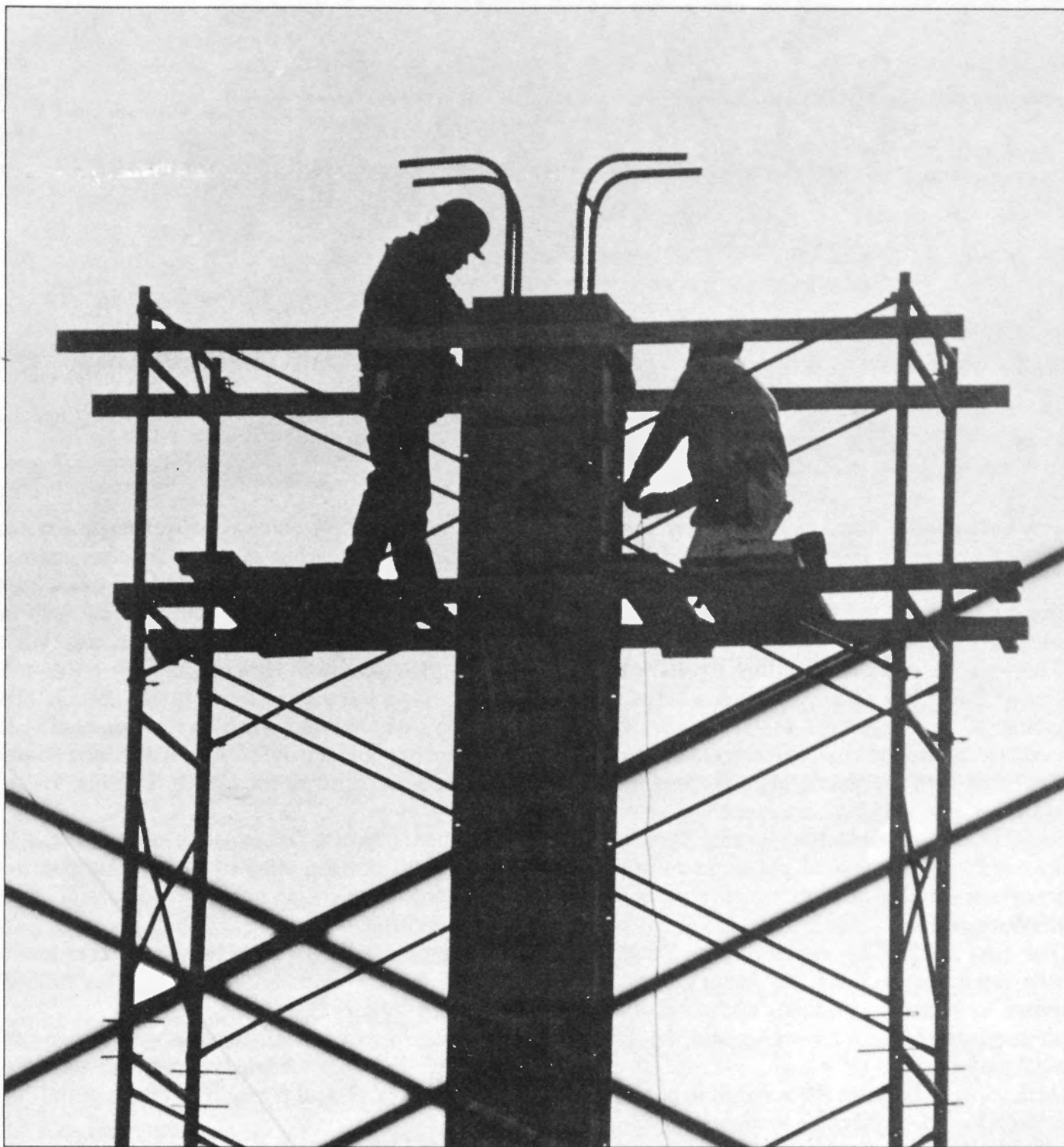


EPA JOURNAL

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LABOR AND EPA

U. S. ENVIRONMENTAL PROTECTION AGENCY

Working With Our Constituencies



Starting with this issue the main theme of each month's EPA Journal will be an examination of the relations of one of the Agency's major constituency groups with the environmental cause.

This will be part of an effort by EPA and its Office of Public Awareness to reach a better understanding of key segments of the public such as agriculture, urban and environmental interests.

We begin with the theme of Labor and EPA. As part of this new effort we are launching an editorial column, "Environmentally Speaking," to let EPA employees and the general public know what the Agency's leadership is thinking on current significant issues.

The first column by Administrator Douglas M. Costle reports on actions the Agency is taking to improve its rapport with labor and notes the common interests shared by workers and the environmental movement.

Articles on labor and the environment carried in this issue include reports on employment opportunities provided by cleanup efforts, protection of worker health, and environmental and economic justice.

The January EPA Journal will examine the role industry is playing in the quest for a better environment.

In this issue, we also have an interview with the new Assistant Administrator for Air and Waste Management, David G. Hawkins.

Also in this issue are excerpts from a speech, "The Three E's—Economics, Energy, Environment," delivered at the University of Illinois by Joan Martin Nicholson, Director of the Office of Public Awareness.

Another subject reviewed is the major effort EPA is making to develop effective tests using fish and other living organisms to measure and control chemical pollution.

The program to get the Federal Government to clean up its defense installations and other facilities around the country is also discussed.

The Environmental Almanac column reviews the status of the long-standing struggle between two remarkably successful predators—man and the coyote.

The magazine concludes with a report on the wide interest in a new film on drinking water safety produced with the aid of EPA funds.

EPA JOURNAL

U.S. ENVIRONMENTAL PROTECTION AGENCY

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Cover: Construction workers at new waste treatment facilities being built at Piscataway, Md., below Washington on the Potomac.

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Environmentally Speaking



Labor and EPA

by Douglas M. Costle, EPA Administrator

I came to the Environmental Protection Agency convinced of several things about our relationship with labor:

- Labor and EPA are not antagonists.
- We have important common interests and goals, and we will be more effective in achieving those by working together than by being driven apart.
- EPA is not composed of elitists concerned about issues far removed from the lives of most working men and women; to the contrary, our primary mission is to protect people from health-endangering pollutants. It is increasingly clear that a dangerous workplace environment results in an unsafe community. Hazardous pollutants harm not only workers but their families as well.
- Jobs and cleanup are *not* mutually exclusive. I want to be sure that we deliver that message and act upon the opportunities inherent in that concept.

For these reasons, I will make a major effort to increase communications with labor—to listen to and learn from labor and to tell our story as well.

We must recognize several key points, which have important implications for labor and EPA:

Environmental policy is evolving rapidly. During the early 1970's, most of EPA's activity was devoted to assimilating major legislative initiatives—particularly those in air and water—and to regulating what are now called "conventional" pollutants.

In the future, while we will continue to concentrate on enforcement of the air and water laws, we will also be placing greater emphasis on control of toxic and hazardous pollutants both through new laws and new emphases in existing laws.

Our enforcement authority has been strengthened recently by passage of the amendments to the Clean Air Act. We now are directed to impose civil penalties designed to remove the economic benefits gained from non-compliance. In the past, we were constrained by having only criminal penalties and injunctive authority—both unwieldy—to enforce against polluting stationary sources. The new noncompliance penalties should remove the incentive for companies to delay compliance believing that they can stymie EPA's enforcement efforts through litigation and shutdown threats. The United Steel Workers has expressed strong support for the penalty system, stating that now it will be harder for companies to use members'

jobs as "pawns in a game of procrastination and environmental blackmail."

The penalty policy, designed to more effectively protect public health, will also reduce harmful emissions in the workplace.

In addition, we are exploring our authority in other areas to use economic incentives and disincentives as supplementary enforcement tools.

I believe that in ten years the Agency will be driven chiefly by the need to control toxic materials in the environment. That policy impetus will have a major impact on the health and protection of this Nation's workers, who are exposed at the front line to the most hazardous of those pollutants and whose families and neighbors are at the next line. We are very concerned about the long-term health effects of occupational chemical exposures, and about the clear link between the workplace and the community. For this reason, we are working closely with Eula Bingham and The Occupational Safety and Health Administration (OSHA). For instance, we recently took joint action with OSHA to regulate DBCP, a pesticide which causes sterility and, possibly, cancer.

The Toxic Substances Control Act (TSCA), illustrates effectively our direct involvement in the protection of the health of American workers. Our first major step under that law, determining our priorities, was taken recently when a list of chemicals and groups of chemicals was recommended for testing to determine their hazard to health or the environment. Millions of workers are exposed to these chemicals, which may cause cancer, genetic damage, or other health effects. We will be cooperating closely with OSHA on testing and sharing information. Furthermore, we are involved in a cooperative effort with OSHA, the Food and Drug Administration and the Consumer Product Safety Commission to ensure maximum coordination regarding toxics. Our goal is to simplify and make more efficient the regulatory process to control toxic materials in the environment.

In addition to the high priority that will be placed on implementation of TSCA, most of our programs—water, air, solid waste, drinking water, pesticides—will concentrate increasingly on regulation of toxic and hazardous pollutants.

The third fact we must recognize is the possibility that we may be seeing a major shift in the economy, not only of the United States but of all the major industrialized nations as well. The

recovery from the recession is coming very slowly, and investment in new plant and equipment is lagging.

When managers decide to phase out facilities because they are old and uneconomic, relaxation of environmental controls will not change that reality. But it is tempting to use cleanup regulations as a red herring; it is far easier to blame such regulations for a shutdown than it is to explore the complicated myriad of economic and management reasons for such a situation. Steel is the obvious example, but the situation may be repeated to some degree in other basic industries as well.

It is generally expected that there will be less general capital investment than in the past and with the concomitant likelihood of areas of high unemployment from which basic industries have fled, EPA will address several employee protection issues:

Anti-environmental blackmail provisions exist in the air and water laws, and in TSCA. These are designed to prevent employers from making unsubstantiated claims of job losses in an attempt to avoid compliance.

In addition, anti-retaliation provisions exist in the air, water, safe drinking water and toxic substances laws (as well as in the OSHA law.) These prohibit an employer from retaliating against an employee who has helped to implement one of these laws in some way.

Finally, and perhaps, most importantly, given the current state of the economy, we are directed to study with the Labor Department a proposal for an assistance program for workers who have been dislocated due to job losses *caused* by environmental controls. Because environmental regulations are only one of many costs which may result in the shutdown of a marginal facility, the numbers of such environmental job losses may be small. Therefore, I would like us to expand the proposal and explore an environmental adjustment policy to provide adequate financial protection for displaced workers when environmental controls have played a significant—but not necessarily a determining—role in a plant closure.

It must also be recognized that environmental regulations create jobs. The facts show that more people have been employed now than would have been without the major pollution control programs. Approximately 19,000 job losses have been attributed to pollution control compared to perhaps half a million jobs that were generated because of cleanup efforts. Such jobs are generated in three ways. First, construction of equipment and plants required by environmental programs create the largest number of jobs. The greatest job-creator we have is the sewage treatment construction grants program. (In July 1976, for example, 92,000 workers were employed in on-and off-site jobs directly related to this program).

The second way in which jobs are created is in the pollution control equipment manufacturing industry. It has been estimated that 75,000 *new* jobs in this industry have been created as a result of the air and water legislation of the last few years.

Finally, many more indirect jobs are stimulated by these expenditures. Our surveys project another 300,000 jobs created for construction, installation, operation and maintenance, and research and development related to pollution controls. Tougher enforcement of operating and maintenance procedures will not only mean more jobs but will also mean decreased pollution levels at the worksite.

I want to stress that when we talk about the issue of jobs *versus* the environment we are caught in the old mindset of looking at pollution controls as unproductive, profit-decreasing

expenditures. Rather, we need to explore calculating productivity in a larger and more meaningful perspective, one that includes protection of workers' health.

The last point I want to stress is that protection of human health is a fitting and apt continuation of the progressive philosophy that historically has been the basis of the labor movement's philosophy. The natural and the social environment are closely related, and I believe that human rights translates in part to quality of life for all. That includes protection from environmental assaults on human health. We have a strong commitment to protecting the urban environment and to restoring the air and water in our urban areas to levels that are considered safe to breathe and to drink. I agree with former United Auto Worker president Leonard Woodcock, who said a few years ago: "There is today, more than ever before, a common cause between union members and environmentalists, between workers, poor people, minorities, and those seeking to protect our natural resources."

Thus, there are a number of actions that I will take regarding EPA and labor.

- There will be more direct communications with labor. In recent months, I have met with the presidents and Executive members of the United Auto Workers and the United Steel Workers. We will continue such meetings with union leaders and with the rank and file.

- We are sponsoring a series of workshops under the auspices of the Urban Environment Conference, an alliance of national labor, civil rights, and environmental organizations formed after a UAW-sponsored conference on jobs and the environment in May 1976. The workshops are being held around the Nation and will focus on all aspects of urban and workplace environmental issues.

- We have developed a compliance status survey of the steel industry. Broken down by facility, age of plant, number of employees, and product line, it should serve as an early warning system of potential problem areas, i.e. plants which are old, labor-intensive, dirty, increasingly uneconomic, and which, therefore, may be shut down.

- We will be working with labor to make information available on workers' rights and on the anti-blackmail and anti-retaliation provisions of the various laws.

- We will request labor to supply information to help implement our toxic substances program.

- We want to involve labor in the early stages of policy-making in order to make environmental regulations as responsive as possible.

I repeat, as I stated at the outset, that EPA and the labor force are not adversaries. To the contrary, we have significant shared interests and goals, which can best be achieved by cooperation and understanding. Our primary mission is to protect health, and there is a clear connection between the workplace environment and the community. Finally, it is not a question of jobs *or* the environment.

The notion of cleanup at the expense of jobs is often a red herring, and we must recognize that important fact. We have a great opportunity to form an alliance with labor, and I intend to take advantage of that opportunity. ■

Cleaning Up Produces Jobs

I hope that the labor movement and the environmentalists can move closer together.

We need to listen more closely to them and they need to understand the pressures that working people face.

—Douglas Fraser, President, UAW, Sept. 3, 1977, from *The Nation*.

Since its creation in 1970, the U.S. Environmental Protection Agency has seen its programs expand to the point where they are creating many thousands of jobs and a whole new industry in pollution control equipment.

There are signs that a number of leaders in the labor movement appreciate the role EPA is playing in providing training and employment as well as environmental cleanup. Leonard Woodcock, President Emeritus of the United Auto Workers, stressed in his keynote address at the National Action Conference at Black Lake, Mich., last year the "common cause between union members and environmentalists, between workers, poor people, minorities, and those seeking to protect our natural resources."

One of the uppermost concerns of the labor movement is jobs, and it is here that EPA is providing stimulus in a number of ways.

The most conspicuous example is the massive construction grants program for wastewater treatment plants, in which the Federal Government funds 75 percent of total costs. Originally authorized outlays of \$18 billion have resulted in employment both on and off-site across the Nation for many types of workers.

By the end of 1976, more than 2,300 federally funded sewage treatment facilities were being built. Another 412 plants had been completed with funds provided for in the 1972 Federal Water Pollution Control Act. President Carter has proposed that \$4.5 billion be appropriated this fiscal year so that the Nation can continue to move toward the goal of providing needed waste treatment facilities, with an overall commitment of \$45 billion over ten years.

