval by EPA. The Agency has, to date, registered approximately 15,000 pesticide products for household use; of these, about 8,000 are designated for use inside the home.

Before registering a pesticide for use in the United States, EPA reviews its label to ensure that it has proper directions for the consumer. These directions must include health and safety precautions for the individual user, as well as information about any restrictions designed to protect other citizens, the environment, and non-target species from unnecessary exposure.

Unfortunately, many pesticide users have a tendency to ignore label directions. Some people seem to feel that the mere fact that a product is sold in a store is proof positive of its safety. They reason, "This must be absolutely safe, or else it would be taken off the shelf." Of course, nothing could be further from the truth. These products are safe to humans *only if used properly.*

When the label says, "Use only this much," it means *no more than this much.* But all too many consumers, eager for a quick and final solution to a pest problem, apply far more of the pesticide than the label specifies. Or they ignore clearcut label instructions in other ways.

This is not only foolish, but illegal. Foolish, because the same chemicals you are using to kill insects can, in large enough quantities, harm your own health. Illegal, because the EPA-approved label for a pesticide product has the force of law in the United States. Any pesticide use not in accordance with label directions and precautions can subject you to civil and/or criminal penalties.

If you believe someone is misusing a pesticide product, you should contact the agency in your state that is responsible for enforcing pesticide laws. In most states, this agency is part of the state's Department of Agriculture. In others, it can be found in the state's Department of Natural Resources or Environmental Protection. EPA retains primary responsibility for pesticide enforcement in Nebraska, Colorado, and on certain Indian reservations.

If you are thinking of applying a pesticide product either inside or outside your home, be sure to take the following precautions, regardless of which pesticide you are using.

Indoor or Outdoor:

- Read the label first, from start to finish, and follow the directions to the letter, including all precautions and restrictions. Use only the amount specified, at the time and under the conditions specified, and for the purpose listed.
- Look for one of the following signal words on the front label:

DANGER-highly poisonous
WARNING-moderately poisonous
CAUTION-least harmful

These indicate how poisonous the pesticide would be if swallowed, inhaled, or absorbed through the skin.

- Also watch for the words RESTRICTED USE on the front label. Do *not* use any pesticides marked RESTRICTED USE. In general, these products may be sold only to people who have been trained and certified by the state.
- Take note of what to do in case of accidental poisoning before you even open the pesticide. The label's statement of practical treatment will tell you what to do in the immediate aftermath of exposure. Remember, that in all such cases, a doctor should be consulted immediately.
- If the pesticide must be mixed or diluted, do this outdoors or in a well-ventilated area.
- Avoid prolonged inhalation of fumes during mixing and application.
- Keep children and pets away from areas where you are mixing or applying pesticides.
- Think of pesticides as you would drugs or any other substance that can be harmful. Store them properly. Avoid spilling them. And always, *always* make sure they are tightly sealed and stored out of the reach of children. Many people neglect to do this, with tragic consequences.
- Keep this toll free telephone number handy: 1-800-858-7378. This is the EPA-sponsored National Pesticides Telecommunication Network. By calling EPA's network number, you can obtain the following information on particular

(Gillis is a writer/editor for EPA's Office of Pesticide Programs.)

Steve Delaney

Spring is a heavy-use season for lawn care pesticides in suburban neighborhoods like this one.

pesticides: symptoms of pesticide poisoning; emergency medical treatment; pesticide product information; information about disposal and cleanup; pesticide regulatory laws; referrals for applicator training and lab analyses; and reports of illegal usage.

- Never smoke while applying pesticides. Some pesticides are flammable. In addition, a cigarette could carry pesticide traces from your hand to your mouth.
- Dispose of product and container as directed by the label.
- Wash thoroughly with soap and water after you use a pesticide product. Don't wear your clothing again until it's been washed. And don't wash it with the rest of your clothes.
- Do not re-enter—or allow others to enter—an area where pesticides have been applied until the amount of time specified on the label has elapsed.

Outdoors Only:

- Take the initiative to inform your neighbors before you spray your yard. This way you, your family, and your friends can avoid unintentional exposure to pesticides. Everyone, including children and pets, should be kept off the area until dry or as recommended by the label.

It would also be a good idea to inform your neighbors if you observe pesticide spraying in any nearby area. You might want to ask the person who's doing the spraying to give you prior notification next time.

Many communities are consulting with state officials about the possibility of requiring persons who apply pesticides to post notice of treated areas. Get involved. Find out what's being done in your community to improve the regulation of pesticides.

- Wear any protective clothing, including gloves or face mask, that may be indicated on the label.
- Avoid spraying on windy days. This will reduce potential drift into nontarget areas.
- When spraying outdoors, cover fish ponds and avoid applying pesticides near wells.
- Always avoid over-application when you treat lawn, shrubs, or garden. Runoff or seepage from excess pesticides may contaminate water supplies. It can also leave harmful pesticide residues on garden vegetables and fruit.
- When applying a herbicide, keep it from coming into contact with flowers and shrubs. Particularly avoid spraying blooming plants when you see honeybees or other pollinating insects around them.
- Bypass birds' nests when spraying trees.

Indoors Only:

- Before applying pesticides, remove toys from the area to be treated. Remove food, dishes, utensils, pots and pans from kitchen cabinets. Wait until shelves dry before you refill them.
- Before spraying, remove children and pets from the area to be treated. Cover aquariums and fish bowls.
- Most surface sprays should be applied only to limited areas. Don't treat entire floors, walls, or ceilings.
- Make sure you have proper ventilation, both during and after the application of a pesticide.
- Promptly clean up any spills.
- Never place rodent or insect baits where small children or pets can get to them.

All the do's and don'ts of pesticide use are frustrating to some people. Quite a few consumers conclude, "This is too much trouble! I think I'll hire a professional pest control company." But there are many of these companies in most large communities. Which is the best?

There are a number of reputable pest control companies. Talk to your friends and neighbors. They may have had good or bad experiences with some company you were considering. You may also want to call the Better Business Bureau, which can steer you away from problem companies.

Then phone the companies that appear to you to be the most promising. Ask them what pesticides they use, how they apply them, whether their applicators have been adequately trained, etc.

Ignorance is not bliss when it comes to pesticides. But it's going to take a little effort on your part to find out what usage patterns are safe and legal for a particular pesticide. In most cases, the only source of information you will need is the product's EPA-approved label.

Then it's up to you to do exactly what the label says. You'll be glad you did, not just for your own sake but for the well-being of those dear to you. When it comes to pesticides, it is far, far better to be safe than sorry. □

Did You Know? Warranties Available for Good Car Maintenance

by Karl Hellman

Steve Delaney

At a District of Columbia vehicle emissions station, an inspector operates equipment to analyze a car's emissions. EPA requires vehicle inspection and maintenance in areas with substandard air quality.

For decades, Americans have had a passionate love affair with the private automobile. There are so many cars in the United States that all 240 million of us could climb in, and we'd still have enough room to give everyone in Europe a ride, too. Our total mileage in one year equals two million round trips to the moon!

One of EPA's major tasks is to see that our obsession with cars does not inflict too much damage on our environment. How does EPA accomplish this? The Agency monitors the ways U.S. cars are designed, produced, used, and scrapped, as well as the fuel we pump into them.

The future is likely to broaden EPA's role even further. Recently, the Agency has proposed phasing out the use of asbestos in brake and clutch friction elements. And EPA is currently considering controls on the handling of used motor oil and on gasoline vapors that escape during refueling.

EPA relies heavily on individual car owners to make America's automobiles environmentally acceptable. The car owner's main job is to ensure that his or her car is properly maintained. Misfueling or faulty maintenance can impair or incapacitate a car's emission control parts.

This problem is of particular concern in major metropolitan areas where air quality still falls short of federal standards. In such communities, EPA requires inspection and maintenance (I/M) programs for private automobiles. Their purpose is to ensure that emissions from cars meet stringent EPA requirements. Some states license private garages to conduct inspections; some hire contractors to build and staff centralized inspection lanes.

Full participation by car owners is vital to the success of I/M programs. To this end, the average cost to consumers has been kept low: an average of $10 (with one free re-test). But some consumers still balk at inspections for fear of expensive repair bills. To allay such fears, Congress has devised two special warranties to protect car owners who have maintained their cars properly.

The first of these is the Emissions Performance Warranty, which covers repairs that are required because a vehicle has failed an emissions test. It is available to residents of an area with an I/M program that meets federal guidelines.

The Emissions Performance Warranty applies:

- If a car or light truck fails an approved emissions test; and
- State or local government requires the vehicle's owner to repair (or attempt to repair) the car; and
- The test failure did not result from any misuse of the vehicle or failure to follow the manufacturer's written maintenance instructions; and
- The owner presents the vehicle to a warranty-authorized manufacturer representative, along with evidence of the emission test failure during the relevant period.