This kind of funding carries with it an impressive number of jobs. Based on information from the Bureau of Labor Statistics, EPA has estimated that more than 15,000 man-years of on-site employment are generated for each \$1 billion in construction grant outlays, plus another 19,500 man-years in off-site employment, for a total of about 34,500 man-years.



There are many ways in which environmental programs create jobs. A 1974 Bureau of Census survey showed that there are more than 100,000 Federal, State, and local government jobs dealing with air and water pollution and solid waste control, excluding municipal trash collection. EPA estimates there are another 300,000 persons employed in the construction, installation, and operation and maintenance of pollution control systems. And many thousands of other jobs in the pollution control equipment industry are being created as a result of the Federal legislation of this decade.

The overall result of environmental laws, regulations, programs, research, and enforcement is that roughly 678,000 men and women are directly employed in pollution control, according to a 1977 study by the National Academy of Sciences. About 543,000 of these are technicians, skilled operators, clerical, and unskilled workers, with scientists and engineers making up the balance.

Not generally appreciated is the fact that many of these jobs are in those areas where they are especially needed. Nearly 60 percent of total U.S. requirements to meet the goals of the Water Pollution Control Act are concentrated in EPA Regions II (headquarters in New York City), III (Philadelphia), IV (Atlanta) and V (Chicago) where construction industry unemployment has ranged from 20 to 30 percent. What this means is that the EPA construction grants program is providing an economic stimulus—and will continue to do so in the future—to areas that have been suffering from serious problems in joblessness in the building trades and related types of work.

Because many environmental controls have been installed to meet various standards, the pollution control equipment industry is a rapidly growing one. According to a study by A.D. Little, Inc., approximately 75,000 jobs have come into being in the 1970's in this area of the private sector. The export of such equipment not only is bringing employment but is helping the U.S. trade balance. A global survey by the U.S. Department of Commerce shows that buyers in 18 other nations purchased in excess of \$500 million worth of air and water pollution control equipment outside their own borders in 1974 and U.S. firms accounted for about \$125 million of those sales.

Furthermore, the U.S. pollution control industry has shown itself able to weather times of economic stress. The President's Council on Environmental

Quality has called the industry "one of the relatively few areas of job strength" during the recession of 1974 and 1975, when environmental regulations prompted expenditures that would not otherwise have been made, and put people to work.

Because they represent an item in overall corporate budgets, environmental restrictions in some cases have helped to bring about unemployment. EPA operates an "early warning system" in cooperation with the Department of Labor to monitor the impact of such regulations on jobs, and since 1971 it has learned of 108 plant closings affecting approximately 19,000 employees—about one-fiftieth of one percent of the total labor force. However, many of the plants were old, marginal operations where the added expense of environmental clean-up was only one of several factors contributing to the decision to shut them down. And when contrasted with the hundreds of thousands of jobs created by environmentally-related projects, the balance sheet is clearly positive.

As President Carter declared in his 1977 environmental message to Congress:

"I believe environmental protection is consistent with a sound economy. Previous pollution control laws have generated many more jobs than they have cost. And other environmental measures whose time has come—measures like energy conservation, reclamation of strip-mined lands, and rehabilitation of our cities—will produce still more jobs, often where they are needed most. In any event, if we ignore the care of our environment, the day will eventually come when our economy suffers from that neglect."

In addition to jobs, EPA has created many training programs for men and women involved in pollution control. The significance of these cannot be underestimated in long-range planning, for without a large and well-trained body of specialists in this field, no serious effort at environmental clean-up can succeed, and with such training in the increasingly sophisticated methods of pollution controls, employees will find doors opening to better job opportunities.

Since the Agency was established in 1970, more than 36,000 persons have received operator training in the wastewater treatment plant program. In addition, 2,581 persons have received college training at both the undergraduate and graduate levels in this program. In

air pollution control, 12,557 persons have been given special short-term courses to help improve their skills and techniques and another 508 have been awarded one-year college fellowships. EPA also has provided courses and materials for the training in water supply management of many personnel across the country.

For years, EPA also has used both research and development contracts and cost-sharing grants to help industry in developing process changes offering new ways to reduce pollution. While the basic purpose of these programs is not to create jobs but to improve pollution control, the benefits have brought employment of laboratory technicians and other research and engineering personnel. Under the cost-sharing grants, for which the Federal Government provides about 35 percent of the funds, new processes have been developed that offer substantial savings in water and energy, while curbing pollution. More than \$60 million in Federal funds have supported the matching program so far.

There is a growing belief that any approach to the jobs-environment question should include a redirection of economic and public works programs into what Gus Speth, a member of the Council on Environmental Quality, has called "environmentally benign" areas.

In an address this year to the American Bar Association, Speth put it this way:

"A pro-environment policy could direct Federal job programs and other economic measures toward environmentally beneficial activities, such as rebuilding the railroads, recycling programs, the improvement of public transportation, energy conservation, the encouragement of solar energy measures, the rehabilitation of old but sound buildings, and so forth, and away from interstate highways, interceptor sewers, massive water resources projects, and energy developments—all environmentally risky and capital-intensive activities that stress limited natural resources and require large amounts of equipment and materials and only a relatively few, highly paid workers."

To achieve such a redirection of programs, it is clear that environmentalists and labor will have to heed the advice of UAW President Douglas Fraser and "move closer together." The dialogue was formally launched at the National Action Conference at Black Lake last year, where leaders of both groups voiced their concerns. The next step will be to translate this into action. ■

Environmental and Economic Justice

By Thomas R. Donahue, Executive Assistant to AFL-CIO
President George Meany

I am pleased to bring to you the good wishes of President Meany. While he is an unabashed polluter and probably a walking violation of the Clean Air Act—with that ever-present cigar—he is on the other hand an expert on conservation—insofar as that term means the preservation of a national natural resource over long, long years.

A policy statement of the trade union movement has noted that conservation of the Nation's natural resources is "a subject of the most vital importance to our people. Avariciousness on the one hand and an almost criminal carelessness on the other already have laid waste a large part of these resources. The Executive Council is instructed to assist in any legitimate movement which has for its objective this protection."

A similar convention resolution called upon the government "to provide adequate machinery and more liberal funds for the restoration and protection of our natural resources, the cleaning up of our rivers and streams and the extension of opportunity for outdoor recreation . . ."

The first of those statements was adopted by the American Federation of Labor at its convention in 1908 nearly three-quarters of a century ago commenting on the report of President Theodore Roosevelt's Inland Waterway Commission.

The second statement is dated 1929, nearly a half century ago. In the late 1940's, both the old AFL and the CIO helped to enact the first Federal water pollution control legislation.

Since the merger of the AFL and the CIO, there has been a succession of

updated Executive Council and Convention policy resolutions on the natural and human environment—but even more importantly, there have been active efforts to support legislation, policies and programs to clean up this country's dirty air and water and to deal with its vast outpouring of solid wastes.

I don't mean to pretend that the environment and its protection and enhancement have always been the prime concern of the AFL-CIO, but only to say that our concern about these matters is not new.

Let me take a minute to remind you of what the AFL-CIO is and what it is not.

It's 14.2 million people—organized in over 50,000 local unions—in 115 national unions functioning through 50 State federations and over 700 central bodies—holding over 450,000 general membership meetings a year and electing democratically over 100,000 officers every year.

Add to that the 3 plus million people represented by the UAW and Teamsters and you begin to have a sense of what

an amazingly complex and diverse institution American labor really is.

A second aspect of the labor movement to keep in mind is that it has at least two different levels of existence and functions.

There is first the level of job unionism or shop unionism—the level of basic membership participation and the level at which the expression of our unionism is largely concentrated on the job and on protection of the workers' job-related interests

The second function of the American trade unions is their social unionism.

The strongest and, I think, purest expression of that social unionism has been in the Federation's continuing espousal of the cause of the poor, the unorganized, the near non-participants in our society.

Against that background, let me set out the cardinal principles of the AFL-CIO policy statement on the environment adopted by our 1975 Convention:

1. "The AFL-CIO remains firmly committed to protecting, restoring and improving the Nation's environment. At the same time, we stand firm in our conviction that environmental policies and programs can and must be reconciled with the employment and energy requirements that are necessary to economic progress.

2. "We firmly oppose any policies or programs which would move this Nation in a disastrous no-growth posture."

I believe that some of the misunderstanding which arises between ourselves and some environmentalist organizations stems from the fact that the trade union movement looks at the problem as one which involves its members most intensely in the day-to-day problems of the human environment.

We find ourselves, more often than other groups, caught in the middle of the debate over the effect of the Nation's commitment to clean up air and



This article has been adapted from a speech by the author last year at the National Action Conference, Black Lake, Mich.

water and properly dispose of solid wastes. Environmental organizations push for policies and programs geared toward achieving ultimate goals of environmental cleanliness, often with inadequate consideration of the social and economic consequences of their proposals. Management warns us that further efforts toward cleaning up the environment would restrict economic expansion, threaten future job creation, threaten existing employment, and needlessly divert capital resources from productive purposes.

The job argument is particularly worrisome to us in the midst of high unemployment, inflation which strikes us all, and a serious long-range problem of obtaining future energy supplies.

Our own concept of the scope of environmental problems faced by Americans begins with the worker both on the job and where he lives.

Sixty million workers spend 25 percent of their active years in establishments where they may be—or are—exposed to deadly safety and health hazards—most of which are only beginning to be dealt with under the Occupational Safety and Health Law. That is our first environmental concern.

We also look at the environment and our use of it in terms of how it affects the poor who know only unemployment, bad housing, and penniless old age.

A few years ago, a young doctor working with the rural poor in the Mississippi Delta had this to say about the two views of pollution—of the poor and of the affluent—when he testified before a Congressional committee:

"For many people in poverty, particularly rural poverty, the recent national focus on the environment must seem a bitter irony. For us, the issue is not pollution, but survival—and it always has been. The rural poor have been drinking dirty water, fighting the elements, living amid society's garbage long before the Nation became concerned about the smog on Park Avenue, industrial pollution in Lake Erie or the exhaust fumes from automobiles on the Los Angeles freeways. I am not, of course, opposing that national concern. I am asking you to look at some of the environmental pictures of poverty and consider whether we are entitled to cynicism if you neglect the human environmental needs of the poor—literally—in favor of a focus on environmental quality for the affluent."

In a splendid piece in the *New York Times* magazine section, Bayard Rustin, President of the A. Philip Randolph Institute and National Chairman of Social Democrats, USA, develops the arguments against the advocates of no-growth. He says, and we in the trade union movement believe, not that "less is more" but that "less is less" for more people and less may be *nothing* for those who already have very little.

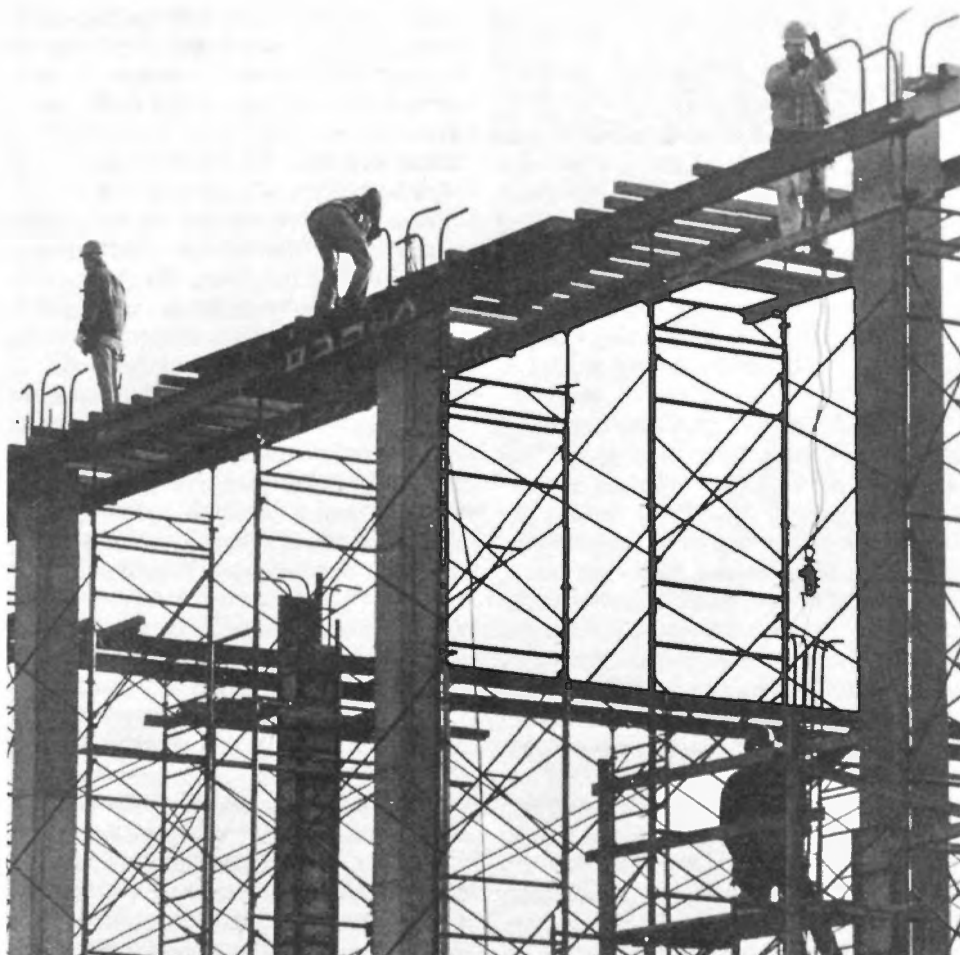
Rustin credits the environmental movement for its significant contribution to the struggle for more humane social order by forcing society to take a new look at many previously accepted patterns of economic and cultural behavior, but notes that "some in the vanguard of the environmental movement have often sought policies that are detrimental and in some cases—the growth controversy being the most significant example—destructive of the needs of those less well off."

Growth provides our ability to reduce poverty. It is a precondition for the success of manpower programs directed to the needs of the poor. It provides the resources to build the housing, supply the medical services and upgrade the schools in the inner cities. Without it, we will never mobilize domestic political support for domestic social programs, let alone for policies that offer new hope to the emerging nations.

So we trade unionists look at the environment, first as it affects the worker on the job and in the community, and secondly as it affects the poor and their aspirations.

Finally, we know that the labor movement must in fairness adjust its own view of the environment to consider that we all, as Franklin Roosevelt once said, are inextricable threads of the seamless web of life. The myriad of living creatures, including the soil, vegetation, water, and the entire life support system of this planet, its cycles and seasons, are all intricately interrelated and the disturbance of one part affects the working of the whole. The major disturbances by modern technology of this delicate balance have proceeded uncontrolled to where it is a matter of national and global concern. Every worker must share this concern because pollution casts its dark shadow over his life, his family's, and those of succeeding generations. But he can only be asked to interest himself in the big picture if everyone else is willing to interest themselves in his narrow, highly personal, job problem.

continued on page 26



Workers' Environmental Protection

Interview with Dr. Irving Selikoff, Director, Environmental Sciences Laboratory, Mt. Sinai School of Medicine, City University of New York.

Q: *Dr. Selikoff, can you suggest anything the American worker can do himself to lower the risks to his health from environmental pollutants?*

A: Let me quote Thomas Legge, chief health inspector and a specialist in lead poisoning in England, 67 years ago. He said: "Until the employer has done everything possible, the worker can do nothing."

The problem is compounded by another factor—and the Occupational Safety and Health Administration is grappling with it, too—until we know what the hazards are, the worker can do nothing.

Clearly, the worker is—as we all are—in the difficult position of not being able to do anything about something of which he is ignorant. It would have been impossible for a vinyl chloride polymerization worker to consider what he could do for himself without knowing that there was a significant hazard with regard to vinyl chloride, until the cancer risk was discovered. He might have been concerned to protect himself against very heavy exposures (after all, these could even cause unconsciousness) but he would not have known that he had to protect himself at very low levels.

Secondly, it would be impossible for him to have protected himself if the company didn't have adequate maintenance in the plant, adequate exhaust systems, adequate work practices with regard to reactor cleaning. I suspect, therefore, that the question is really, what we can all do—the worker, industry, and the agencies—that would protect the worker.

The trade unions are very sensitive about this question, and properly so. They consider that stress on what the worker can do for himself is sometimes used as a "cop-out" on the part of those who have ultimate responsibility.



Irving J. Selikoff, M.D., is Professor of Medicine and Director of the Environmental Health Sciences Center of the Mount Sinai School of Medicine, the City University of New York. A past President of the New York Academy of Sciences, he is a widely recognized specialist on health effects of asbestos.

For example, not too many years ago it was commonplace to suggest that workers use respirator devices to protect themselves against toxic dust in lieu of adequate industrial hygiene precautions, despite the fact that these devices are inappropriate to solve a dust problem, except for specific circumstances, such as breakdowns, temporary exposures, and unusual situations. Industrial hygiene engineering controls of the dust source is much to be preferred.

This is also true if we were to translate it into classic EPA terms. What can residents around a chemical plant do to protect themselves? They can do very little unless industry takes appropriate precautions against environmental contamination. EPA recognizes this by in-

sisting that the industry take these precautions. We don't depend upon residents around a facility protecting themselves.

One might even point to the recent situation in Rockville, Maryland, with contamination of areas following the use of asbestos-content crushed rock. What could children do to protect themselves if their school yard was covered with that crushed rock, releasing asbestos fibers into the air? They could do very little. What could drivers do on roads which were surfaced with such crushed rock? Very little. Keep the windows closed? I don't think that's adequate. In contrast, I am impressed with what the county administration has been doing to correct the situation, repaving the roads. They are not depending upon the individual who may not know of the hazard, or, if he knew, could do very little.

In a brake repair and brake maintenance shop, the worker can do very little if the air hoses are blowing out the dust into the garage air rather than vacuuming it into a container. One might say, "Well, the worker can do something for himself. He can insist on appropriate precautions." Sometimes he can insist himself out of a job. That is a fact of life. That's why we have Government agencies, why we have EPA and OSHA. And why they have such important roles and important functions.

Q: *Do you think any new legislation is needed to protect the public from what has been called a major cancer epidemic?*

A: I think that, by and large, legislation has been following fairly closely on the heels of scientific data. Legislation inevitably suffers from a lag between the discovery of problems and the regulatory mechanisms that society sets in place to cope with them. I am impressed with how much has been done by our

Congress in the past decade. Consider: EPA was only set in place in 1970; OSHA has been actually functioning only since 1971; the Toxic Substances Control Act, only since January 1977. I think public interest groups have made an important contribution—not merely in what is generally attributed to them, prodding, but by assisting in the development of the approaches that have been codified in the Toxic Substances Control Act and the Occupational Safety and Health Act, and in the Executive Order that established EPA, and similar legislation.

Q: How does the United States compare with other countries in environmental protection of workers and the general public?

A: From my experiences around the world, I doubt whether we or our country has much of which to boast. Nevertheless, comparatively, I believe that we now lead the world in institutionalizing social decision-making with regard to what we do about environmental hazards. We haven't really lagged very much behind the science of the problem, which has been halting and meager in the past. Consider that this year is only the tenth anniversary of the National Institute of Environmental Health Sciences, which has been providing the basic research in many areas concerned with the environment, both occupational and community. I am not a pessimist. We have a host of problems, but I think that we are approaching them with good sense and vigor. We have some reason for optimism, the most important being that we are beginning to identify what our problems really are.

Environmental cancer is, for example, in terms of recognition, rather new. Its development had to await the establishment of the necessary approaches for its analysis and evaluation. We didn't simply have to identify agents in the environment that might cause cancer, but also to develop means for studying the risk with which they might be associated, in quantitative terms wherever possible.

Determining what to do with the data then becomes social decisions. Scientists can participate in the discussions, but a major voice must be those who would suffer the risks, workers or people in affected community environments. Quantitative data are critically needed for their evaluation, as for that of industry, labor, regulatory agencies, and others. If something will cause one cancer per 200 million people we might

do one thing; if it will cause one cancer per one thousand people, we would certainly do another.

The development of methods needed to provide such quantitative information is required. Epidemiological techniques needed to study large groups of people are only recently with us. I say large groups of people because, in general, environmental agents are present at low levels, over the long term. At low levels, unless the agent is extraordinarily powerful, it will affect only a small percentage of people. Such a small percentage from a statistical point of view, demands a large body of experience to get reliable data. The epidemiological approaches that would allow study of large numbers of people are not all that old. One good example is the American Cancer Society's studies concerning cigarette smoking, in which one million people have been followed since 1959. Obviously this would have been impossible before the computer.

Q: Do you think there should be a greater shift from cancer treatment to cancer prevention?

A: Cancer treatment is also important. I don't believe this is an "either/or" situation. Remember that our identification of environmental or occupational carcinogens allows us, if we have the will, to protect the next generation of workers or public exposed in the environment. But what of those already exposed? What of those doomed to die of bladder cancer because of past exposure to beta naphthylamine or benzidine? What of those likely to die of angiosarcoma of the liver because of past exposure to vinyl chloride? What of those who will die of mesothelioma, because of past exposure to asbestos? Or those destined to develop lung cancer because of our ignorance in the past concerning the hazards associated with coke oven work? Or those who will get leukemia because of undue benzene exposure? These people deserve, at the least, everything we can possibly do in order for us to atone—if I could use a word of that type—for our ignorance, our inattention, our unconcern, in the past. Therefore, treatment of cancer remains an important obligation.

And perspectives for treatment are by no means hopeless. Our colleagues in cancer therapy have made very useful strides; witness melanoma and Hodgkin's Disease. Both in the workplace, and in the environment in general, there is now the urgent problem of surveillance and management and treatment of

high-risk groups—people who inadvertently were exposed in the past to agents which we now know places them at increased risk of developing cancer in the future. At present, there is little surveillance or care for them. I consider this a social lapse and I strongly urge that attention be devoted to this as rapidly as is possible.

Q: Can you give examples of which groups of workers were exposed in the past to cancer-causing pollutants?

A: We have identified occupational or environmental carcinogens by having studied the health experience of groups of people. These are the very people now at risk. We can identify those who worked in the past with asbestos—as in shipyards—or who worked near coke ovens, with nickel, with chromates, with arsenic, with vinyl chloride, with bis-chloromethyl ether, or other toxic substances. These people we know are now at risk. There is a tissue imprint that places them at much greater risk than the rest of us of getting cancer in the future.

Men and women worked with beta naphthylamine, or benzidine. Nobody is following their cases, looking at their urine, to see if there are cancer cells present. Bladder cancer is often a curable disease, if diagnosed early. Surveillance has not been instituted for such early diagnosis.

We are minimizing rather than maximizing our chance of properly controlling what we know is going to happen in a proportion of these people, sometimes a very high proportion. Seven to ten percent of all asbestos workers will die of mesothelioma. Twenty percent, one out of every five, of those who were regularly working with asbestos in the past, are likely to die in the future of lung cancer. The Public Health Service estimates that there are one million men and women in the United States who are now regularly working with asbestos or who in the past were asbestos workers and who retired or went on to other jobs. If their experience is the same as those asbestos workers who have been so far studied, twenty percent will die of lung cancer. One of five—200,000 in the next forty or fifty years. We can save some of these lives, by early diagnosis. Not all. I don't know what proportion we can save, but surely some. Therefore, the whole question of surveillance of groups now at high risk of cancer in the future is a problem of urgent concern.

Continued on next page

THE WORKER AND ENVIRONMENTAL PROTECTION

Relying on the usual methods of workers fending for themselves is ineffective. In one group of asbestos workers, of 59 lung cancer cases seen in a small group of 1,249 asbestos workers, from 1963 to 1975, 57 died. Of 31 mesotheliomas, 31 are dead. There is, in my opinion a social obligation to try to help these people. How we meet it is a matter for urgent review by industry, which has responsibility, by labor, which has responsibility, and by government representing society.

Q: *Do you think we need a new "cancer-prevention" agency at the Federal level, or is the division of responsibility among OSHA, EPA, HEW, and so on the best way to handle the problem?*

A: I am not enthusiastic about fragmenting science. Cancer is part of biology. I don't believe we should fragment scientific research more than is currently inevitable.

However, in terms of practical problems, there may be reason for something like this approach, in long-term surveillance in one or another agency. This perhaps should be now considered in the national health planning that is going on in Senator Kennedy's committee and elsewhere. Basic research with regard to environmental cancer has been until now largely the burden of the National Institute of Environmental Health Sciences, but that has been limited to research. We should continue that, but go beyond in terms of management and surveillance, and this cannot be the charge of National Institute of Environmental Health Sciences.

The American Cancer Society also has important interest in environmental cancer. For the past 15 years it has been almost a voice in the wilderness with its major attention to problems such as smoking, asbestos, vinyl chloride, and other occupational carcinogens in its Environmental Cancer Research Project—the joint program of the Cancer Society and our laboratory, devoted to this—and the American Cancer Society will not only continue this but is expanding such concerns. This has been under Dr. E. C. Hammond and myself.

But the American Cancer Society does not and cannot fulfill the new role that is needed: what to do with the information that is being obtained. There is going to be much more; we are only at the beginning of the collection of much critical information. The governmental agencies have a unique responsi-

bility now of what to do with that data, including development of surveillance approaches, in which labor and industry will be involved.

The identification of the causes of environmental cancer and occupational cancer permit the next question to be asked: What can we do about it? Our problem is ultimately how to prevent disease. It's only in the last ten to twenty years that we have had this opportunity. We couldn't advise people not to smoke cigarettes until we knew what the effects were of cigarette smoking. We couldn't determine how vinyl chloride should be polymerized until we knew what the hazards were. So that these are good problems, uncomfortable ones, but good ones. EPA will probably always have an uncomfortable existence but a good one, because it meets problems, but simultaneously then contributes to their solution.

Q: *Do you think EPA needs more authority than it now has?*

A: Let me speak as a scientist. EPA should have all the authority and legal wherewithal to look to the correction of the conditions that scientists will identify. So that ultimately the law that is needed depends upon the science that's provided. To that extent, scientists are concerned with the law and are concerned with the capacity that EPA has, or doesn't have. But once the science and the problems are defined, I believe the expertise of your legal and administrative people will have to determine whether their authority is adequate for the problems. There are unity and inter-

action, correlation between scientists and legal and administrative staff. There is symbiosis, based upon joint concern with an ultimate solution.

Q: *Do you feel the Delaney amendment to the Food and Drug Act prohibiting the addition of any known carcinogen to food, thereby creating situations like the saccharin ban, should be modified?*

A: I have yet to see anything with the saccharin situation that has led me to identify a better approach than the Delaney clause. The Delaney clause is really a statement that, in the present state of our ignorance, we cannot make definitive, data-based qualitative or quantitative decisions concerning carcinogenic agents. It is sometimes said that the clause does not permit scientific judgment. This is an error. FDA is required to scientifically evaluate whether data are adequate to determine if a food additive is a carcinogen, if experiments were properly done, for example. Their judgment is needed. Once they determine that the substance can cause cancer, however, they no longer can exercise judgment on whether or not it is to be allowed in food, or how much, if any—a decision neither they nor anyone else at present can make with certainty.

The Delaney clause speaks to the insufficiency of scientific information, rather than to the obtuseness of administrators. One day, perhaps, science will be able to tell us better whether this or that agent will or will not be associated with cancer in humans. At the moment it is difficult, in the absence of epidemiological information. We do not yet have a sure bridge between animal observations and infallible prediction of subsequent human disease.

Q: *Is asbestos still a problem in the workplace or have we taken proper controls against it?*

A: In many places much has been done to decrease the risk of asbestos disease. In some places very little has been done. To the extent that we haven't done enough even in the "good places," we should complete that job, and where there has been very little done, we have to be extraordinarily vigorous in obtaining rapid control. This is a potentially deadly exposure. Controls are known. Not using them bears an inevitable, irreversible risk and it is essential to complete the translation of scientific information into the social positions needed to minimize and prevent disease. Measures for asbestos control are now social decisions, no longer scientific ones. ■



Environmental Jobs for Minorities

Unemployment in the Northeastern United States is at epidemic proportions among minorities. A front-page story in the Washington Post, ironically appearing over Labor Day weekend this year, noted that joblessness nationwide among blacks reached 14.5 percent in August, as high as it has been for any month since World War II. Among black teenagers, it reached 40.4 percent compared to about 15 percent for white teenagers.

The situation in some respects is even worse in the Northeast. According to U.S. Labor Department figures, unemployment among minority teenagers in 1976 in Baltimore reached 49.6 percent, in Philadelphia 47.2 percent, and in New York City 44 percent. Joblessness for all minorities, both teenage and adult, was 19.2 percent in Philadelphia last year.

One of the positive benefits of environmental cleanup, as detailed elsewhere in this issue of EPA Journal, is the creation of hundreds of thousands of jobs to help meet new environmental standards. The construction grants program, the pollution control industry, and related areas are all stimulating demand for labor—skilled, unskilled, laboratory technicians, air sampling specialists, and building trades workers.

The problem is that in the environmental field as elsewhere, minorities have thus far failed to get their fair share of jobs. Many are unaware of opportunities in environmental work. Others lack appropriate skills. And many in inner cities still consider environment a special preserve of suburbanites or are simply uninterested in the subject because so many other concerns are pressing in on them.

To meet this challenge, EPA has awarded a grant to the National Urban League to conduct a field survey of current environmental job recruitment and training programs in six cities along the so-called "Bos-Wash Corridor:" Boston, New York, Newark, Philadelphia, Baltimore, and Washington, D.C.

The project will have four major objectives:

- Develop a strategy for future recruit-

ment and training of minorities in para-professional, skilled, and semi-skilled jobs in the environmental protection field.

- Find out how many now have jobs in the public and private sectors as a result of EPA programs.
- Forecast employment in the construction grants program.
- Document the findings of the study and its proposed strategy with a slide-show or videotape.