If all four of these conditions are met, then:

- For the first two years or 24,000 miles, whichever comes first, the manufacturer must pay for all repairs necessary to make a qualified car pass an EPA-approved, locally required emissions test.
- For the first five years or 50,000 miles, whichever comes first, the manufacturer must pay for any repair or adjustment to a primary emission control part that is necessary to make the vehicle pass an emissions test (see box). Such repairs must be complete and effective even if they also entail the repair or adjustment of non-primary parts.

The Performance Warranty covers cars and light-duty trucks beginning with the 1981 model year. For vehicles that are specially equipped for operation at high altitudes (over 4,000 feet), coverage begins with the 1982 model year.

It does not matter if you bought the car new or used, from a dealer or anyone else. As long as your vehicle has not exceeded the warranty time or mileage limitations, and has been properly maintained, the Performance Warranty still applies.

If you meet the basic criteria, protection under the Performance Warranty can only be denied you if the manufacturer has evidence indicating your I/M test failure was the result of any one of the following factors: vehicle abuse, such as off-road driving or overloading; tampering with emission control parts; improper maintenance; or

(Hellman is Chief of the Control Technology and Applications Branch at EPA's Motor Vehicle Emissions Laboratory in Ann Arbor, MI.
Substantial assistance in the preparation of this article was provided by the technical support staff in Ann Arbor and the Field Operations and Support Division at EPA in Washington, D.C.)

misfueling. If you've abused your car in one or more of these ways, don't go to your dealer expecting Performance Warranty coverage.

Even if you don't qualify for the Emissions Performance Warranty, you may qualify for a second type known as the "Design and Defect Warranty." The Design and Defect Warranty, unlike the Performance Warranty, is not tied to failing an I/M test or residing in an I/M inspection area.

The Design and Defect Warranty is available to owners of properly maintained cars and trucks, regardless of where the owner lived. It covers the repair of emission control-related parts that are found to be defective during the first five years or first 50,000 miles of vehicle use, whichever comes first. Federal law requires auto manufacturers to provide at least this much "Design and Defect Warranty" coverage for emission control-related parts.

Although regular maintenance may be performed at any repair facility, or by the vehicle owner, warranty repair should be performed at a warranty-authorized shop.

For both maintenance and repair work, whoever does the work should consult the owner's manual and use only acceptable parts and procedures. You should keep receipts for parts purchased and work performed, as part of a maintenance log you may need to verify your car's condition.

EPA has two free booklets to help you if you run into problems: *What You Should Know About Your Auto Emissions Warranty* and *If Your Car Just Failed an Emission Test . . . You May Be Entitled To Free Repairs.* You can obtain a copy of either by writing to the Office of Mobile Sources, U.S. Environmental Protection Agency, Washington, D.C. 20460.

You will probably also want another valuable EPA publication: *The Gas Mileage Guide.* You can get a copy from any of your local car dealers. The *Guide*, produced in conjunction with the Department of Energy, comes out once a year. It lists miles-per-gallon information on all new cars and light trucks that are on sale in the United States.

You will find the same kind of information on fuel economy labels. These appear on all the cars in your dealer's showroom. A quick glance at the label will give you the specific miles-per-gallon figure for each individual type of car. With this data at your fingertips, you can do intelligent comparison shopping.

EPA hopes your choice will be a fuel-efficient car, but whatever car you choose, it is imperative that you drive, fuel, and maintain it properly. Otherwise, its emission control equipment can be incapacitated, and you can wind up polluting the air you breathe for reasons that are both unnecessary and illegal. □

Primary Emission Control Parts

This list will help you identify all the parts of your car, van, or light truck whose main purpose is to control emissions.

Exhaust Gas Conversion Systems:

- Oxygen sensor
- Catalytic converter
- Thermal reactor
- Dual-walled exhaust pipe

Exhaust Gas Recirculation (EGR) Systems:

- EGR valve
- EGR solenoid
- EGR backpressure transducer
- Thermal vacuum switch
- EGR spacer plate
- Sensors and switches used to control EGR flow

Evaporative Emission Control System:

- Purge valve
- Purge solenoid
- Fuel filler cap
- Vapor storage canister and filter

Positive Crankcase Ventilation (PCV) System:

- PCV valve
- PCV solenoid

Air Injection System:

- Diverter, bypass, or gulp valve
- Reed valve
- Air pump
- Anti-backfire or deceleration valve

Early Fuel Evaporative (EFE) System

- EFE valve
- Thermal vacuum switch

Fuel Metering System:

- Electronic control module or computer command module
- Deceleration controls
- Fuel injectors, fuel injection units, and fuel injection bars developed for feedback electronic fuel injection (EFI) and throttle body injection (TBI) systems
- EFI air flow meter, module, or mixture control unit
- Mixture settings on sealed carburetors
- Mixture control solenoid, diaphragm or other fuel metering components that achieve closedloop operation
- Electronic choke
- Altitude compensator sensor
- Other feedback control sensors, switches, and valves
- Thermostatic air cleaner

Ignition Systems:

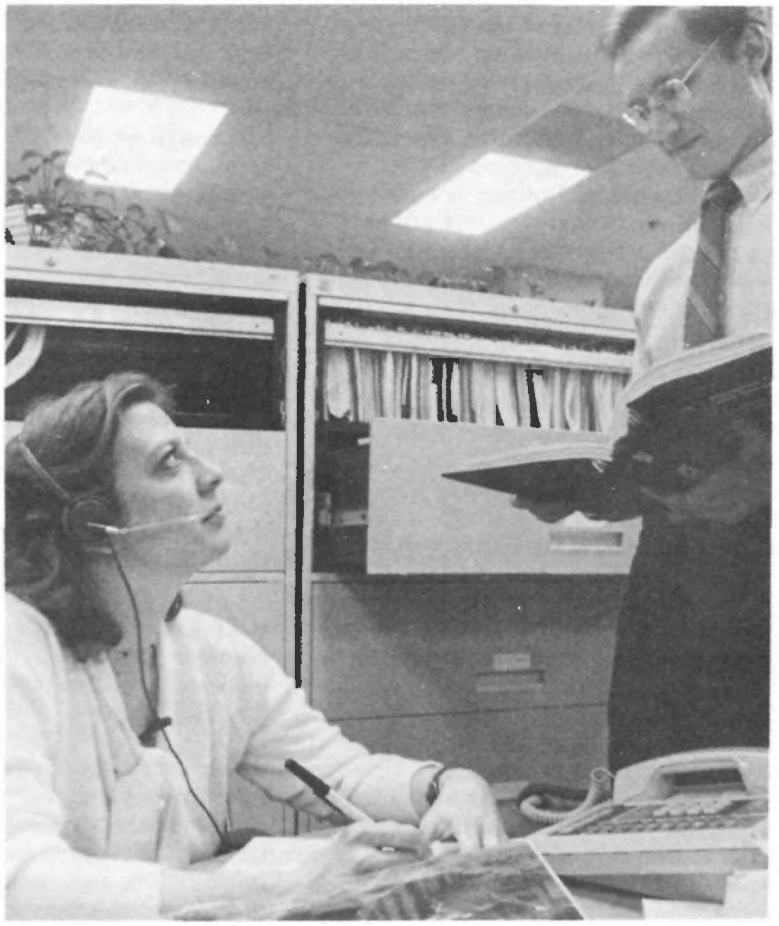
- Electronic spark advance
- High-energy electronic ignition
- Timing advance/retard systems

Miscellaneous Parts:

- Hoses, gaskets, clamps, and other accessories used in the above systems

Information, Please! EPA's Hotlines

by Carol Panasewich



Steve Delaney

At the offices of the RCRA Superfund hotline, information specialist Kim Gotwals answers a telephone inquiry with help from colleague Bill Rusin. With her special speaker-headset, Gotwals can respond to calls without taking the receiver off the hook.

Hotlines, toll-free numbers, or information lines—call them what you will. By any title or description, they offer the consumer a vital link with EPA's programs, technical capabilities, and services.

The availability of toll-free, long-distance telephone numbers accessed by dialing 800 plus a seven-digit number, has mushroomed during the past 20 years, according to the *New York Times*. Today, the 400,000 existing 800 numbers elicit billions of dollars worth of sales, and provide the public a multitude of services and lines of support.

EPA is among the many government and nonprofit agencies currently using 800 numbers to offer a broad range of information and services to consumers, free of charge. EPA's 800 numbers, operating up to 24 hours a day, seven days a week, are ready to respond to questions on topics ranging from pesticide use to asbestos in homes; from hazardous waste disposal to chemical emergency preparedness; from waste, fraud, and abuse to job vacancies.

Information on an even broader range of environmental topics may be obtained by calling EPA's commercially accessible information numbers. For the price of a telephone call, the interested consumer can get a wealth of information on toxic substances control, air toxics, the status of regional hazardous waste cleanup efforts, and other concerns.

As a need for information on new environmental laws and issues arises, EPA tries to meet that demand with up-to-date information sources. Often a hotline is the most effective way to give out information, as well as receive public viewpoints and hear citizens' concerns. With this in mind, we present this compilation of current EPA hotlines and encourage your use of these information services.