Urban League project manager of the \$62,000 job opportunities study is Paul Danels, a member of the executive board of the New York City Council on the Environment and the Regional Advisory Council to the New York State Department of Environmental Conservation. He also is chairman of the Citizen's Advisory Committee to the New York Areawide 208 Project. Michael G. Moore, a manpower development specialist in the Office of Federal Activities, is EPA project officer administering the grant.

The Urban League is intimately familiar with inner city minority problems. A non-profit community service agency, the League was founded in 1910 to

secure equal opportunity for blacks and other minorities. It has long been active in employment, training and labor affairs, problems of the minority aged, education, housing, health, child care, and related social concerns. It functions through 109 affiliated Urban Leagues in major U.S. cities.

The League has extensive experience in identifying job opportunities and removing barriers for minority citizens seeking employment. It is currently operating the Community Urban Environment project (CUE) through a grant from the U.S. Department of Health, Education and Welfare/Office of Environmental Education. CUE is preparing a training program to develop a minority interest in environmental issues. The Urban League's research department also is conducting an 18-month study for the U.S. Department of Housing and Urban Development of job development strategies that have effectively increased employment opportunities for disadvantaged groups in inner cities. The study will focus on local jobs that can be created using Community Block Grant funds.

"It appears to me," commented Oscar McCrary, research director of the League's Environmental Jobs Opportunity Study, "that the study for EPA should find a wealth of employment opportunities exist in the fields of air and water pollution control and solid waste at the professional and subprofessional level.

"What does this mean for minorities? As more industries conform to legislation such as the Federal Water Pollution Control Act and the Clean Air Act, and therefore use pollution abatement equipment, more jobs will become available. It appears that what will be needed are on-the-job and vocational training, possibly training at the community college level, and a continued expansion of apprenticeship programs much like those that the League administers in its Labor Education Advancement Program (LEAP)," he said.

The findings and recommendations of the study will be completed December 15, 1977. ■



A Union's Fight for Clean Air

By Frank Corrado

When he was a kid growing up in Hammond, Ind., in the shadow of the steel mills, Mike Olszanski got tired of his father's constant talk about trade unionism.

"He talked union all the time, so when I got a little older I rebelled. I thought he was full of it. But then I went to work in the mills. I found he was right, as usual."

Olszanski, age 32, was remembering his younger days before he took on the responsibility as a father, and as a union official with Local 1010 of the United Steelworkers, which was meeting this late October Saturday morning in a downtown Chicago hotel with other locals that comprise the big Chicago - Indiana District 31.

"They don't make them like my dad anymore," he went on. "He was an active trade unionist. He always went to meetings, but never really aspired to be a union officer. Now, most people that go to union meetings today are just looking for something themselves. We're getting complacent."

That rebellious nature of Mike Olszanski was showing through again. But it may come with the territory. Olszanski after all does belong to District 31, that produced Eddie Sadlowski, unsuccessful challenger last year in the battle to succeed I.W. Abel, retiring president of the Steelworkers union.

The big issue at this Saturday morning meeting was the outlook for the American steel industry itself, currently pressing its case for government help in the wake of sagging production and increased plant layoffs.

"Our situation at Inland is better than most," said Olszanski. "Inland has a modernized plant, only one plant, so they can't really move. Anyway, the company's been ahead of the pack. It's very profitable and there have been only a few layoffs. It's not at all like the rest of the mills."

"But our workers are concerned for the long term and we're concerned for our brothers and sisters in other mills. And we're not buying what the companies say. Trouble is you don't know



Mike Olszanski and his children

whether to believe them. None of them are ever willing to open the books."

Not only is he a strong union man like his father, but Olszanski is also an unabashed environmentalist.

Besides being a shop steward in the Inland's cold strip mill at and on the executive board of Local 1010, Olszanski is chairman of the Local's unique environmental committee.

"Our first priority is the coke plant situation at Inland. There may not be a coke battery in the country that meets Occupational Safety and Health Agency standards." The committee participated in negotiations between EPA's Region V and Inland over coke battery problems, which eventually resulted in consent decrees. "We felt we ought to be participating in those meetings to make sure there were no closed-door deals."

Olszanski's committee, which has about 30 members, then went on to bring the coke battery issue into last year's contract negotiations with Inland. "We had 20 pages on coke plants in our demands," says Olszanski. "We wanted increased crew sizes for operation and maintenance, also incentives tied to reduction in emissions."

But the Company turned down the union's solution.

"Steelworkers should analyze the companies they work for, find out how far they can push for environmental cleanup. You obviously couldn't push pollution controls at a plant that's got a lot of problems like Youngstown. But, if you've got the facts, they can't black-mail you."

Olszanski is taking the message of union activism in environmental cleanup

beyond Local 1010. "We've asked for a 'Department of Environmental Protection' to be set up by the International in Pittsburgh. We need someone for liaison to EPA."

Olszanski through District 31 is also working with Region V in pulling together a series of meetings with locals throughout the Midwest. It's an attempt to explain new provisions of the Clean Air Act, to encourage participation in enforcement activities, and to establish environmental committees in other locals.

Olszanski comes on strong, young, smart, and aggressive. But he didn't get into the union's inner councils easily. "I lost in union elections so many times that I finally told my wife 'I'll just hang it up.' She said 'No you won't.' I was really surprised because all this union stuff had been a strain on the marriage. But Barbara supported me and I made it."

Olszanski in many ways is a younger version of the current District 31 chief, Jim Balonoff, who took over the district after just a year as president of the Local, when Sadlowski gave up the District 31 job to run against Lloyd McBride for union president.

Olszanski says of Balonoff: "Jim was the first district director in the steelworkers union to really take a hard look at environmental issues. District 31 has really pioneered in going after coke plant emissions. Without his support we could never have got this environmental thing off the ground."

Like many steelworkers in Northwest Indiana, Olszanski has moved out of Hammond looking for a rural environment for his children Sally, 10, and Robert, 11. "I guess I ran away from the problems in Hammond," he admits, "but now I'm living in an area facing the problems of suburban development."

Like his father, Olszanski sees his future tied to the union.

"In the mills you don't have any respect without the union. You're at the mercy of the boss without the union. There's no job security without the union. I remember when I was younger, working for a little supply house. One day the boss's kid gets out of high school and wants my job. He got it." ■

Frank Corrado is Director, Public and Inter-Governmental Affairs, Region V.

Urban Workshops

Nearly a dozen regional workshops on the general subject of environment, jobs, and the economy are being held around the Nation as the result of a grant by the Environmental Protection Agency to the Urban Environment Conference, Inc.

The workshops are an outgrowth of the National Action Conference on Jobs and the Environment held at Black Lake, Mich., in May, 1976, under sponsorship of the United Auto Workers. The 1977 workshops are aimed at encouraging participation by labor, minority and environmental groups as well as the general public in environmental programs of EPA and other agencies.

The grant, totalling \$66,300, was awarded in January 1977 and the project extends through the end of this year.

Back in 1971 the late Senator Philip Hart of Michigan urged representatives of environmental, labor and minority groups to work more closely to achieve goals they held in common. Largely as a result of his influence and initiative, the Urban Environment Conference was created and has served since then as a meeting ground for such organizations. They have continued to work on identifying and advancing mutual interests in environmental and occupational health, pollution control, public transportation, land use and other issues.

Co-chairing the UEC are Rafe Pomerance, associate legislative director of the Friends of the Earth and Coordinator of the National Clean Air Coalition, and Franklin Wallick, editor of the United Auto Workers' *Washington Report*. George Coling is coordinator of UEC. Its 14-member board of directors represents a number of groups dealing with labor, minorities, and civil rights issues.

At press time for this issue of EPA Journal, workshops under the EPA grant had been held in Illinois, California, Texas, Iowa, North Carolina, Ohio, and Minnesota. In November and December other workshops were scheduled in New Jersey, Louisiana, Nebraska, and Pennsylvania.

In a recent article on jobs and environment, *Business Week* declared:

"For years, industry has had one ace

in the hole in battling Environmental Protection Agency regulations. It could almost routinely count on the support of labor unions simply by threatening to shut down plants and eliminate jobs if antipollution rules were too onerous."

But the magazine noted that a truce may be in the making between unions and environmentalists, and cited labor's recent support of legislation such as the Toxic Substances Control Act as an example.

Actually such support is not altogether new. The United Steelworkers and the UAW, for example, helped to lead the "Breathers' Lobby" that agitated for clean air legislation back in the 1960's.

However, the Black Lake conference last year has been widely accepted as a significant turning point in union-environmentalist relations, a meeting where representatives of both interests realized that they needed to cooperate on achieving social objectives. "It demonstrated," Coling told the magazine, "that there are a lot of myths built up as barriers, but it showed that these myths could be overcome and the groups could work together."

One of the most heavily attended and successful EPA-funded workshops was held in San Francisco October 5, under auspices of David Jenkins & Associates for the Longshoremen's Union and Sierra Club. The tone was established by Mike McCloskey of the Sierra Club, who declared, "Environmental protection cannot be made at the cost of social justice; similarly, social justice cannot be made at the expense of environmental justice."

Although there was general recognition by participants that labor and environmentalists would sometimes be in conflict in the future and pursue separate paths, they also would find grounds for mutual support. McCloskey cited, for example, his organization's support of protection of farmworkers from pesticides and protection of coal miners from black lung disease, as well as the Humphrey-Hawkins bill for full employment and job relocation of those workers affected by factory shutdowns.

San Francisco Mayor George Moscone, who opened the conference, said

that based on his experience, bringing together labor, environmentalists and community leaders had usually resulted in viable solutions to civic problems. He cited the nearby Yerba Buena development project as an example of how these constituencies could work together.

In a statement on the EPA grant, the Urban Environment Conference noted that a number of participants in the Black Lake Conference had subsequently begun efforts at the local and State level to reach better understanding between unions and environmental groups. The new EPA-UEC project, it emphasized, is complementing these activities.

The regional workshop schedule for November and December included meetings in Cleveland sponsored by the Northern Ohio Lung Association on "Environmental Regulations and Their Effect on Ohio's Economy" Nov. 2-3; in Minneapolis sponsored by the Metro Clean Air Committee and the American Lung Association of Hennepin County on "People, Jobs and the Environment" Nov. 5; in New Orleans sponsored by the American Lung Association of Louisiana on "Environment and Economy: Conflict?" Nov. 11-12; in Morristown, N.J. sponsored by the New Jersey Conservation Foundation on "Environmental and Economic Health" Nov. 17-18; in Omaha sponsored by the Franklin Community Federal Credit Union on "Response to Environmental Issues—A Forum" Nov. 19; and in Philadelphia sponsored by the Public Interest Law Center of Philadelphia on "Jobs, Environment and Community Action" Dec. 3.

Some of the conferences have succeeded in establishing regular communications between urban, labor and environmental groups. One outcome of the workshop held October 29 in Durham, N.C. for example, was a decision by the North Carolina Public Interest Research Group, which sponsored the conference, and the Raleigh unit of the Communications Workers of America to publish jointly a monthly newsletter on jobs and environment, as well as agreement to hold quarterly meetings on the subject in the future. ■

NEW DIRECTIONS IN THE AIR PROGRAM

Interview with David G. Hawkins, Assistant Administrator for Air and Waste Management

Q: *What is your assessment of the new Clean Air Act?*

HAWKINS: It's a very ambitious piece of legislation. It is going to require Federal, State, and local pollution control agencies to devote a tremendous amount of effort to the task at hand—a large task.

I happen to think that the State and local agencies are going to need more funding and I think that additional funding is going to have to come from all levels of government including from the State and local governments, which run those agencies.

In addition, I think that the Governors' offices are going to have to be increasingly involved in the issue of air pollution control, because the solution to the problem is not confined just to the air pollution control agencies.

Total solutions to air pollution, we're discovering, are not available simply by slapping a piece of control equipment on an industrial smokestack or an automobile exhaust pipe. Instead patterns of development and transportation have to be examined.

So a great deal of information regarding the whole area of growth management needs to be acquired and used for air quality purposes, as well as for other environmental and social purposes. This is something that State air pollution control agencies are not going to be able to do alone.

Q: *Where are we now on the transportation control plans for cities with special air pollution problems?*

HAWKINS: As you know, the Agency published a large number of those plans back in 1972 and 1973, but in most areas things have been pretty much stalemated since then. I hope to be able to do something positive about this. One reason for the stalemate was that Congress had been debating amendments to the Clean Air Act for several years. Now they've completed those amendments and the new Act sets up a schedule for developing plans to attain the air quality standards.

Those plans are going to require attainment of clean air standards by no later than 1982 with a possible extension up until 1987 for some pollutants. We think there will be some cities which will need extensions until 1987.



Dave Hawkins, Assistant Administrator for Air and Waste Management and a frequent bicycle commuter, arrives for work at EPA Headquarters on a rainy day.

With the 10-year planning frame that the new Act permits, cities ought to be able to do a great many things in terms of improving public transportation. And that's really what transportation control programs are all about: improving public transportation and other forms of transportation so that there are alternatives to simply going to work and doing errands in a car all by yourself.

Q: *Talking about transportation, is it true that you bike to work three days a week?*

HAWKINS: I have a bike locker here and I bike as often as possible. Some weeks it's three days, some weeks it may only be one day, but I try to do it and I enjoy it. And it's certainly true that I haven't used my automobile parking space since I've been at EPA because I don't drive to work.

Q: *Will biking be encouraged as a useful alternative means of transportation?*

HAWKINS: Every time surveys are conducted in various areas of the country people indicate that they would ride their bicycles more if they had safe bike lanes and safe places to store their bikes once they got to where they were going. So I think much can be done to encourage bicycling. The Federal Government, for example, provides a lot of parking spaces at a very nominal cost to automobile drivers. As far as I know EPA is one of the few agencies that provides safe storage for bicycles.

Q: *What made you decide to give up your position with the Natural Resources Defense Council to come to EPA?*

HAWKINS: This was not an easy decision. The way I felt about it was that if a person familiar with the substantive area of air pollution control and deeply committed to cleaning up the air was not willing to come to the Government agency which was supposed to have the responsibility for doing that, then the whole subject was kind of a depressing one, because the Agency would be deprived of the people that cared most about the issue. So I felt that this was an agency that had a mission that I believed in and I wanted to try to work at forwarding that mission.

Q: *Do you anticipate we'll ever see the day when the Nation's Capital won't be shrouded with smog, as it was this past summer for example?*

HAWKINS: I hope so. The problem of smog in most of our major metropolitan areas is going to be one of the programs of highest priority. We know now that with a coordinated program to attack hydrocarbon emissions, we can greatly improve air quality, and greatly reduce the number of days during which we have bad air pollution problems.

And I hope that smog will be something we can look back on and say, "Remember when almost every day was hazy during the summer?" And when we're looking back, I hope we can at the time be enjoying a large number of days that aren't hazy. It used to be that way in the past, and I think it should become that way in the future.

Q: *Are you satisfied with the prevention of significant deterioration measures in the Clean Air Act?*

HAWKINS: Yes, I think Congress made a very good set of compromises in developing the significant deterioration section. It also will require a good deal of work, but there is a blueprint

there for keeping the skies blue. I'm very anxious to try to make that work, and I think we can do it without causing the economy to grind to a halt, without interfering with well-balanced growth.

Q: *Why is EPA planning on lowering its miles-per-gallon new car figures next year?*

HAWKINS: We want to make sure that the miles-per-gallon figures are believable. We think that the public has got to feel that they can rely on these numbers. Now that raises the point of the way in which the public should rely on these numbers.

They never were intended to be and they shouldn't be used as an absolute guarantee of the mileage that your car will deliver. Instead they are relative numbers. To really make the best use of these numbers, you have to look at the numbers for three or four different types of cars. The car that you're interested in will be either high, low, or in the middle of that group.

We'll be exploring a number of alternatives; we'll be trying to get the public's involvement in our study by having public hearings on this. But as I say, the primary aim is to adjust the numbers in a way that makes them more believable.

Q: *Do you see an inherent contradiction between more fuel efficient cars and cars which produce less pollution, as some auto manufacturers have suggested?*

HAWKINS: No, I don't, and I think that most auto manufacturers are no longer suggesting this in the strong terms they used to because they have experienced fuel economy improvements in recent years in spite of improving the emissions performance.

If we're after transportation that moves us with minimum fuel use, as well as with minimum pollution of the air, then we should be willing to change the technology so as to achieve both of those purposes. I don't think we have to accept trade-offs between fuel economy and emissions control.

Q: *Are we going to see sealed carburetors in the future?*

HAWKINS: The Agency is going to be proposing regulations to reduce the effect on emissions which certain adjustable auto components can have. And while I'm not an expert on everything that's under the hood, my understanding is that companies have, in fact, started to produce sealed carburetors and might well want to go that way to a greater extent in the future. So that may be one of several options that they will explore in order to minimize the problems that adjustable components cause in terms of air quality, emissions, and fuel economy.

Q: *If we could cure pollution caused by motor vehicles, how much of an air pollution problem would we have left in this country?*

HAWKINS: Although autos do account for most air pollution, we'd still have a large problem. In many areas, stationary sources of hydrocarbons are very large contributors to the air quality problem. The Gulf Coast States are an example of that. They would still have significant problems, even with no automobile emissions.

Other problems such as sulfur dioxide and total suspended particulates are also caused by stationary sources. The problems of sulfates are of increasing concern in the Midwest and Northeast.

Q: *From time to time reports circulate regarding the danger of new emissions of various sorts coming from catalytic converters. Would you comment on this?*

HAWKINS: These reports are something that I take very seriously, and I want to make sure that we have advance knowledge of any potential problems. I think we have done a pretty good job of that in recent years.

But in addition we need to follow up on any reports that may come out after the fact. There were reports, for example, of palladium emissions from catalytic converters being a possible

concern. We have found that there is apparently no cause for concern in this area. The tests that we have done show that the concentrations of palladium are almost undetectable, they're so low.

But we're going to do additional analyses to confirm this conclusion, and we'll definitely act if we need to in order to make sure that there is no problem from that element or any other element or compound that would be associated with the emission control technology.

One of the things that the new Clean Air Amendments do is to strengthen our authority and responsibility for assessing the possible side effects of pollution control technology.

Q: *Doesn't the Clean Air Act give smelters a very liberal amount of time for cleaning up?*

HAWKINS: Whether it's "liberal" depends on what your views are about whether they deserve it or not.

I personally think that it is a long period of time, and I think that it may well create air quality problems in those areas during that time. It may well tend to stifle technological innovations which would otherwise have occurred. So I think it was a fairly generous solution for the smelter industry.

Q: *As the Nation moves towards coal as an energy source, will we jeopardize our clean air efforts?*

HAWKINS: We need not jeopardize our clean air efforts if we pay attention to what we're doing. If we don't pay close attention to it, then we could have problems. Coal can be burned fairly cleanly, but if we don't require clean combustion, there's no reason to suspect that we will get clean combustion.

We've got to make sure that we require the types of technology that are available to burn coal cleanly, make sure that technology is operated and maintained in a way that emissions are minimized, and make sure that we are dealing with some of the broader issues such as the total emissions to the atmosphere of sulphur dioxides and particulate matter. We must also learn in a timely fashion about the issue of carbon dioxide.

Q: *A recent General Accounting Office report was quite critical of our radiation program. Do you have any comment on this report and what EPA is going to do about it?*

HAWKINS: I read a preliminary draft of that report and I would agree it was quite critical. The radiation program has provided comments to the GAO staff that worked on that report. The GAO staff is assessing those comments now, and whether our comments will help them prepare a report which reflects the good things the program is doing, as well as the sources of concern, is something that you and I will learn when we see the next copy of the report.

But I didn't come to this Agency with any instinct to automatically defend every program that is here. The people that I have met in the Agency have impressed me as very good people, and I have faith that they desire and intend to do a good job. But I'm not going to stop listening to comments from the outside and criticisms from the outside whether they come from the GAO or environmental organizations or from industry.

Q: *Are you satisfied with the progress being made in the noise program?*

HAWKINS: I think the noise program is doing a very good job with the resources that it has, but for me to say that I'm completely satisfied would not be accurate because it would indicate that I felt the country was doing enough to control noise pollution. And I don't think that is the case.

I think that the country could do more to wake up to the fact that noise is a significant environmental problem, one which disturbs a great many people, one which presents possible adverse health effects, and which makes the quality of life generally lower in areas where most people live. ■

THE THREE E's ECONOMICS, ENERGY, ENVIRONMENT

by Joan Martin Nicholson

We are hearing with increasing frequency about how the networks of nature are interrelated, interdependent, interconnected. How one's waste product becomes another's source of food. How one's grave can become another's womb. How one person's today can make possible another's tomorrow. However, the legacy of our industry/technology oriented society has been to think of systems and knowledge as *separate*.

The western tradition has been to view problem-solving as a linear process—with a beginning and end. Yet, natural systems which support all our actions interlock in cycles. I am often amused at posters which say "The Environment—Protect It." In fact, it protects us—it makes our very existence possible. Our western ways seem intent on destroying the interlocking biotic systems upon which all is dependent. If all people, not just the naturalists, better understood nature's patterns, we would see the obvious need to revise our human systems of housing, feeding, transporting, and educating people, to cite some examples. For we would choose to interconnect our systems and nature in mutually supportive ways. In the long run this proves to be the most effective in conserving natural resources, and economically viable.

Because of how we look at systems, we look at the energy crisis, inflation, unemployment, etc., as *separate* and only sporadically connected problems. We play the game of poker in trying to find solutions, which is the wrong game with the wrong objective, to win the round. We should be playing chess!—using long term strategies.

The challenge now, is to be able to make long term assessments in a time frame that is rapidly shrinking. Time for

problem-solving was much longer when population, the level of production, and consumer needs were less.

Today we are to focus on the interrelationships between economics, energy and the environment. It is a complex web. It is difficult for us, with our day-to-day concerns, to get a handle on how they relate. Furthermore, we must look at these three issues very differently than we presently do.

We aren't going to make any meaningful progress in resolving our economic, energy and environmental problems unless we recognize the folly of regarding environmental, economic and energy matters as antithetical to each other.

To begin with, the natural systems of the environment are the basis of the economic activity which makes energy necessary. Land, air and water resources are the underpinnings to all human activities. Our energy resources were created by the interplay of natural environmental systems. The production of food and fiber, the basis of our economic system, is totally dependent on these natural systems. Given this, the challenge we all face, and must recognize, is *how to strike a compatible balance between human activities and the sustaining capacity of natural environmental systems*. That challenge forces us to redefine the problems and to devise new ways of solving them. If we fail to do this, we are jeopardizing our jobs, our food supply, our health and all other matters critical to our lives in the long term.

A cancer map of the United States illustrates how the high incidence of cancer correlates with heavy industrial and high population areas. The long belt of chemical plants and petroleum refineries in New Jersey is called "Cancer Alley." In many cities the quality of the air equates with smoking a pack of cigarettes a day. These two examples point out the cost to human beings

of sacrificing the environment for economic priorities.

We are the most energy-intensive society in the world. While we constitute only about six percent of the world's population, we consume more than one-third of the total energy output. Thirty years ago Buckminster Fuller estimated that the average American had, at his beck and call, the energy equivalent of 153 people in terms of human energy; based on fossil fuel energy, each person now has the equivalent of 400 people.

Current estimates about how long fossil fuel supplies will last are a confusing array of predictions. Nevertheless, we recognize the fact these fossil fuels are finite. Less well recognized is the fact that *so are the environmental* systems that produced these fuels—the airsheds, watershed, and land resources.

Many contend that to have a strong economy we must have a large energy supply to support jobs. Yet, over the last six years we have used more energy than ever but unemployment has not dropped in proportion to the energy consumed. Meanwhile, increasing medical costs during this time reflect in part, an increase in pollution.

The irony is that until very recent times, water, land and air were *free commodities*. Now we not only are paying increased medical bills, but increases in taxes to reclaim air and water.

It is very difficult to comprehend why we have changed from designing systems which took advantage of the free support of natural systems to those that don't. Specifically, look at the buildings we design. We spend millions of dollars in creating engineering systems to cool buildings and circulate air. We use a lot of energy in the cooling process. Windows no longer open to take advantage of natural air currents. The sun's patterns could reduce costs considerably if we used heat and light from the sun more effectively.

Cleaner, healthier air; quieter, less congested cities; clean rivers and lakes; adequate open space, particularly in our

Excerpted from a speech by Joan Martin Nicholson, Director of EPA's Office of Public Awareness, at the University of Illinois, Champaign, Ill., Oct. 21, 1977.

cities; and intelligent land use attract people to communities. And people make economic gain possible.

The city of Denver is a perfect example of how economic and environmental matters relate. Fifteen years ago it appeared that everybody in the east was moving to Denver. The reasons given were clean air, recreational opportunities, clean water and lower living costs. Fifteen years later, West Coast papers are reporting that some people are beginning to leave Denver. They now find the air too polluted for their health. Downtown congestion and increasing costs for municipal services including water supply are all problems facing Denver. Do we really have a choice between jobs or an environment?

Las Vegas has pumped so much water out of the ground for drinking and irrigation that some land areas in outlying areas have dropped four feet in the last twenty years, opening large cracks and posing a possible future threat to the hotels, casinos and other big buildings downtown.

A recent Harris Poll indicated that the American people recognize their stake in protecting the environment.

Most Americans now "would rather live in an environment that is clean rather than in an area with a lot of jobs," according to the poll.

Environmental programs do not stop or retard economic growth. It is pollution—not its control—that limits growth. Each natural system can absorb and convert only a limited amount of pollution.

We must operate within this pollution allowance. When we exceed this allowance, it becomes enormously difficult to reclaim the system so that it can sustain people.

Until recently, corporate institutions had not included, as within their concern, an assessment of environmental systems or the pollution allowance. Corporate institutions have based their policies on the economics of production and marketing. Their employees are rewarded for increasing production and marketing activities. But there is no institutional mechanism which rewards corporate employees for practicing environmental protection. There is no mechanism that gives a company manager points for guaranteeing that the environmental systems on which corporate activity depend will continue to be viable. Short term gains reflected in annual reports tend to preempt long range planning in the same way that our election practices do.

Then there is the problem of capital funds for environmental protection. Today money is expensive. Corporations go to money markets for funds to spend on environmental protection. This expenditure is designated, in the corporate world, as a nonproductive expenditure; that is, capital not used to generate more products or demand. Furthermore, the corporation must pay interest on the loan it took out to meet environmental standards. Is it lost capital? A nonproductive expense? It depends on which pocket you're looking into! Does the expenditure not benefit corporate



economic growth? To build a water treatment system or an air scrubber system requires materials and creates jobs. Standard Oil of California recently announced an addition of 500 new jobs that were environmentally related. Jobs mean more money in more people's pockets and that money may well mean that the employed consumer may better be able to afford the very products that the corporation is marketing. In fact, capital expenditures for environmental protection generate not only jobs, but a new source for the consumer's ability to spend.

If you or I went into a factory and started slugging away with a sledge hammer at its delicate equipment—we would be locked up. But, in fact, too many corporate production practices slug away at the very delicate mechanisms of nature which are the basis of corporate productivity. And when natural systems become so contaminated that people must pay higher local and State taxes to clean them up, then they have less to spend as consumers. And what about higher health insurance premiums both the corporation and consumer must pay: lost production time because of illness, higher municipal and State taxes; greater energy needs to obtain potable water; damaged soils

from nearby farms—our food banks; lost recreational use of rivers and beaches; the loss of community income from recreation-related employment?

These are debits we all incur when we look at energy, economics and environment as unrelated and separate. The World Bank is looking at these matters of relatedness through the concept of additionality—a concept that adds on the economics of protecting host nations from destroying their environment as well as cultural fabric.

Corporations worry that the consumer will not pay the added cost of pollution control or that then competitors will not make equal control expenditures. This is why we need national standards.

Let's look at a head of lettuce. The price of the head of lettuce includes the cost of spraying the lettuce with a pesticide. But it does *not* include the cost that I, in ten years, could face if the pesticide residue gives me cancer. How many unrecognized debts because of cancer, sterility and other ill effects caused by pollutants are consumers assuming? We do not know! How much better if the costs were visible and reflected the expense of caring for the health and welfare of the consumer and the environment. To pay for the protection of our natural systems which in turn supports economic and human welfare generates capital back to the corporations to help underwrite their expenditures for pollution control. The cost of pollution protection also encourages the development of closed production systems which generate less pollution and use less energy.

How we use energy has profound effects on both the environment and economics. As we turn to increased strip mining, oil from shale production, and use nuclear power, we must be certain that environmental systems can continue to support production activities such as farming, fishing, tourism, etc. How sound is it to pick cherries in Oregon, ship them to New Jersey to be dyed red, formerly with #2 dye which is cancer producing, then ship these same cherries back to Los Angeles for packaging and distribution? How many hydrocarbons does interstate trucking spew in the air? What do those cherries cost by the time they reach the consumer? How much does the farmer get? It would be interesting to assess the real cost.

When we focus on economic expediency and ignore environmental considerations, we may be denying ourselves

Continued on next page

THE THREE E'S

a stable job future by creating "false bottom" needs. A false bottom need is created when millions of dollars are spent to convince people they need a product that they don't really require. For instance the promotion of redwood decks or redwood patio furniture. Cedars grow readily among the redwoods. However, harvesting cedars requires selective cutting and means many small pieces of wood. So the cedars are sprayed with herbicides and the more profitable redwoods are cultivated. But redwoods don't grow fast enough, and reforestation programs on land owned by the timber industry are not sufficient to meet the "public" demand. Hence the appeal of redwoods on public lands. Many jobs were created by "false needs" marketing based on redwoods. These jobs are now in jeopardy as we decide redwood public lands should be protected to preserve airsheds and watersheds as well as for scenic beauty.

Paper diapers are turning out to be a mixed—and costly—blessing. Plastic-lined paper diapers are overloading the capacity of community waste treatment facilities, running up costs as well as energy consumption.

We are just beginning to come to grips with the economic and environmental effects of toxic chemicals. EPA's Administrator, Douglas M. Costle, has pointed out that the United States produces some 30,000 different chemical compounds. Every year about 1,000 new chemicals are introduced into American commerce, often without sufficient knowledge of how they will affect people or the natural environmental systems. We've created jobs based on these compounds. And too often the people in the factory making them or in the field applying them face health risk and/or a job loss risk—a sad dilemma.