(Panasewich, a public information specialist for EPA's Office of Pesticide Programs, has been on temporary assignment with the Agency's Office of Public Affairs.)

Toll-Free Numbers Offered by EPA Headquarters

- **RCRA/Superfund Hotline**
National Toll-Free 800-424-9346
Washington, D.C., Metro 202-382-3000

EPA's largest and busiest toll-free number, the RCRA/Superfund Hotline answers nearly 100,000 questions and document requests each year. Since 1980, when it began, the hotline has expanded significantly and continues to grow, with 21 information specialists now covering up to 14 incoming lines, eight hours each work day. Hotline specialists answer regulatory and technical questions and provide documents on virtually all aspects of the RCRA and Superfund programs. Because of the complexity and changing nature of these programs, the hotline is used widely by the regulated community, people involved in managing and cleaning up hazardous waste, federal, state, and local governments, and the general public. The RCRA/Superfund Hotline can be reached Monday through Friday from 8:30 a.m.-4:30 p.m. Eastern Standard Time (EST). If the lines are busy, either wait for the next available operator or call back.

- **National Response Center Hotline**
National Toll-Free 800-424-8802
Washington, D.C. Metro 202-426-2675

Operated by the U.S. Coast Guard, the National Response Center Hotline responds to all kinds of accidental releases of oil and hazardous substances. Callers should contact this hotline to report chemical spills. The National Response Center Hotline is available 24 hours a day, seven days a week, every day of the year.

- **Chemical Emergency Preparedness Program (CEPP) Hotline**
National Toll-Free 800-535-0202
Washington, D.C., Metro and Alaska 202-479-2449

A relatively new and increasingly popular service, the CEPP Hotline has been in operation since late 1985, responding to questions concerning community preparedness for chemical accidents. The recent Superfund Amendments and Reauthorization Act

(SARA) has increased the CEPP Hotline's responsibilities, which now also include Emergency Planning and Community Right-to-Know, SARA Title III, questions and requests. The CEPP Hotline, which complements the RCRA/Superfund Hotline, is maintained as an informational resource rather than an emergency number. Calls are answered Monday through Friday from 8:30 a.m.-4:30 p.m. EST.

- **National Pesticides Telecommunications Network (NPTN)**
National Toll-Free 800-858-7378
(858-P-E-S-T)
Texas 806-743-3091

Operating 24 hours a day, seven days a week, every day of the year, the NPTN provides information about pesticides to the medical, veterinary, and professional communities as well as to the general public. Originally a service for physicians wanting information on pesticide toxicology and on recognition and management of pesticide poisonings, the NPTN has expanded to serve the public by providing impartial information on pesticide products, basic safety practices, health and environmental effects, and cleanup and disposal procedures. Staffed by pesticide specialists at Texas Tech University's Health Sciences Center School of Medicine, this hotline handles about 18,000 calls each year. Call any time, day or night.

- **Asbestos Hotline**
National Toll-Free 800-334-8571, extension 6741

Formerly the Asbestos Technical Information Service, the Asbestos Hotline at Research Triangle Institute, NC, has evolved from an information number for laboratories doing asbestos analyses to a broader service, providing technical information concerning asbestos abatement problems. The Asbestos Hotline now is available to meet the asbestos information needs of private individuals, government agencies, and the regulated industry. The hotline handles about 10,000 calls each year, and operates Monday through Friday from 8:15 a.m. -5:00 p.m. EST.

- **Small Business Hotline**
National Toll-Free 800-368-5888
Washington, D.C., Metro 703-557-1938

Sponsored by the EPA Small Business Ombudsman's Program, this hotline assists small businesses in complying with environmental laws and EPA regulations. The Small Business Hotline gives companies easy access to the Agency, and investigates and resolves problems and disputes with EPA. Acting as a liaison with Agency program offices, the hotline ensures that EPA considers small business issues during its normal regulatory activities. The Small Business Hotline operates Monday through Friday from 8:30 a.m. -5:00 p.m. EST, handling over 7,000 inquiries each year.

- **EPA National Recruitment Program Number**
National Toll-Free 800-338-1350
Washington, D.C., Metro 202-382-3305

An integral part of EPA's National Recruitment Program, this toll-free service enables potential hirees to contact the Agency for employment information, and assists EPA managers in locating and hiring qualified employees to fill vacant positions. Recruitment for many Superfund positions currently is a priority of this service. Operating Monday through Friday from 8:30 a.m. -4:30 p.m. EST, the Recruitment Program Number handles about 6,000 calls each year.

- **Inspector General's Whistle Blower Hotline**
National Toll-Free 800-424-4000
Washington, D.C., Metro 202-382-4977

The EPA Inspector General's Office maintains the Whistle-Blower Hotline to receive reports of Agency-related waste, fraud, abuse, or mismanagement from the public and from EPA and other government employees. EPA employees may make complaints or give information to the Inspector General's office confidentially and without fear of reprisal. The Whistle-Blower Hotline is staffed to answer calls in person from 10:00 a.m. -3:00 p.m. EST, Monday through Friday; at other times, callers may leave a message to be answered during the next work day. This hotline handles about 1,500 calls each year.

Commercial Numbers Offered by EPA Headquarters

- **TSCA Assistance Information Service**
202-554-1404

The TSCA Assistance Information Service provides information on TSCA regulations to the chemical industry, labor and trade organizations, environmental groups, and the general public. Technical as well as general information is available. To help businesses comply with TSCA, a variety of services are offered, including regulatory advice and aid, publications, and audiovisual materials. The TSCA Assistance Information Service now handles about 2,500 calls a month, and can be reached from 8:30 a.m. - 5:00 p.m. EST, Monday through Friday.

- **Control Technology Center Hotline**
919-541-0800

A component of EPA's Air Toxics Strategy, the newly established Control Technology Center Hotline provides information to state and local pollution control agencies on sources of emissions of air toxics. Sponsored by EPA's Office of Air Quality Planning and Standards in Research Triangle Park, NC, this hotline takes about 100 calls a month, and can be reached from 8:00 a.m. - 4:30 p.m. EST, Monday through Friday.

- **Public Information Center (PIC)**
202-829-3535

EPA's Public Information Center (PIC) answers inquiries from the public about EPA, its programs, and activities, and offers a variety of general, nontechnical information materials. The public is encouraged to reach the PIC through its commercial telephone line or by writing to PIC (PM-211B), U.S EPA, 401 M Street, SW, Washington, D.C. 20460.

Toll-Free Numbers Offered by EPA's Regional Offices

General Information Numbers

Four of EPA's 10 Regional Offices offer toll-free numbers providing the public general information on Agency programs, and making referrals as needed; a fifth EPA region will be adding this service very soon. These general information numbers are:

- EPA Region 3, Philadelphia, PA
800-438-2474 for all Region 3 states (DC, DE, MD, PA, VA, WV)
- EPA Region 4, Atlanta, GA
800-282-0239 in GA
800-241-1754 in other Region 4 states (AL, FL, KY, MS, NC, SC, TN)
- EPA Region 5, Chicago, IL
800-572-2515 in IL
800-621-8431 in other Region 5 states (IN, MI, MN, OH, WI)
- EPA Region 7, Kansas City, KS
(Will offer an 800 number by early June 1987, serving the states of IA, KS, MO, and NE)
- EPA Region 8, Denver, CO
800-332-3321 in CO
800-525-3022 in other Region 8 states (MT, ND, SD, UT, WY)

Specialized Information Numbers

Several EPA Regional Offices sponsor specialized, issue-specific toll-free numbers, to meet the demands of frequent regional inquiries.

Hotline	Toll-Free & Commercial #s	Description
Region 1 Unleaded Fuel Hotline	800-631-2700 (MA) 800-821-1237 (other Region 1 states—CT, ME, NH, RI, VT)	Enforcement-related line takes calls about tampering with vehicles, pumps, and other problems related to unleaded fuels.
Northeast Industrial Waste Exchange	800-237-2481 (ME, VT, NH, MA, RI, CT, PA, NJ, DE, VA, WV, OH, MD, MI, Washington, D.C.) 315-422-6572 (other states)	Information on waste exchange in the Northeast but with access to other areas. Joins those who generate waste with those who desire waste.
Region 2 Superfund Hotline	800-346-5009 (NJ) 800-722-1223 (NY)	Answers local hazardous waste questions.
Region 3 Waste Minimization Hotline	800-334-2467 (PA) 800-826-5320 (other Region 3 states)	Technical assistance and education on waste minimization.
Region 7 Iowa RCRA Hotline	800-223-0425 (Iowa only)	Information on implementation of RCRA in Iowa
Region 7 Missouri Superfund/ Dioxin Hotline	800-892-5009 (Missouri only)	Information on dioxin and related concerns for contaminated areas in Missouri

Commercial Numbers Offered by EPA's Regional Offices

Hotline	Commercial #	Description
Region 1 (Maine) McKin Site Hotline	207-657-2087	Information on cleanup efforts at Superfund site in Grey, ME.
Region 6 RCRA On-Scene Coordinators' Hotline	214-767-2666 (AK, LA, NM, OK, TX)	Responds 24 hrs. a day to questions and to reports of chemical spills, other emergencies.
Region 9 RCRA Hotline	415-974-7473 (AZ, CA, HI, NV. Guam, American Samoa, Pacific Trust Territories.)	Information to Region 9 states on RCRA issues.

One Way to Fight the Cockroach

by William E. (Bill) Currie

COCKROACHES! Perhaps the ultimate survivors! For 350 million years, cockroaches as a group have diversified, reproduced, and adapted to many ecological niches throughout the world. As many as 3,500 species may be identified worldwide, about 75 of them in North America. Of these, only five or six are considered to present sufficient problems to be pests in the United States. These are the German, Brown Banded, American, Oriental, Smokey Brown, and most recently, the Asian cockroaches. (More research to determine how important a pest the Asian cockroach will become is needed.)

The cockroach is considered a public health concern because of its role as a carrier and potential transmitter of several diseases. Large populations have a distinctive odor which is somewhat offensive, and they make their presence known by droppings and stained surfaces. Some people have phobic reactions to any insect, but cockroaches seem to inspire universal loathing. No doubt they have lived in close proximity to humans for thousands of years, but people just can't get used to them crawling out of the drain, across the counter, and onto the cream pie. They have indeed earned their pest status.

And a formidable status that is. Attempts to control the cockroach consume fully a third of the pest-control budget for urban sites, and are the largest expenditure for a single pest in homes and other establishments in the U.S. The need to control this pest is the foundation of a very large industry; even so, the cockroach has not been, nor is it likely to be, eliminated from homes or food preparation environments, largely because of its growing resistance to many pesticides.

(Currie is a Pest Management Specialist in the Integrated Pest Management Unit in EPA's Office of Pesticide Programs.)

In the past, the pest control industry responded to this resistance by using more powerful, yet more specific pesticides applied more often or in higher doses. Public pressure, however, has led to the development of better, more environmentally sound pest management methods to cope with the cockroach. The professional pest manager, as well as the layperson, can win the war on cockroaches by using Integrated Pest Management (IPM) principles and practices.

Attempts to control the cockroach are the largest expenditure for a single pest in homes and other establishments in the U.S.

IPM is a blend of old-fashioned practices and new information and technology. It fosters consideration of all available control options to achieve the greatest level of pest control by the most economical means and with the least possible hazard to people, property, and the environment based on the biology of the specific pest and its interaction with the site environment. The goal of IPM is to manage—not eliminate—pests.

Controlling cockroaches with IPM involves establishing the extent of the cockroach population, and then—because zero cockroach population is not normally obtainable—using a range of techniques to achieve tolerable levels.

The sticky cockroach trap has made monitoring cockroach infestations much easier. Capturing more than five cockroaches per trap in a 24-hour period probably means a heavy infestation; finding one or fewer probably means the population isn't expanding. Control techniques will depend on the extent of the problem.

The most basic control measure is to modify cockroach habitats by lowering the temperature, removing food from cockroach reach, eliminating water or moisture sources, getting rid of clutter and other harborage, and filling hiding spaces such as cracks and crevices. If these actions do not provide enough control, then appropriate EPA-registered pesticides may be used. It is a good practice to use the lowest toxicity product that will achieve long lasting results, applying it in areas where cockroaches are in contact with it most of the time. Although some sites may require stronger pesticide products, recent studies have shown that the most effective, least toxic, least expensive, longest lasting, most easily applied method for controlling cockroaches in structures is a thorough crack and crevice treatment of boric acid dust at 99 percent concentration. The cockroaches ingest the powder while grooming themselves, and death occurs three to ten days later. While it does not produce instant results, this system has been shown to be effective for six months to two years, depending upon the site.

This cockroach management system has been successfully implemented for homes, apartments, food handling establishments, offices, and schools. After a successful IPM demonstration at several sites on the U.S. Army's Aberdeen Proving Grounds, EPA has begun using it at its Waterside Mall offices in Washington, D.C. The Waterside Mall pest management plan is a successful cooperative effort involving concerned employees, an employee union, EPA's Facilities Operations Branch, building management, a private pest control firm, and the IPM Unit of the Office of Pesticide Programs. Other sites using the IPM approach are the National Capitol Region Headquarters of the National Park Service; Alexandria, VA, Public Schools; and the U.S. Capitol Building. Many pest control firms are adopting the system as well. □

Gasoline Vapor Controls: Pros and Cons

by Richard D. Wilson

The final decision may ultimately affect most of the nation's vehicle owners, so it is certain to be controversial.

The next time you pull into a service station to fill your car's gas tank, consider this: even though your car's engine is off, gasoline vapors are escaping into the surrounding air as you pump the liquid gasoline into the gas tank.

These vapors, when mixed with other volatile organic compounds (VOCs) in the ambient air, form smog. At elevated concentrations, smog causes health problems, particularly with the human respiratory system. In addition, there is evidence that direct exposure to gasoline vapors may also be a health hazard.

EPA is now trying to decide both whether and how to control refueling vapors. The final decision may ultimately affect most of the nation's vehicle owners, so it is certain to be controversial.

The quantity of vapors released during all vehicle refuelings is a relatively small but nonetheless significant portion of the total VOCs emitted from all sources nationwide. Other sources of VOCs are tailpipe emissions from motor vehicles, petroleum refining, and a large number of widely used consumer products, such as household paints and deodorants. Once the VOCs are in the atmosphere, they mix with other pollutants, primarily oxides of nitrogen (NOx). In the presence of sunlight, these contaminants undergo a complex chemical reaction that forms ozone, commonly known as smog.

As with other air pollutants, EPA has established a National Ambient Air Quality Standard (NAAQS) for ozone. To measure ambient ozone levels, the Agency has, in cooperation with state and local governments, set up a monitoring system across the United States. The results of that monitoring are not encouraging.

At the present time, over 70 urban areas are not in attainment with EPA's ozone standard. These include almost all major U.S. cities; Los Angeles, Houston, New York City, and Chicago are among the worst violators. Since sunlight and warm temperatures play a role in the formation of ozone, it is not surprising that most violations of the ozone standard occur during the summer months.

Although ozone is our most pervasive air pollution problem, we have made substantial progress in controlling its precursor emissions, VOCs and NOx. Requirements for controls on many categories of stationary pollution sources, such as factories, as well as stringent controls on vehicle emissions, have been successful in preventing the release of millions of tons of these pollutants each year. But we still have a long way to go.

The difficulty in controlling future emissions of VOCs can be attributed to two factors. One is the continued growth in the total number of sources. This, of course, is a result of population growth, which leads to more cars and trucks on the road, more industrial facilities, and more consumer products.

The second factor is that we've been very successful, for the most part, in controlling major sources of VOC emissions. As a result, future reductions will come in much smaller increments and at higher costs. And that brings us back to the subject of this article. Whereas, for the past 17 years, the Federal Motor Vehicle Control Program has focused on controlling VOCs that are emitted or evaporated from the vehicle, we now are studying the effectiveness of controlling lesser sources, such as vehicle refueling.

To put matters into perspective, it is interesting to note that VOC emissions from all refuelings in the country

(Wilson is Director of EPA's Office of Mobile Sources.)

account for about two percent of total VOC emissions from all sources. Yet even emissions of this magnitude are significant to the ozone problem since the obvious, relatively larger sources of ozone precursors are already regulated.

Gasoline is a volatile liquid, which means that it readily evaporates into gaseous form as its temperature increases. That turns out to be a mixed blessing. On the one hand, a fuel has to be volatile to work in internal combustion engines. On the other hand, volatility causes harmful vapors to escape from the fuel tanks and fuel systems of millions of cars and trucks. (On a technical note, diesel fuel is far less volatile than gasoline and thus is not considered a source of VOCs through evaporation.)

While a car engine is running, liquid fuel is drawn by the fuel pump out of the tank and into the fuel intake system (either a carburetor or fuel injectors). The portion of the fuel tank above the liquid gasoline contains a mixture of air and gasoline vapor.

Since most cars on the road today have sealed fuel systems, this vapor can become pressurized in the tank. At the service station, when the gas cap is loosened, the hissing sound that is sometimes heard means some of those vapors are escaping into surrounding air. Pumping liquid fuel into the tank displaces the remaining vapors, which are forced out the sides of the fill pipe.

Preventing escape of these gasoline vapors serves a twofold purpose: reduction of VOC emissions that are the primary precursors of smog in our cities, and reduction in the levels of exposure to gasoline vapors experienced by service station workers and users of self-service pumps.

Although there are uncertainties associated with some of the studies that investigated the health effects of direct exposure to gasoline vapors, some results are not in dispute. One is that benzene, a major component of gasoline, is a human carcinogen when inhaled as a vapor. One recent study on the effects of gasoline vapor on animals indicated it could be classified as a probable human carcinogen.