Tris and polyvinyl chloride were around for years before we learned that they were carcinogenic. PCB, the electrical insulating material developed in the 1930's, promises to be another environmental and therefore economic disaster. Production of PCB's stopped last year, but the experts at EPA tell me PCB's will continue to seep slowly into our rivers and streams for the next 20 to 30 years. According to the U.S. *News and World Report*, the total product value of PCB's was about \$475 million. That's a lot of money, until you compare it with the damage PCB's inflict in poisoned fish, cancer bills and contaminated water.

Continued use of PCB's would have

virtually wiped out commercial fishing in the Great Lakes, an industry taking in about \$100 million a year. A consultant to the Department of Environmental Protection in New York reported that it would cost about \$150 million to clean up the PCB's from a short, 36-mile segment of the Hudson River. And yet, we say: Economics or the Environment!

Look at the damage done by kepone to the James River and the fisheries of Chesapeake Bay—a body of water described by H. L. Mencken as the world's largest protein factory.

The selection of Gross National Product (GNP) as a main criterion for evaluating the Nation's economic health has served to mislead the public on energy and employment issues.

GNP is the market value of all goods and services produced in the economy over the course of a year. *As far as GNP is concerned, everything that costs money is considered a benefit.* GNP includes expenditures for desirable



items—such as for energy, housing, education, food, etc., but without taking into account whether they are made available efficiently or safely. GNP also includes costs of items not generally considered as production: disease treatment, pollution clean-up, weapons production and sales, wars, as well as unemployment insurance, workmen's compensation, welfare payments, etc.

Some analysts believe that the only part of the GNP which is actually increasing these days is that part created by the costs of pollution, environmental degradation and human suffering caused by wasteful, inefficient and dangerous methods of production (especially of energy).

A recent Harris poll has indicated that a growing number of people believe the quality of life has generally deteriorated over the past decade. But the GNP has been increasing, despite some temporary decreases in "growth" rates during the '74-75 recession. Thus, al-

though individuals believe the quality of life has gotten worse, according to the GNP, the economy has gotten bigger and better.

By any measure you care to make, a bankrupt environment ultimately leads to a bankrupt economy.

We are fortunate that change is always an option of the future. As we look to the future is interrelating the "Three E's" pie-in-the-sky dreaming?

If I have a job as a housekeeper, and I have accumulated three large bags of trash in cleaning my house, what would people think if I took those three bags of trash and put them on my next door neighbor's porch and then rang the bell and said, "These bags of debris have come from doing my job. It is your responsibility to get rid of them"? This, in fact, has been the mentality of the old frontier. Today, there is a new frontier. A frontier of technology, integrated systems, and the challenge of designing new processes.

History is replete with powerful civilizations which were destroyed by neglecting the natural environmental systems which supported them.

Educators have a tremendous opportunity—and responsibility—to synthesize knowledge, to get it out of the convenient boxes of academic disciplines, to have knowledge relate to people in their communities, to introduce humanism to science and technology.

We need to design systems and products which:

1. Avoid damage to the natural environment.
2. Lead to a reduced consumption of finite natural resources including energy resources.
3. Encourage the use of materials which can be recycled within the natural systems or within our industrial systems.
4. Avoid planned obsolescence.
5. Are sensitive to employment needs, abilities and opportunities.
6. Are cost competitive in the marketplace.

There are no limits to growth, to innovation, to creativity, to the human spirit. The limits are to space, to waste, to how long we confront issues the same old way. For the first time, in the history of our species, we cannot foul our nest and move on. We have to remain where we are—in our urban decay—in our suburban sprawl, or our poisoned land, by our contaminated streams. We must integrate our ways with nature, for the bill has come due. Paying it is the real challenge of the seventies and the eighties. ■

CRACKDOWN ON FEDERAL AGENCIES

“As you know, over the past few years EPA personnel have been negotiating with the managers of your Federal facilities to correct pollution problems . . . yet these installations continue to be in violation . . . For our part, we would like to cooperate with you in any way possible to bring about prompt resolution of these problems and avoid judicial action.”

—EPA Deputy Administrator Barbara Blum, in a letter to heads of polluting Federal agencies.

The U.S. Environmental Protection Agency has launched a cleanup program directed at a large and persistent polluter, the Federal Government.

Deputy Administrator Barbara Blum has notified eleven agencies that immediate action must be taken to assure that Federal facilities meet the same air and water pollution requirements applied to private industry and municipalities. The eleven include the Departments of Army, Navy, Air Force, Energy, Interior, Agriculture, and Justice, the Veterans Administration, the National Aeronautics and Space Administration, the General Services Administration, and the Defense Logistics Agency.

In calling for compliance with all applicable requirements of the Clean Air Act and the Federal Water Pollution Control Act, Blum identified 77 “major” Federal water pollution sources and 71 “major” Federal air pollution sources currently out of compliance with the law. She further identified among those facilities a list of the most serious non-compliers which EPA believes require special priority action. There were 18 facilities on this latter list, most of which are operated by the military.

“EPA will use all means at its disposal, including the possibility of judicial action, to secure prompt compliance from Federal facilities,” Blum stated. “I have discussed this problem with the Office of Management and Budget and they agree that while past attempts to correct these problems were not always effective, we now must get on with the job and assure prompt compliance.

“The Office of Management and Budget is totally supportive in this effort, and the Federal agencies involved should request the necessary cleanup funds in their Fiscal 1979 requests.”

Peter Cook, Acting Director of EPA's Office of Federal Activities, which is

managing the Federal facilities cleanup program, said that he hopes the air quality at non-complying Federal facilities can be brought into compliance by 1979, the deadline set by the Clean Air Act. “With regard to water, we hope to see compliance as soon as possible, because that legal deadline has passed,” Cook said.

“If a Federal agency does not take the actions necessary for compliance consistent with the law, the case may be referred to the Justice Department, just as it would be for any offending industrial or municipal facility. We hope that we are successful in expediting solutions to these pollution problems so that type of action won't become necessary.”

Jeffrey G. Miller, EPA's Deputy Assistant Administrator for Water Enforcement, said, “The water enforcement aspect of the Federal facilities cleanup campaign is complicated by amendments to the Federal Water Pollution Control Act now pending in Congress. The amendments would provide a variety of different compliance deadline extensions for facilities which missed the 1977 deadline. Many of the Federal facilities now in question would not fit into any of those categories for exemption, and thus such enforcement action as an Administrative Order or civil action is a possibility. This scenario could entail possible civil penalties.”

Richard D. Wilson, Deputy Assistant Administrator for General Enforcement, which includes air quality enforcement, said, “if a cleanup schedule for meeting the 1979 delayed-compliance order deadline set in the Clean Air Act is not formulated and acted on, we are mandated to go to court and obtain an appropriate schedule by court decree. The law also provides for civil penalties, and it is possible such penalties could be imposed.”

Case examples of some of the most serious non-compliers include:

- The Chanute Air Force Base, Rantoul, Ill., where the heating plant requires particulate removal equipment. Also, equipment to control emissions of aircraft fire-fighting training activities is needed. Controls for fire-fighting activities are to be installed by December 1979. Installation of the particulate removal equipment for the heating plant is scheduled to be completed by June 1983.

- The Charleston Navy Yard, Charleston, S.C., has coal-fired boilers which are out of compliance. Construction of pollution control equipment is underway; however, anticipated date for the completion of this construction has slipped to December 1979, because of a lack of funds. Anticipated compliance date is early 1980.

- The Energy Research and Development Administration's Savannah River Plant, S.C., has 16 coal-fired boilers violating standards for particulates. One electro-static precipitator has been installed. The facility is planning to use cyclone collectors through 1981; however, plans are currently in the design stage. The construction funds have not been budgeted. Anticipated date for attaining compliance is December, 1978.

- Army Infantry Center, Fort Benning, Ga. Sanitary waste from the facility is out of compliance with water standards. An upgrade of the secondary treatment plant is in the preliminary design stage. Anticipated date for compliance is 1980.

- Bureau of Reclamation's (Department of Interior) Mine Draining Tunnel, Leadville, Colo. Mine drainage must be treated before being discharged into the Arkansas River. Congress has authorized funds to (1) rehabilitate 1,000 feet of the tunnel which is near a highway and a hill that is settling and (2) study the water quality problem. It appears that it will take two years and additional funds to correct the pollution problem. ■

AROUND THE NATION



auto inspection

One of Region I's top priorities is to seek passage of auto inspection and maintenance programs in Connecticut and Massachusetts in 1978. Both States failed to act in 1977 on bills that would set up a program to ensure that car pollution control systems are working properly. Region I has held a workshop for Connecticut legislators on inspection programs and has funded an information program for the State. Administrator Costle has warned Connecticut that failure to act on auto inspection would compel EPA to step in and arrange for establishment of such a system. A training workshop on auto inspection has been scheduled for Massachusetts legislators in early 1978.

open door

William Adams, Region I administrator, has a new program he calls "Open Door Time." Every other Tuesday Adams sets aside time to meet with individuals or representatives of groups affected by EPA regulations. The person-to-person sessions have been effective in improving communications between the Agency and people like industrial and labor leaders, environmental advocates, citizen group leaders, and educators. Adams sees "Open Door Time" as a chance for him to learn about outside activities, as well as a chance to discuss EPA policy with the people whose lives are changed by it.



cleanup activities

Region II is treating and removing oil and chemical wastes from the property of Pollution Abatement Services in Oswego, N. Y. under an injunction from the U.S. District Court. The company has been ordered to pay the cost of removing pollutants from a million-gallon lined storage lagoon and a 20,000-gallon lined pit. Wastes stored there had been overflowing and leaching into Wine Creek, which flows into Lake Ontario. EPA sought the court injunction when the company failed to correct conditions that led to recurring pollution incidents in 1976.

anti-tampering fine

As a result of EPA's investigation of citizen complaints, Otis Ford, Inc. of Quogue, N. Y., has agreed to pay a \$4,000 civil penalty for disconnecting parts of the pollution control systems of two automobiles. A similar case involving a N.J. dealership recently resulted in a \$2,000 fine.



quiet, please

The Nation's first Quiet Community Program is under way in Allentown, Pa., to demonstrate a comprehensive approach to noise reduction. With advice from EPA, the Allentown city government will enact new local ordinances to control noise and tighten enforcement of existing laws. Allentown was chosen to initiate the program because the residents and city government showed an interest in solving noise problems, and an EPA study showed that most of the noise problems could be solved by local efforts. The Quiet Community Program will include nine other communities during the next two years.

water primacy

The Commonwealth of Virginia, through its Department of Health, is the first State in Region III to assume primary enforcement responsibility under the Federal Safe Drinking Water Act. Virginia is the 12th State in the Nation to achieve primacy. Pennsylvania is the only State in Region III that is not expected to assume this responsibility.

dumping decline

Region III has issued an interim ocean dumping permit to the City of Philadelphia that allows disposal of sewage sludge 35 miles off the Delaware-Maryland coast until June 4, 1978. The amount of solids to be dumped has been reduced from 140 million pounds to 95 million pounds and requires a complete end to ocean dumping by 1981. It was issued by Region III Administrator Jack J. Schramm because of Philadelphia's lack of land-based alternatives to handle the sludge.



fish warning

John C. White, Region IV Administrator, issued a "don't eat" warning after channel catfish from the Tennessee River in the vicinity of the U.S. Army's Redstone Arsenal were found to contain more than 400 parts per million of DDT. The Food and Drug Administration's DDT tolerance for fish is 5 parts per million. Olin Chemical Corp., which produced DDT in nearby Huntsville, Ala., between 1947 and 1971, buried stores of the chemical on 67 acres leased from the Army after the chemical was banned by EPA. Officials believe that heavy rains eroded the area, washing the chemical into tributaries of the Tennessee River. EPA is meeting with FDA, the State of Alabama, and the Army to find ways to eliminate the DDT.



city fined

The City of Chicago has been assessed a civil penalty of \$56,000 for violations of Federal unleaded gas regulations, by the Region V Enforcement Division. The violations, cited by Regional Enforcement Director James O. McDonald, involve eight cars used by the City Fire Department that are equipped with catalytic converters and are certified for use with unleaded gas. The cars have been driven since July, 1977, using leaded gas, which, while not affecting engine performance, destroys the catalytic converter and substantially increases the pollutants in the car's exhaust. The penalty can be mitigated by replacing the damaged

catalytic converters and switching back to unleaded gas.

grants record

The Region V Construction Grants branch has obligated close to a record \$1.5 million in Fiscal Year 1977 for construction of sewage treatment plants, more than any other region since the program began. According to Todd Cayer, regional Construction Grants Chief, the funds are set as follows: Illinois, \$331 million; Indiana, \$257 million; Michigan, \$276 million; Minnesota, \$79.3 million; Ohio, \$433 million; and Wisconsin, \$107.2 million.

states run permits

Region V has delegated to all its States the responsibility for administering the wastewater discharge permit system. The transfer was completed when EPA Administrator Douglas M. Costle authorized Illinois to issue permits on October 23.



permit violations

Region VI has served administrative orders against the Marathon Oil Co., Garyville, La., and the City of Monticello, Ark., for violations of their wastewater discharge permits.

burning gas well

The Surveillance and Analysis Division of Region VI reported no surface pollution from a burning gas well of the Transco Exploration Co. off the Gulf Coast. The well, which caught fire October 1, was burning gas and condensate. A relief well, to bring the fire under control, was expected to be completed by late November.

new office

An Office of Environmental Policy has been formed in Region VI to define and adjust policies and develop strategies for implementation. The new staff will assess environmental and energy matters in conjunction with other Federal agencies and State and local officials, design programs to increase EPA effectiveness, coordinate plans for environmental activities, and guide information plans.

dump hearing

Attorneys for the Gulf Coast Fishermen's Environmental Defense Fund and the Freeport Shrimp Association have asked EPA for an adjudicatory hearing on Ethyl Cor-

poration's application for a three-year permit to dump waste sodium-calcium sludge into the Gulf of Mexico.



pesticide plan

Region VII held a public hearing in Lincoln, Neb. Sept. 7 to review the reasons for disapproving the State plan for the certification of pesticide applicators. The basis of the intended disapproval was that Nebraska does not have adequate statutory or regulatory authority.

monitoring testimony

Ed Stigall, of Region VII's Surveillance and Analysis Division, testified before the Subcommittee on Environment and the Atmosphere; House Committee of Science and Technology. The committee is investigating the feasibility of a national environmental monitoring network for toxic and carcinogenic chemicals in the environment. Representatives from Regions II and IX also testified.



applicators certified

Region VIII held a two-day review seminar and examination session for pesticide applicators in Denver, Colo., in early October. It was the first Federal examination session of its kind to be held in this country. Other sessions to certify pesticide applicators were slated for Grand Junction, Durango, Alamosa, Sterling, and Pueblo later in the month.



Region IX reports high public interest in EPA's undersea study of steel drums filled with radioactive wastes just outside the Golden Gate Bridge. Over 50 press inquiries on this subject came in during one day.

Dave Calkins, Director of Region IX's Office of External Relations, observed, "We have to face the fact that actions which may not rate high from the standpoint of the Agency's overall national goals and priorities are often the ones which attract the greatest public attention. Radiation, like cancer, is a trigger word in the public mind. Public interest is aroused at the mere mention of the word, particularly when something so dramatic as a dive under the sea, into a burial ground for over 47,000 casks filled with radioactive wastes, is involved."



effluent limits

A U.S. District Court judge has upheld EPA's contention that three Washington State pulp mills must comply with State-issued waste discharge permits. The mills, ITT Rayonier at Port Angeles, Scott Paper Co. at Everett, and Georgia-Pacific at Beltingham, are among the few major pulp mills in Region X that failed to meet the July deadline for providing the equivalent of secondary treatment for their wastes.

survey continues

In EPA's continuing survey of Oregon public drinking water supplies, 7 of 65 communities have showed excessive bacteriological contamination. Operators of those systems were told to issue "boil water" notices to their customers. Region X assumed responsibility for enforcement of the Safe Drinking Water Act when Oregon cut the funding for State inspectors who had been conducting the survey.

seattle air

Monitors carrying portable pulse pumps on their backs sampled the air in downtown Seattle during October to learn how much carbon monoxide pedestrians are breathing. An EPA contractor made the survey to find out if carbon monoxide was more widespread than indicated by the "hot spots" noted by stationary monitoring equipment. The results of the survey are expected shortly.

FISH DETECT TOXICS

by Kheryn Klubnikin

EPA's regions and laboratories throughout the country are working together to develop tests measuring the response of fish, flies, and other living organisms to various degrees of toxicity. They believe the tests can be quick, effective methods of measuring and predicting chemical pollution.

Chemical wastes are usually unknown mixtures of a wide variety of compounds. Often, multiple forms of the same chemical are present in the same effluent. In such a mixture they may become highly reactive and when dumped into water, may form new toxic substances.

Dr. Donald Mount, Director of EPA's Environmental Research Lab in Duluth, Minnesota, explains, "We have also learned that these forms can change, sometimes rather rapidly, and sometimes in unexpected ways into other forms which are highly toxic. Sometimes this change may occur long after the discharge has been made, at a far distant location."

Another problem with waste mixtures is that even after they have received required treatment, many undetected toxic substances may remain.

EPA is responsible for restoring and maintaining the cleanliness of the Nation's waterways under the amended Federal Water Pollution Control Act of 1972. One of the greatest challenges now facing the Agency is the development of quick and reliable ways to assess the biological effects of toxic chemicals. Historically, waste samples from industries or cities have been subjected to lengthy, and costly, chemical analyses. But these tests reveal little about the effects of complex chemical mixtures on living systems—the effects we are most concerned about. The magnitude and complexity of everyday industrial wastes underscore the need for not only accurate measurements of biological effects, but also for a method of predicting situations that could threaten

human health and seriously damage the environment.

The use of bioassay tests as water quality tools is relatively new. However, it has long been known that many of the lower organisms, such as bacteria, certain algae, oysters, shrimp, and fish are very sensitive to low concentrations of toxic substances in water. In some instances, small concentrations could actually kill the organisms, while in others they cause harm, such as delayed reproduction in shrimp or coughing in fish. Yet, many of these animals are difficult to raise or keep alive in a laboratory situation.

At the Western Fish Toxicology Laboratory in Corvallis, Oregon, researchers have found that salmon, for instance, will die in the presence of heavy metals such as cadmium, in concentrations as low as one part per billion. Moreover, caddis flies, part of the salmon diet, are even more sensitive to cadmium. This trait can be extremely valuable to biologists as a "red flag" signaling the presence of toxic substances. Most importantly, an organism will provide an accurate measure of the biological effects of mixtures of chemicals, something an analysis of a single water sample can't supply.

Among the most well-developed bioassay equipment being used by EPA is the Portable Bioassay Unit. EPA's

Region IV in Atlanta began monitoring industrial effluents with the Portable Bioassay Unit three-and-one-half years ago. Essentially, the Unit is a laboratory on wheels. A trailer is outfitted with equipment that will pump the effluent through tanks inside, automatically dilute it to different concentrations, and monitor acidity, temperature, conductivity, and biological oxygen demand (B.O.D.).

The animals being tested vary, depending on whether the effluent is discharged into fresh or salt water. Bluegill sunfish and a small invertebrate called a water flea are exposed to the effluent in fresh water, while in salt water sheepshead minnows and possum shrimp are used. Several different kinds of animals are tested, as well as organisms representing different positions in the food chain. According to Bill Peltier, aquatic biologist with EPA's Athens, Ga., Environmental Research Laboratory, the animals are chosen because they respond to toxic chemicals and are easily raised in a laboratory.

There are three units of the same type in Region IV. When EPA decides

Jim Anderson, of EPA's National Enforcement Investigation Center in Denver, at work in the mobile lab testing wastes at South Charleston, W. Va.



Kheryn Klubnikin worked for EPA as a student assistant last summer.

to check a company's effluent the units are brought to the stream or water body.

The Federal Water Pollution Control Act directs EPA to require the owner or operator of any point source to install, use, and maintain equipment to monitor its effluents. This may include the use of biological monitoring methods. In addition, the Act says the Agency "shall have a right to entry to, upon, or through any premises in which an effluent source is located. . . ." and "may at reasonable times have access to and copy any records, inspect any monitoring equipment or method . . . and sample any effluent . . ." As a matter of courtesy, and because of the logistics involved, the firm is notified in advance that EPA will enter the premises. The entire test procedure takes six days. The organisms are allowed to get used to the water to be tested for 48 hours. Then they are tested in effluent flowing through the trailer for 96 hours. The researchers look for what is referred to as "acute toxicity"—the effluent concentrations at which 50 percent of the organisms in a tank die within a relatively short time period, usually 96 hours. This allows scientists to set a "safe level" of discharge, where serious biological damage presumably would not occur. In several cases, a Portable Bioassay Unit has been used to correct acute toxicity in industrial wastes.

For example, a chemical company in Tennessee had complied with the requirements of its discharge permit. Yet bioassays revealed extremely acute toxicity in its discharge. Organisms were dying in very low effluent concentrations. The bioassay team found sixty organic chemicals in the water. The discharge permit had only mentioned four. Many of the chemicals were deg-

radation products which formed once the mixture had hit the water. The company was notified and EPA worked with the company in making the necessary corrections within the manufacturing process. According to Peltier, the quality of the effluent has improved substantially and the company has installed its own biomonitoring system.

Chemical discharges can kill lower organisms, but they may affect people in other ways. Organic chemicals can cause genetic mutations, or over a long period can harm human health. For instance, mercury can cause blindness and damage nerves.

A number of bioassays to measure these effects, and to determine the chemical concentrations that cause them, are being developed. A device called a "four channel physiograph" is being used by Bob Drummond and Richard W. Carlson of EPA's Environmental Research Lab in Duluth, Minn. to see why fish "cough" in the presence of toxic substances. Fish are sensitive to changes in water quality. Their behavior as well as their physiology can be affected by minute concentrations of chemicals.

Drummond and Carlson have found that low levels of toxics irritate the gills of fathead minnows. The fish respond by coughing. Coughing becomes more frequent with an increase in chemical stress. Electrodes are placed in the tank and the coughs are picked up and recorded by the machine on a graph. This particular test is promising because it occurs in different kinds of fish such as trout, salmon, and bluegill sunfish, and can be used to predict long-term adverse effects. It is also rapid, sensitive, and relatively cheap.

A four-channel physiograph is also being used in one of Region IV's Porta-

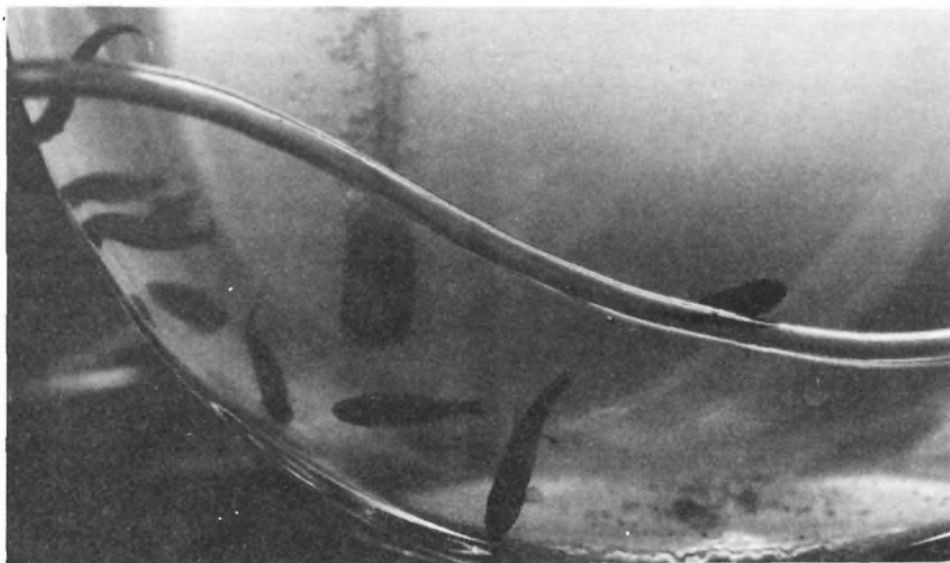
ble Bioassay Units. Researchers in the Duluth Laboratory, and the Environmental Research Laboratory in Gulf Breeze, Fla., are also working on assaying the effects of toxic chemicals on the entire life cycle of sheepshead minnows and possum shrimp. Certain portions of each life cycle are very sensitive to the presence of chemical substances. If these stages can be identified, they will be useful tools for predicting effects.

Another technique being applied at EPA's National Enforcement Investigation Center in Denver uses avoidance chambers. Fish are placed in holding tanks and confronted with chambers containing different chemical dilutions. The fish avoid chemical concentrations that are irritating or damaging. In this way, the maximum chemical concentrations that can be tolerated are measured. Still another test looks for the effects of organophosphates on the nervous systems of fish. The stream effluent is pumped through a Portable Bioassay Unit and after exposure the bioassay team checks for a certain enzyme in the brain. In this test the fish are suspended in cages. Organophosphates inhibit this enzyme, so if the stream is polluted, it will be reflected in the fish's brain. This is also a rapid, sensitive test.

Bioassays are emerging as invaluable tools which will help EPA achieve the goal of preserving the quality of the Nation's waterways as set forth in the Federal Water Pollution Control Act. They evaluate the biological effects of chemical wastes at relatively little cost. "Properly employed by people with a reasonable amount of experience, such tests can tell us much about the characteristics of effluents at a cost that is far below what it costs to do detailed chemical analysis," said Dr. Mount. "Because there is almost an infinite number of mixtures and discharges which we need to assess, it is clear that the approach must be one of utilizing simple, short tests that can be applied to a large number of situations." A bioassay, however, is not a panacea. Chemical tests must still be used along with the organisms.

The impact of only a handful of chemicals is really well known. In regulating and cleaning up the chemical "soup" being formed every day, we will have to use flies, fish, shrimp and a host of other organisms, as "red-flags" of the dangers of pollution. ■

The reaction of these tiny fish to effluents carried into the tank by the tube in the foreground will help indicate the level of pollution in the waste discharge.



PEOPLE



Eckardt C. Beck, EPA Region II Administrator, has been selected by President Carter for an additional role: Chairperson of the Region II Federal Regional Council.

Such Councils exist in each of the ten Federal regions across the country to coordinate activities among major agencies. They are charged with improving intergovernmental relations and assuring coordinated and consistent response to problems which cut across departmental lines in the areas they serve.

The Federal Regional Council is composed of the regional heads of the Departments of Agriculture; Commerce; Energy; Health, Education, and Welfare; Housing and Urban Development; Interior; Labor, and Transportation, as well as the Community Services Administration and EPA.

"I intend to carry out the President's directive to open the Federal Government to local officials and to the people," Beck said in accepting the appointment. "We will reach out in every way possible to learn from those outside the Federal Government what needs to be done."

Paul Elston has joined the Office of Planning and Management as Acting Deputy Assistant Administrator for Resources Management and as Associate to the Assistant Administrator, William Drayton.

"Paul understands the technical dimension of our work, is thoroughly expert in managing budgets, knows the substance of most of our programs, has some familiarity with health issues, and has both municipal and State backgrounds," Dray-

ton said.

Elston, who holds a Master's in Business Administration from Harvard, began his professional career in New York's Bureau of the Budget when John Lindsay was mayor. From the Bureau he moved to several major line management jobs for the City, including Assistant Commissioner of the Department of Employment, where he shares credit for a highly successful rat control program.

Elston then moved to Albany to work for Governor Hugh Carey as First Deputy Commissioner of New York State's Department of Environmental Conservation. After leaving the Department, he served as Deputy Director of New York State's Division of the Budget.



Kathleen Callahan has been appointed Chief of the Planning and Evaluation Branch in Region II. She began her EPA career as an analyst in the Region's Enforcement Division back in June 1971 immediately after graduation with a B.A. in Psychology from New York City's Hunter College. Callahan was previously program analyst in Planning and Evaluation. As Chief, she is responsible for coordination and development of the Region's work plans and budgets and works closely with Regional program offices and Financial Management.

Gladys L. Harris, citizen activities officer for EPA's Office of Solid Waste, has been installed as the first woman president of the Virginia Division of the Izaak Walton League of America. The Virginia Division is the League's second largest with some 6,300 members. Harris succeeds Hensel T. Smith, be-



Dr. Stephen J. Gage, Assistant Administrator for Research and Development, spoke at the dedication of EPA's new \$1-million Environmental Research Aquatic Toxicological Laboratory at Gulf Breeze, Fla., in October. Seated on the platform, from left to right, are **Deputy Administrator Barbara Blum**; **Dr. Steven Reznick**, acting Deputy Assistant Administrator for Energy, Minerals and Industry; **Cong. Robert L. F. (Bob) Sikes**, and **Dr. Delbert S. Barth**, Deputy Assistant Administrator for the Office of Health and Ecological Effects. "With these new laboratory facilities," Dr. Gage explained, "the Gulf Breeze scientists will be able to determine the effects

of toxic pollutants on aquatic animals under conditions closely resembling those in the real world."

In her remarks, Blum presented a visiting delegation of Soviet scientists to the audience.

"Your attendance here today is truly symbolic of the international importance of this laboratory," she told them.

Staffed by approximately 80 employees, the new facility will be administered by **Dr. Thomas W. Duke**, Director, and **Dr. Tudor T. Davies**, Deputy Director. About 250 guests attended the day-long dedication events, and more than 100 community residents toured the lab the following day during an open house.

coming the fifth woman in the United States to head a State unit of the League. Harris, of Front Royal and Alexandria, Virginia, served as Executive Director of the Northern Virginia Region of the Virginia Tuberculosis Association (now the Virginia Lung Association) for 18 years, before joining EPA seven years ago. She is a recipient of the Association's highest award, the Nora Spencer Hamner award for "dedicated leadership." She served as a member of the Front Royal Town Council from 1954-58. Ms. Harris is chairman of the water quality committee of the National Izaak Walton League, a post she has held for six years. She has been editor of the Virginia Division's quarterly, "Conservation Record," since 1966. She won both the Virginia Wildlife Federation Award for conservation communications and the Garden Club of Virginia conservation medal in 1971. She is also a former District Director of the Business and Professional Women's Club in Front Royal.