There are two distinct methods of controlling the release of vapors during refueling: "Stage II" control and "Onboard Vehicle" control. Each control strategy has its own very vocal supporters and detractors.

At the present time, over 70 ***urban areas are not in attainment with EPA's ozone standard.***

Stage II control is shorthand terminology for a vapor recovery system built into the service station pump. A flexible boot shaped like a bellows is fitted onto the pump nozzle. Insertion of the nozzle into the vehicle gas tank forces the boot to cover the fill pipe. Escaping vapors are then trapped and liquid gasoline entering the tank causes pressure to build, which forces the vapors back through a rubber hose into the service station pump and finally into the underground gasoline storage tank. Vapors are stored in the underground tank in direct proportion to the amount of liquid gasoline pumped by the station. (Vapors stored in the underground tank are prevented from escaping by "Stage I" control equipment, which has been required on gasoline bulk transfer activities for a number of years.)

Residents of California and the District of Columbia are very familiar with Stage II systems since these two areas require them to be installed on service station pumps. Stations in St. Louis, MO, are just now beginning to be faced with similar requirements.

The most ardent supporters of Stage II methods of controlling refueling vapors are the motor vehicle manufacturers. Opponents are the oil companies and service station owners. To no one's surprise, these roles are reversed when the debate turns to the second strategy for vapor control.

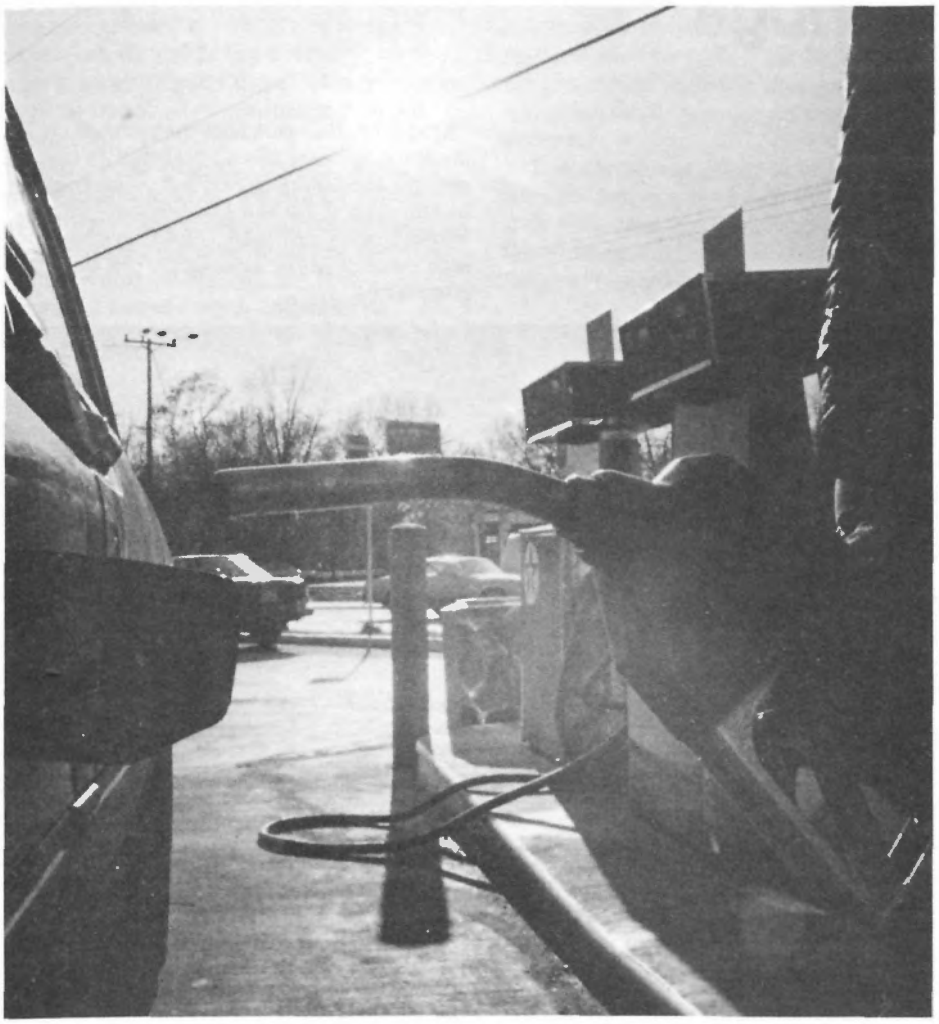
As the terminology implies, onboard vehicle control shifts the control hardware onto the vehicle itself. During refueling, the vapors are prevented from escaping out of the fill pipe and instead are forced through a rubber hose into a canister filled with activated charcoal.

Since charcoal is a very effective adsorbent of gaseous hydrocarbons, the vapors are stored in the canister until refueling is completed and the engine is started. At that time, engine vacuum draws fresh air through the charcoal, purging the gasoline vapors, and drawing them into the engine to be added to the normal air/fuel mixture and burned in the combustion chamber.

In any discussion of the pros and cons of Stage II versus onboard it must first be stated that the cost of either alternative will inevitably be passed on to consumers. A requirement for Stage II systems would make service station owners install new equipment on their pumps and modify the underground storage tanks. The estimated total capital cost for the average service station is about $12,000.

When this is amortized over the expected lifetime of the equipment, and operating expenses and fuel recovery credit are included, it translates into a cost to the average service station of $2,600 per year. Those costs would be passed on to fuel purchasers.

On the other hand, new hardware and modifications to existing emission-control systems needed for an onboard system would raise the price of a new car an average of about $20.



Steve Delaney

When a car is refueled, vapors containing volatile organic compounds (VOCs) are released into the air where they mix with other pollutants to form smog.

Some of the advantages of Stage II over onboard control are that Stage II can be selectively installed in geographical areas that cannot attain the ambient ozone standard. Also, under the most favorable circumstances, Stage II can be implemented more quickly than onboard control, which would only be required on future new cars and, therefore, could not achieve full effectiveness until the national fleet is primarily comprised of cars with onboard control. Supporters of Stage II also point out that it is a proven technology, particularly given the effectiveness of the California experience.

On the other hand, Stage II has the disadvantage of requiring a comprehensive and costly enforcement program to maintain its effectiveness. Since parts of the Stage II hardware must periodically be replaced, particularly the flexible boot, government officials would be required to conduct frequent inspections and tests of the hardware to assure its proper installation and operation. Another disadvantage of Stage II control is that its effectiveness depends to some extent on the actions of the person pumping the fuel. If sufficient pressure is not exerted on the nozzle boot to seal it against the fill pipe, vapors will escape, thus negating the purpose of the controls.

The major advantage of onboard control is that it is more effective than Stage II in controlling refueling vapors over the long run. While the benefits from Stage II may exceed those from onboard during the first few years, after the majority of pre-onboard vehicles have been scrapped and replaced by those with onboard controls, the percentage of refueling vapors controlled would be significantly greater than with Stage II. Also, onboard is a passive system in that a vehicle owner would be unaware of its presence in the car. It would require very little maintenance over the life of the car.

Further advantages of onboard control are that in addition to reducing VOC emissions in ozone nonattainment areas, it would provide VOC reductions in attainment areas, and thus help to maintain the standard. Finally, it would provide nationwide benefits from reduced exposure to known and probable carcinogens in refueling vapors.

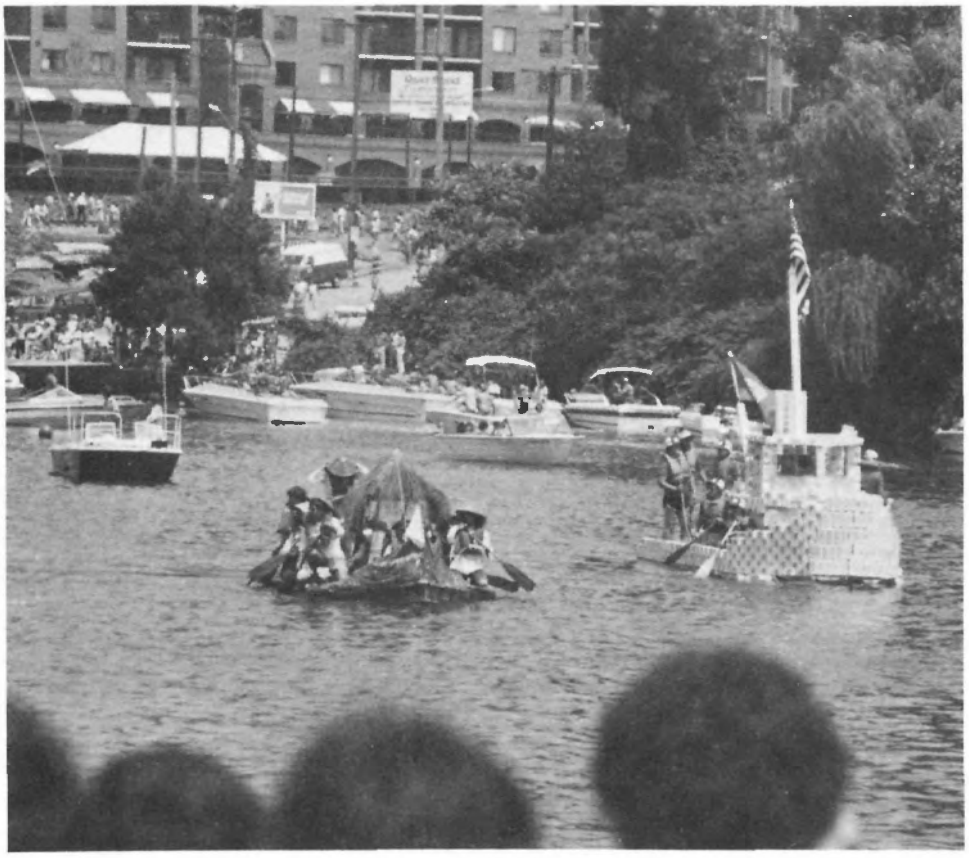
On the negative side, space requirements for onboard systems, specifically a charcoal canister up to one gallon in volume, might pose difficulties for designers of small cars. The issue of vehicle safety is also an important consideration whenever modifications are made in fuel systems. In fact, Congress wrote a provision into the Clean Air Act instructing EPA to consult with the Department of Transportation on vehicle safety matters before making a final determination to require onboard systems on new cars or trucks.

As the above discussion illustrates, the controversial issues surrounding control of refueling emissions are many. That, in large part, explains why the matter has been studied, analyzed, and debated within EPA, industry, and environmental groups for more than a decade. Now, however, it appears that a decision is near. Lee M. Thomas, the Administrator of EPA, stated in February of this year in Congressional testimony that he will publicly propose within several months whether refueling emissions should be controlled by Stage II systems on gas pumps or by systems placed onboard new cars and trucks. □

"People" Benefits from a Cleaner Cuyahoga

by Paul Svedersky

"Krazy crafts" put together out of milk cartons race on the Cuyahoga River during the 1986 RiverFest, a recreation event staged by the Cleveland Waterfront Coalition. The Cuyahoga was once widely known for its pollution problems.



Cleveland Waterfront Coalition

"Cleveland: The Comeback City." This slogan is being used by some national media to describe the upswing in civic pride and accomplishment in the Cleveland area, especially around its waterfront. Gone are the days when knowledgeable people described the city as the "mistake on the lake," where one might be cautioned about the river that didn't flow, but "oozed."

News about Cleveland's comeback might mention the downtown building boom, the All-America City designation, the theater restoration project at Playhouse Square (largest of its kind in the United States), the resurgence of the warehouse district, or perhaps the rebirth of Cleveland's waterfront. Yes, indeed, about the only thing that oozes along Cleveland's waterfront these days are the crowds of people and their enthusiasm for what's ahead.

The recovery of Cleveland's waterfront is due in no small part to years of environmental protection and pollution control efforts directed at the Cuyahoga River and near-shore Lake Erie.

The saga of Cleveland's troubled waters began in 1765 with Benjamin Franklin's desire to build a fort where the Cuyahoga River meets Lake Erie. Cleveland's lake and riverfronts have always been working waterways. Overtaxed from the very start, the Cuyahoga River never seemed destined to become a nature preserve or a San Antonio River Walk.

From the early days of Moses Cleveland and the settlers who followed him to Connecticut's "Western Reserve," the waterfront was hardly given a moment's rest. By 1893, 20 oil refineries were producing in Cleveland, making the city the oil refining center of the world at that time. John D. Rockefeller began his oil empire on the banks of the Cuyahoga River. In those boom years, the chocolate-brown river was seen as a sign of prosperity; the oil-covered river was supposedly working for the benefit of man. Theodore Roosevelt labeled Cleveland "a city of progress."

It didn't seem to matter that pollutants were taking their toll. People preferred to ignore the warning signs, like the fact that not even sludge worms that thrive on polluted muck could survive in the Cuyahoga River. By the 1960s, there were times when the oil and other pollutants on the river's surface even caught fire! Over the years the Cuyahoga was cited throughout the nation as a prime example of just how bad water pollution could get.

Lake Erie also had its share of neglect and abuse. Because it is the shallowest and warmest of the Great Lakes, this lake was especially prone to the dangers of farm fertilizer runoff and phosphates from laundry products. With its entire food chain disrupted by an overgrowth of algae, Lake Erie was suffocating. Some even pronounced it "dead." Fish populations were rapidly dying off and "No Swimming" signs dotted the beaches. Pollutants pouring into the lake from the Cuyahoga and other rivers made Cleveland's waterfront a wasteland and a public disgrace.

(Svedersky is Executive Director of the Cleveland Waterfront Coalition.)

The notoriety of Cleveland's water pollution problems was instrumental in sparking environmental reform in the late 1960s and early 1970s. The U.S. Congress passed major clean water legislation in 1972. Soon after, American engineers developed a whole range of innovative pollution-control equipment.

What better place to try out some of that equipment than on the Cuyahoga River? Few could argue against making the Cuyahoga a major target in the fight against water pollution. So it did become a target—with impressive results. Today steel mills are returning water to the river that is actually cleaner than when it was taken out. The Cuyahoga River has certainly come a long way since its notoriety in the 1960s.

According to the Ohio Environmental Protection Agency, more than $522 million in federal grants have been used to clean up the Cuyahoga by reducing the pollution in effluents from wastewater treatment plants along the river. In addition, industries have invested over $160 million in more effective anti-pollution technologies.

Although there is still much room for continued improvement, recently published data show that in 1980 there were only two days in which dissolved oxygen levels in the Cuyahoga fell below 4.0 milligrams per liter, in violation of state water quality standards. In 1971, there were 41 such days. There have also been significant improvements in ammonia and phosphorus levels that can be traced to such anti-pollution efforts as the 1972 phosphate detergent ban, improvements in sewage system maintenance, and various technological actions.

The acidity problems that once plagued the Cuyahoga have also been brought under control. The number of days on which the river's West Third Street pH reading had values less than 6.5 was 78 in 1968. It was 0 in 1980. And the Cuyahoga's invertebrate community index, a measure of aquatic life in the river, rose from "very poor" in 1978 to a high "good" in 1986. These statistics indicate that the hundreds of millions of dollars allocated for the Cuyahoga cleanup have been well spent.

What does one find along Cleveland's riverfront today? The people of Greater Cleveland and visitors to the area have rediscovered the riverfront heart of the city, known as "the Flats," with its collage of bridges, parks, seagulls, marinas, condominiums, restaurants, and businesses. The area is particularly crowded during a summer weekend celebration called RiverFest, when half a million people gather for festivities ranging from sculling demonstrations to Venetian boat parades to water ski shows.

The Cuyahoga itself is alive now with human activity throughout the year, and it is still very much a *working* river. Giant freighters vie for space in the narrow channels with a multitude of recreational watercraft. Patrons in the nightclubs and restaurants that now thrive on the river's edge enjoy a special thrill as huge commercial ships sail by.

Jazz concerts, festivals, and marathons are now common in an area once known for rotted tree trunks washed ashore with dead fish.

Not far from the mouth of the Cuyahoga River, just beyond the Port of Cleveland and the municipal stadium, is a hotspot of lakefront activity that will soon be connected by trolley with the riverfront. Through political and corporate leadership, with a fair dose of citizen activism, Cleveland is on the verge of seeing its downtown lakefront blossom into a full array of people-oriented waterfront activities.

The Cleveland Waterfront Coalition, a 1,000-member citizens' organization, helped to get the ball rolling to make the lakefront as much a "place for people" as the riverfront. The group spearheaded a fund-raising drive to build a public park on a vacant pier downtown. The success of this Pier 34 project showed the rest of the region that good things were indeed possible along Cleveland's lakefront.

The State of Ohio has recently committed $8.5 million toward the creation of a much larger downtown lakefront state park. A non-profit development corporation is now supervising construction of the park, the inner basin of which is being dug from a graveled stadium parking lot. When completed, the lakefront park will feature a new aquarium, maritime center, festival marketplace, winter garden, and other developments representing some $300 million in investment.

Ohio has shown its commitment to reclaiming the lakefront for public use not only through its anti-pollution regulatory activities, but also by taking control of several parks that run east and west along the shore. In the last few years, the state has spent millions to improve the entire Cleveland Lakefront State Park system, which today is the most heavily used in all of Ohio, and the second most heavily used in the United States. Jazz concerts, festivals, and marathons are now common events in an area once known for little more than rotted tree trunks washed ashore with dead fish.

Cleveland's greatest natural resources, the Cuyahoga and Lake Erie, are no longer the national disgrace they once were. Strenuous efforts to clean up both the river and the lake have paid great dividends. Today Cleveland's booming waterfront is a magnet for recreation, business, housing, and investment, and it has yet to reach its full economic and social potential.

Boaters cry out for more dock space and launching ramps. People scurry for a few square feet of space along the river for a chance to hear the Cleveland Orchestra perform in the industrial "Flats." Boatloads of tourists and citizens cruise the river and lake so they can see more of Cleveland's new waterfront.

Even so, the comeback waters on the shores of the Comeback City are still not totally free of the problems that plague industrial waterways throughout the Great Lakes region. The most important of these problems are pesticides and other toxics. Some Great Lakes waters, though they appear to be much cleaner than they were in the 1960s, still have a long way to go. For example, it takes Lake Michigan 100 years to completely change its supply of water, and toxics absorbed by lakebeds and riverbeds may be around indefinitely. Fortunately, nature "flushes" the Cuyahoga and Lake Erie more rapidly than Lake Michigan, but Cleveland's fight against persistent pollution sources clearly must go on.

Public education and awareness regarding Cuyahoga and Lake Erie issues continue to be the main goals of the Cleveland Waterfront Coalition and a host of other civic groups that have joined the effort to make Cleveland's region of the Great Lakes even greater. In the drive to effectively address problems of public access, pollution, and competing uses for a valuable natural resource, the message from the Cleveland area is nothing short of "Full Steam Ahead!" □

Indians Act for a Cleaner Environment

by Roy Popkin

This spring sawmill operators on the Colville Tribes Indian Reservation within Washington State will be visited by an environmental inspector checking the impact of their operations on water quality in nearby rivers. And within North Dakota, another inspector will be checking to see if pesticide applicators are complying with regulations on the Fort Berthold Reservation.

Both inspectors are agents of tribal governments, carrying out environmental regulations drawn up by the tribes. The words of the Environmental Protection Agency's Indian policy are thus being translated into real-world environmental protection.

These and other pilot projects have moved out of the planning stage as EPA's regional and headquarters offices begin to bring the 1984 policy statement to life on the nation's 278 Indian reservations. The territory covered by this policy is huge: equal to all of New England, New York, New Jersey, and Maryland. The amended Clean Water Act and Safe Drinking Water Act, as well as the Superfund Amendments and Reauthorization Act, all direct EPA to deal with the tribes as sovereign governments.

EPA's headquarters offices, many of them under Congressional deadlines, are establishing a variety of work groups and advisory committees to determine what pollution-control activities are feasible and what funding is available. The Office of Federal Activities is coordinating EPA's Indian program, but the EPA regions actually carry it out in the field in cooperation with the tribes.

(Popkin is a writer/editor for EPA's Office of Public Affairs.)

Policy implementation can be tricky when it has to accommodate 278 tribal entities, not to speak of 50 states. Federal treaties establishing the reservations vary—some deeded the land to Native Americans outright; others held the land in trust. Moreover, delegation of regulatory and compliance authority to tribal governments has also generated some concern among non-Indians who live or operate farms, sawmills, mines, and other industries on the reservations.

Many people didn't believe the tribal governments had the capacity for environmental self-regulation.

EPA regional attorneys have to make certain that all interests are considered, lest a backlash produce lawsuits and long delays.

For example, difficulties emerged in North Dakota, where considerable public alarm was generated upon publication of EPA's intent to delegate pesticide certification authority to the Three Affiliated Tribes—Mandan, Hidatsa, and Arikara—on the Fort Berthold Reservation.

Recalls Region 8 pesticides chief Don Rushton, "We went through every step meticulously. The Attorney General and the Governor objected to our plan; century-old boundary questions were argued all over again." Some 115 letters of protest poured in from non-Indian farmers working reservation land, but none of the protesters ever sat down with the tribal government to ask about its intentions.

The EPA position was that tribal jurisdiction was a prerequisite for approval—the Agency was merely recognizing that the tribe's program fulfilled EPA requirements. In fact, EPA would have had to set up a federal certification program if the tribe hadn't done so.

To respond to the concerns of non-Indians, the tribes established an administrative panel to hear appeals by applicators. According to a recent Region 8 report, the tribes have certified 95 pesticide applicators but have not taken enforcement action, preferring to give voluntary compliance a try. The protest of the non-Indians has subsided, but the tribal inspector has referred two cases to EPA for review.

Meanwhile, the tribes have cleaned up two illegal pesticide dump sites, performed a ground-water survey for pesticide contamination, drilled wells to monitor subsurface waters where pesticide containers have been dumped, and monitored surface water in agricultural areas.

The Fort Berthold pilot project is becoming a classic example of how Indian expertise in environmental matters can be developed, just as it evolved in each of the 50 state governments. The Three Tribes are part of a three-year EPA-funded national demonstration project in which the Agency is helping the tribes' joint Natural Resources Department to address current air, water, and waste problems and keep the environment from deteriorating further.

In addition, the tribes have been working with the region on development of a reservation-wide environmental public awareness campaign through their own newspapers, radio station, and schools.

Region 8 has jurisdiction over a large number of tribes on 26 reservations in six states, covering almost a fourth of the nation's reservation population and 38 percent of the total land area. In fiscal year 1986, the Region provided grants for air monitoring and program

development to nine tribes to complete emission inventories and climatology studies as a basis for regulations and ordinances on their reservations. Funds for pesticide enforcement and training were supplied to five tribes. The Region also provided tribes with technical assistance in locating new landfill sites, controlling underground storage tanks and fluid injection, and upgrading drinking water.

We can see the same process at work in Region 10, where a water quality management plan is being implemented by the 13 Confederated Colville Tribes in mountainous, heavily-forested, north-central Washington. Working with EPA, the tribes are the first to move into water quality management under Section 208 of the Clean Water Act.

According to Region 10 attorney Deborah Gates, a significant early step was tribal passage of the Colville Administrative Procedures Act, which spells out appeal and review procedures to be invoked if tribal water quality management decisions are challenged. As in North Dakota, this met the concerns of non-Indians about whether environmental enforcement would be fair to them. Ultimately, the tribal clean-water ordinances will regulate all mining, silviculture, and farming on the reservation; logging will have priority. Compliance targets will range from Crown-Zellerbach to the mom-and-pop mills.

The words of EPA's Indian policy are being translated ***into real-world environmental protection.***

Gary Passmore, the tribal hydrologist, says Clean Water Act enforcement on the reservation is three years behind enforcement by the state of Washington on non-Indian lands. He anticipates few negative reactions.

Burgeoning Indian program activity is also evident in Region 5, where the focus is a pilot project on solid and hazardous waste disposal for the Menominee Reservation in northern Wisconsin. The reservation has a Menominee population of 6,500. Its rivers, streams, and lakes are heavily exploited for recreation in all seasons, and truckers daily negotiate north-south routes through the reservation.

The Menominee project started with an EPA grant and a Memorandum of Understanding between the tribe, the Wisconsin Department of Natural Resources, and EPA back in 1985, in which all parties agreed to confront the problem of waste management and water quality on the reservation. The MOU says, "It is understood by all parties that the Menominee Tribe, as the governing body for reservation affairs, will have responsibility for all matters of public policy under any such program, but the state of Wisconsin and EPA will provide advice and technical assistance."

As in the other pilot projects, this program is expected to be a prototype for Indian reservations elsewhere. The tribe and EPA are discussing an

On the Fort Berthold Reservation in North Dakota, workers install a ground-water monitoring well near a dump site filled with empty pesticide containers. The Tribe has arranged for cleanup of two such dump sites, and is monitoring surface water and ground water for pesticide contamination.

implementation schedule including a user-fee system for hazardous materials transporters, notification of shippers, assisting generators to comply with hazardous waste rules, and conducting surface-water and ground-water sampling.

The issue of tribal versus state control over navigable waters and lakes within the reservation—but bordered by non-tribal lands—remains to be resolved but is not believed to be a serious impediment.

Last December, Region 5 and the National Congress of American Indians co-sponsored a two-day meeting at which top Indian, state, and federal officials reviewed every aspect of Indian environmental policy. In January, Region 5 and the Great Lakes Indian Fish and Wildlife Commission conducted a day-long "orientation to Indian country" to acquaint EPA staff with the history, culture, and capability of area tribes for natural resource management in the upper Midwest. In Region 5, "circuit riders" visit all the reservations at least annually to provide technical assistance, mainly with drinking water. As a result of such efforts, reservations in the region have achieved 90 percent compliance with EPA safe drinking water standards.

Region 5's enthusiastic Indian programs coordinator, Kestutis K. (Casey) Ambutis, says many people didn't believe the tribal governments had the capacity for environmental self-regulation. "Those people forget there was a time when state and local governments had little, if any, capability," he recalls. "Now, more and

From the Heart...

On May 29, 1985, Lawrence Wetsit, director of the Assiniboine-Sioux Tribes' Fort Peck Indian Reservation Minerals Office, testified at an EPA underground injection permit hearing in Poplar, Montana.

"I am very concerned with the protection of our environment. What I have been taught in my 32 years is that the most important thing for the Indian people is their land....We were pushed further and further west until we finally ended up here on the Fort Peck Reservation. We have nowhere else to go. If we find it unlivable here, then we are finished.

"This is where my grandparents and great grandparents are buried, and where I will be buried. If my generation does not do what has to be done to protect what we have left, then there will be nothing for my children....Because of this feeling our tribal council decided that they needed to establish some system where we could protect our environment and save our land.

"The Fort Peck Tribes established a minerals resource office to monitor oil and gas activities...At one point we had coal speculators coming in and asking for leases here on the reservation. At that time the tribes had no technical office to advise them....We held those people off until we could get an office established that could allow these coal and oil companies to come in and develop...on terms the Fort Peck Tribes can live with. We must remember, if we make a bad decision today, our children will have to live with it over the next 30 or 40 years.

"Under the mineral resource office, our role is to protect the land surface and all of the trust land here on the Fort Peck Reservation. We also oversee...all oil and gas leases....Even though we do like the benefits of development, we also have to look at the other side of the coin....The Fort Peck Tribes decided that the future of Indian people is more important than money.

"We have had our own gas and oil development here since 1951....With each new well there is more water to be disposed of....We can go anywhere and look at the agricultural land where there are oil wells and there is nothing growing....

"Along with protection of our lands, the Fort Peck Tribes have entered into a water compact with the State of Montana. We let the state know of our concern with the ground water here. Without water, the land has no value....If we inject this salt water improperly, we will destroy these fresh aquifers.

"It is my responsibility as the director of the tribal mineral resource program....to ensure that industry and other federal agencies are aware of the concerns of the Fort Peck Tribes. We want to leave something that our children can live with and be proud of. We hope our technical staff can show—with scientific data—that underground injection is causing us problems, and that we need to keep a good watch on it to protect our future."

more tribes are employing sanitarians, attorneys, biologists, accountants, resource managers, and hydrologists. The infrastructure is being developed at a pretty rapid rate."

At EPA headquarters, too, the pace of Indian program activities is accelerating. Agency experts are preparing implementation strategies that will include what Administrator Lee Thomas calls "short- and long-term actions to ensure that the environmental statutes are actually implemented on Indian reservation lands." That means more grant funds, in-house personnel, technical assistance, training, and set-aside moneys. At the same time, program offices have been reviewing and funding requests for assistance.

The Indians' own priorities were reflected in a "Survey of American Indian Environmental Protection Needs on Reservation Lands: 1986," conducted by Americans for Indian Opportunity. The survey analyzed reservations ranging from 33 acres with a population of 10 to the Navajo Nation of 149,000 living on 16 million acres, and embracing 58 percent of the current nationwide reservation population. Said the survey, "...92 percent of reservations reporting were participating in at least one environmental activity...Most tribal governments have recognized the need to address one or more areas of importance on their reservations and have done so...but many environmental problems still need to be addressed." Certainly there is a manifest new commitment and momentum; Native Americans can expect a better environment in the years ahead, an outcome that will be shaped largely by their own hands. □

The EPA-Indian Partnership

Expansion of EPA's partnership with Indian tribal governments can be traced to two Indian Policy statements, the first issued by President Ronald Reagan in January 1983, the second by then-EPA Administrator William Ruckelshaus in November 1984.

The President's policy extended earlier actions—the Indian Reorganization Act of 1934 and an initiative by President Richard Nixon in 1970—by explicitly re-emphasizing the juridical sovereignty of tribal governments. The new federal approach called for strengthening tribal governments and helping them achieve economic growth, social stability, and managerial expertise.

EPA was the first federal agency to follow up. La Donna Harris, in her introduction to the "Survey of American Indian Environmental Protection Needs on Reservation Lands: 1986," undertaken by Americans for Indian Opportunity (AIO), said that EPA's Indian policy statement of 1984 "represents a most positive step...toward more cooperative, productive relationships between federal and tribal governments...recognizing that the partnership must steadily move toward greater parity." The response from tribal leaders was overwhelmingly favorable.

EPA policy says the Agency will:

- Work directly with tribes on a government-to-government basis, not as tributaries of other governments.
- Recognize tribal authority to set standards, make decisions, and manage reservation programs, consistent with EPA standards and regulations.
- Assist tribes in assuming regulatory and program responsibilities.
- Remove legal and procedural impediments to working directly with the tribes.
- Consider tribal interests fully in decisions impacting reservations.
- Encourage cooperation between tribal and state governments.
- Enlist the support of other federal agencies on Indian lands.

EPA and the tribes recognize that what the AIO has termed the "limited and sporadic" relationship of the past will not improve spontaneously. Implementation will take careful, conscientious work by EPA, the tribes, and many other parties—public and private—in coming months and years.

Update

A review of recent major EPA activities and developments in the pollution control program areas

AIR

Mazda Recall

Mazda North America, Inc., has begun recalling nearly 140,000 of its GLC and RX-7 models because they exceed the federal hydrocarbon and carbon-monoxide exhaust emission standards.

Nearly 47,896 1982 GLC cars equipped with 1.5-liter piston engines will have air-bleed assemblies installed to increase the amount of air mixed with fuel.

Mazda is also recalling 91,112 1982 and 1983 RX-7 cars with 1.1 liter rotary engines to replace the ceramic pellets in the catalytic converter and modify the air-injection system. In some cases, the RX-7 cars may need choke adjustments.

PESTICIDES

Toxicology Data

EPA is mailing notices to approximately 2,075 pesticide registrants requesting toxicology data on 304 active ingredient chemicals used in antimicrobial pesticide formulations.

The Agency has determined that more data are needed to assess the potential hazards associated with the use of antimicrobial pesticides. In the past, EPA assumed that human exposure to most antimicrobial pesticides involved only short-term exposure to low concentrations of active ingrediants. Therefore, only acute toxicity data were required to register most antimicrobial pesticide products.

Antimicrobial pesticides include products used as disinfectants, sanitizers, sterilants, and commodity preservatives in hospitals, health-care facilities, food-handling establishments, swimming pools, and metal-working fluids.

TOXICS

Asbestos Grants

EPA announced the availability of funds for 1987 loans and grants under the Asbestos School Hazard Abatement Act of 1984 (ASHAA), and announced its first round of awards.

The awards, which totaled $34.2 million, will go to the nation's most financially needy schools to help abate asbestos hazards. Awards were offered to 366 schools that applied for federal funds. EPA based selection upon the severity of the schools' asbestos-related problem and their financial need.

This cycle of awards was being offered to schools which submitted their applications during 1986. EPA was not able to fund all the qualified projects submitted in 1986 and reconsidered the 1986 holdover applications for 1987 funding.

PCB Cleanup Policy

EPA has announced a new policy for nationwide cleanup standards of polychlorinated biphenyl (PCB) spills.

The requirements and standards in this policy are based upon the Agency's evaluation of the potential routes of exposure and potential risks associated with the more common types of PCB spills, as well as the costs associated with cleanup following such spills.

EPA Assistant Administrator for Pesticides and Toxic Substances, Dr. John A. Moore, stated: "This nationwide policy will reduce the risks from PCB spills to public health and the environment by encouraging rapid and effective cleanup and restoration of the site."

In the past, policies for the cleanup of PCB spills have been established separately by each EPA regional office on a case-by-case basis, which subsequently allowed for varying standards from region to region.

WATER

Drinking Water Awareness

Under a new EPA proposal required by the Safe Drinking Water Act, all drinking-water supply operators in the United States must notify their customers of potential sources and adverse health effects of lead. Operators are responsible for doing this even if they are not violating lead standards.

The first public notice for lead must by sent from operators to customers by June 1988, even if the water system is not violating the current federal standard of 50 parts per billion.

If a state fails to enforce these special notification requirements for lead, EPA is authorized by the Safe Drinking Water Act to withhold up to five percent of that state's federal grants for operating public water systems. □

Appointments

Steve Delaney

Martin D. Topper has been appointed to the position of Indian Program Coordinator within the Office of Federal Activities. He will be responsible for coordinating the development and implementation of the EPA policy for Indian reservation lands in the United States.

Dr. Topper has had experience in a wide variety of fields. He has served as Cultural Anthropologist/Consultant and as Assistant Director of the Mental Health Branch of the Navajo Area of the Indian Health Service (IHS). This included serving in clinical positions near the Navajo Reservation treating mental health patients at various IHS facilities. He was also an Assistant Professor of Anthropology at Southern Methodist University.

He received his Bachelor's Degree in Anthropology from the University of Illinois, and his Master's and Ph.D. from Northwestern University, also in Anthropology. He has also done post-doctoral study at the University of Chicago and the University of California at San Diego. □

Steve Delaney

Two deer pause for a moment at sunset on the Eastern Shore of Maryland.

Back Cover: Lighthouse on Maine seacoast. Photo by Robert Shafer for Folio, Inc.

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