Ronald L. Mustard has been appointed Director of the Office of Federal Activities in EPA Region V. In his new job, Mustard will direct, coordinate, and control the review of Environmental Impact Statements of major federally funded actions as well as oversee abatement and control of pollution from Federal facilities, and review licenses and permits from other Federal agencies. He will also represent EPA on various river basin and Great Lakes commissions.

Before his appointment, Mustard served as chief of EPA's Federal Facilities and Section 10/404 Permits Section, and as acting chief of the Environmental Impact Statement Review Section. Prior to joining EPA in 1971, he was employed by the Youngstown Sheet and Tube Co. of East Chicago, Indiana, in the field of environmental management. Mustard received a B.S. degree from Nebraska State College at Peru and a Master of Business Administration from Indiana

University.

Appointed to assist Mustard as Section Chiefs are **Susan P. Walker**, who will serve as Chief of the Environmental Impact Statement Staff, and **Carol R. Fogelsohn**, who will serve as Chief of the Federal Facilities Staff.



Isiah (Ike) Gatling has been selected to serve as Area Director of Civil Rights for EPA's Research Triangle Park facility in North Carolina, with responsibilities at other Agency installations at Montgomery, Ala.; Corvallis, Or.; St. Louis, Mo.; and Wenatchee, Wash. Prior to joining EPA, Gatling was with the U.S. Army Headquarters Training and Doctrine Command, Fort Monroe, Va., where he was in charge of the civil rights program, the Federal women's program, military equal opportunity and Spanish-speaking minority employees program. Before that, he held a similar position with the Coast Guard. Gatling began his career as a professional football player with the Boston Patriots. Injury forced his retirement, however, and he became a high school teacher and coach. Gatling has a BA in health education from North Carolina Central University and an MA in education and psychological counseling from Hampton Institute. He has also done work toward a doctorate in the field of human relations.

Wyoming Governor **Ed Herschler** recently became the first resident of his State to be licensed to supervise the spraying of restricted-use pesticides. The Governor passed a written examination covering all aspects of pesticide use. Governor Herschler, who will now

be able to supervise pesticide spraying on his ranching operations in Lincoln County, said that he wants to encourage everyone in his State who uses pesticides to contact the Wyoming Department of Agriculture to determine what type and method of certification is best suited for that individual's needs. EPA is now in the process of classifying all pesticides as either general or restricted use, and Wyoming law requires that any person who uses these restricted-use pesticides be certified and licensed by the Wyoming Department of Agriculture.

Henry E. Warren has been appointed Commissioner of Maine's Department of Environmental Protection by that State's Governor, James Longley. Warren succeeds **William Adams**, EPA's newly appointed Region I Administrator. Mr. Warren joined the Environmental Improvement Commission (predecessor of the Department of Environmental Protection) in 1970 as Director of Site Location. He became Director of the Department's Bureau of Land Quality Control in 1972, and was named its Deputy Commissioner in December, 1976. He served as Acting Commissioner of the Department for two months prior to his new appointment.

Ramon G. Lee has been appointed Chief of the Water Supply Branch of EPA's Region III Office. Lee has been with the Region III Water Supply Program since 1973. Previous to that, he worked as a professional engineer with the Cleveland, O., consulting firm of Havens and Emerson, Ltd., the U.S. Army, and the California Division of Highways. A native of Arlington, Virginia, Lee holds a B.S. degree from North Carolina State University and an M.S. degree from the University of Florida, Gainesville.

Robert C. Magor has been appointed Director of EPA's newly created Office of Occupational Health and Safety. Magor will be

reporting directly to the Assistant Administrator for Planning and Management, William Drayton. The Office of Occupational Health and Safety will be responsible for managing the Agency's policy of assuring healthful and safe working conditions for EPA employees. Magor comes to EPA from the Polaroid Corp., Cambridge, Mass., where he was Corporate Manager of Industrial Hygiene. Magor holds a Ph.D. in Industrial Health from the University of Michigan.



Steffen W. Plehn has been selected to serve as Deputy Assistant Administrator for Solid Waste by Thomas G. Jorling, Assistant Administrator for Water and Hazardous Materials. Plehn has been serving as Executive Assistant to the Administrator, a position he has held since joining EPA in April 1975.

Prior to that appointment, he spent three years with the Council on Environmental Quality. His last position there was Assistant Staff Director. Plehn was with the U.S. Bureau of the Budget from 1963 to 1968, where he received the Director's Professional Achievement Award. He then worked for four years at the State level with the Department of Higher Education of New Jersey. Graduating cum laude from Harvard in 1959, Plehn went on to earn a Master of Public Administration degree from that institution in 1961. His appointment is subject to Civil Service approval.

ENVIRONMENTAL AND ECONOMIC JUSTICE

Happily, the fact is that a broader view of the scope of problems that can be truly termed environmental has been rapidly evolving among the leading environmental organizations. There have been in recent years many instances where we have worked closely together on legislation and implementation of Federal programs:

1. We have received vital support in our efforts to include in all Federal environmental laws a provision to deal with the problem of environmental blackmail by business management.

2. A group of distinguished ecologists joined the AFL-CIO in support of a strong Occupational Safety and Health Act in 1970.

3. The Urban Environmental Conference has provided strong assistance in calling for tougher enforcement of the OSHA Act and adequate funds to implement it.

4. Unions and environmentalists worked closely together in the enactment of the Safe Drinking Water Act of 1975.

5. The same informal coalition has been the major force in achieving a strong Toxic Substances Control Act.

In short, I am indicating that there is more to unite than to divide us, although you must recognize that the AFL-CIO is an organization of federated unions linked by structure and policy, but with sometimes divergent problems. We do not see eye to eye with the environmental community on nuclear power policy, but we do agree and worked together for strong legislation to control the ravages of strip mining. We do not see eye to eye with you on the issue of returnable vs. non-returnable beverage containers, but we share a common belief that national land-use legislation is a crucial necessity.

Abatement of pollution is costly. It is also beneficial. If this program is to have the wholehearted support of not only labor leaders but workers in the plant, it is first necessary to assess the costs, what the effects are on jobs, and relate these costs, not merely in dollars but in what happens to the lives and welfare of people, to the beneficial achievements of cleaning up the environment.

We all know that to modify or redesign industrial processes which have been geared only to maximum unit production with only slight consideration

for the safety and health of employees, or for the effect of such operations on the quality of the environment, is an expensive process. Somebody has to pay the bill. Mostly you and I pay for it, either in the form of higher taxes to fund abatement control programs, or as consumers in the higher costs of goods and services that we purchase.

And now we're told by management that we will be victimized if we take action to control such pollutants. Already faced by threats to our health, we are now threatened with economic injury.

As applied to the workplace environment, President Meany has expressed labor's reaction to arguments that to clean up environmental hazards is costly to jobs: "No worker should pay for a job with his life or his health."

I.W. Abel has been quoted in the *New York Times* in a piece analyzing the heavy union involvement in the fight to force a proper noise standard, as saying the fundamental issue is whether workers should have to risk "loss of one of their God-given senses as the price they must pay for the job they hold."

The Joint Economic Committee of the Congress has held hearings to assess the full range and magnitude of these various economic impacts. It found that pollution abatement expenditures, amounting to \$195 billion over the next ten years, are not having and will not have a significant impact upon the rate of inflation. Actually the annual abatement costs, which in 1973 were just less than .5 percent of the Gross National Product, will average over the ten-year period about one percent of the total GNP and contribute only .3 percent to increased Consumer Price Index. Hardly an over-commitment of the Nation's wealth. In a survey conducted by the Department of Commerce, only two percent of firms interviewed announced that the expected abatement costs would reduce their investments in new plants and facilities.

A Department of Labor study estimated the cost of achieving a 90-decibel noise level limit by 19 major industries would cost \$13.4 billion. And an 85-decibel noise level limit would cost \$31 billion. (EPA estimates the 85-decibel cost at \$12 billion over ten years.)

Whatever the cost, the 85-decibel level would mean that workers with long exposure to that level would suffer hearing impairment at a frequency rate slightly less than twice that of those not so exposed. At the 90-decibel level that rate is nearly doubled.

United Rubber Workers President Peter Bommarito sums up worker attitudes on this point with his comment that "the notion that deafness is a fair exchange for a job is no longer acceptable by the vast majority of workers."

Obviously, worker interest in and acceptance of the fight for improvement of the work environment is going to be greater than in the fight to improve the general community environment—particularly if he is made to feel he alone will pay the price for improving community environment—but even in the first case the environmental blackmail threat of the loss can take its toll.

We're told, "You can't eat clean air" or we're told, "It's an either/or proposition—jobs or a healthy environment."

Well, that's an unacceptable choice. We can have both and we must and we're going to put an end to that kind of environmental blackmail.

In conclusion, I emphasize these points:

- The national goals of clean environment have been stated in laws enacted and implemented by the U.S. They are a permanent commitment of the American people through their elected representatives.
- The Employment Act of 1946, even though it has been ineffective, did set the economic goal of this Nation as being that of maximum and stable employment. The passage of the Humphrey-Hawkins Full Employment and Balanced Growth Act will put substance into that commitment.

Both of these goals must be achieved. In order to do so, organized labor's concerns about widespread technological side effects from the impact of pollution control programs and environmental improvement programs—both job- and community-related—must be recognized and dealt with.

- To move toward a clean environment and full employment, there will inevitably be some trade-offs. If the labor movement and the environmental community are to travel the road together, this must be recognized. Extremism by either element is only self-defeating.

- There must be mutual recognition that the environment is also people and the circumstances under which they live and work. Equally vital is the recognition that this magnificent but fragile planet must from now on be treated with increasing respect and care. ■

ENVIRONMENTAL ALMANAC

A GLIMPSE OF THE NATURAL WORLD WE HELP PROTECT

NOVEMBER-DECEMBER

Man and the Coyote

A small doe burst suddenly from the fog and raced in sheer terror with two coyotes on her heels across a sloping rock wall in the western Colorado mountains.

A watching sheep herder reported that one coyote caught the deer by a hind leg and the other then sank his teeth into her throat.

The doe struggled desperately and then fell backward into space with the coyotes still clinging to her in a death grip.

The shepherd counted "one hundred and one, one hundred and two, one hundred and three." At the count of one hundred and thirty, he related, a dull thud arose from the depths followed by the rattle of rolling rocks and then silence.

This incident, illustrating the coyotes' extraordinary tenacity, if not their usual cunning, was described by Will C. Minor, in "More Foot Prints in the Trail," an account of his experiences as a shepherd in western Colorado.

Yet watching young coyotes through binoculars on a wind-swept western plain as they romp and chase each other through a fresh December snow, you could believe that they are as lovable as cocker spaniels.

Actually they are, of course, extraordinarily cunning, savage and determined animals.

They have been described as the most successful of all predators. Indian legend forecasts that they will be the last animals on Earth.

While coyotes rarely hunt deer, their attacks on sheep and other livestock have made them hated by many sheep men and ranchers. However, the coyote is warmly defended by animal lovers who contend that it plays a useful role in its environment.

Guns, traps and poisons have long been used to exterminate coyotes and one result is that only the smartest coyotes have survived.

Because the poisons used often killed other wildlife and sometimes injured humans a Presidential Executive Order was issued in 1972 banning the use of these poisons on Federal lands except

in certain emergency situations. After the order was issued EPA cancelled Federal registration for various poisons used to control the coyote.

As a result, ranchers and farmers put new emphasis on shooting and trapping coyotes that prey on their stock, particularly during the lambing season.

To aid ranchers in certain areas where major losses to coyotes have been reported, EPA has approved registration of a spring-loaded toxic device called the M-44. Its use is governed by Federal and State agencies.

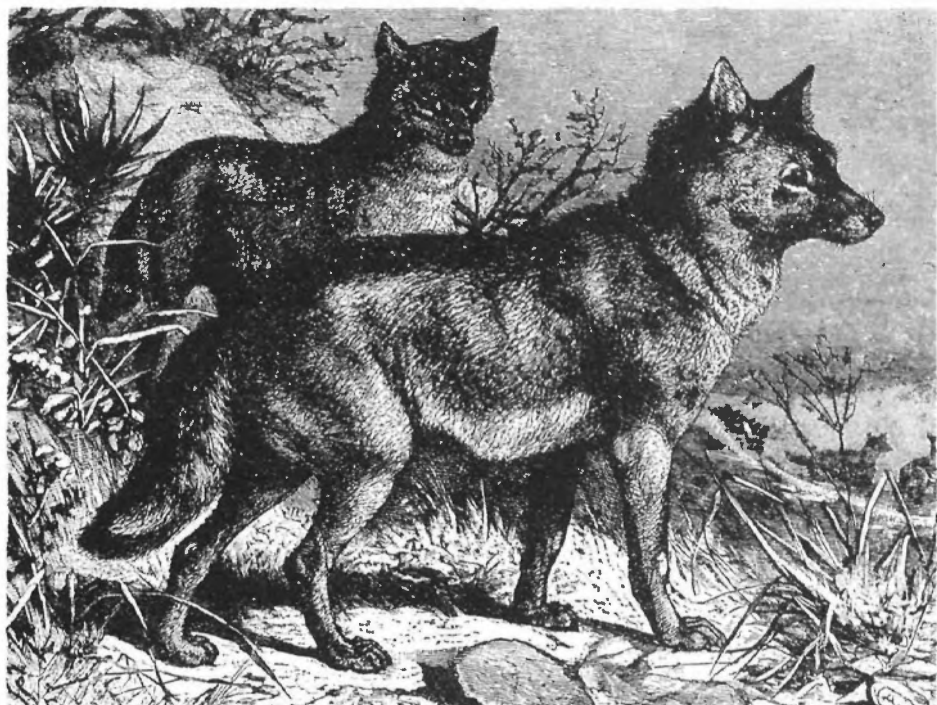
The M-44 has been described by its advocates as humane because death occurs almost instantly when a tug from a coyote at the scented bait triggers a puff of cyanide into the animal's mouth.

EPA has also granted the Department of the Interior permission to experiment with use of toxic collars. These plastic devices loaded with 1080 (sodium monofluoroacetate) are placed around the necks of sheep near where coyotes have been killing livestock. The collar is designed to release a lethal dose of this poison into a coyote's mouth if the coyote, as it often does, attacks the sheep's throat.

A new 28-minute color film produced by EPA's Region VII Office in Kansas City gives a report on the coyote problem and how it is being dealt with. Titled "A Matter of Understanding," the movie can be borrowed from the EPA Office at 1735 Baltimore Ave., Kansas City, Mo. 64108. The film is also available for purchase for \$156.50 from the National Audiovisual Center (GSA), Washington, D.C. 20409.

The movie points out that EPA recognizes that some coyotes kill and injure sheep and other livestock. However, the film emphasizes that "the Agency does not condone the wholesale extermination of all coyotes, believing that environmental protection and prevention of livestock losses can be achieved by selective removal of those predators that have acquired a taste for livestock."

The movie concludes that while man will try to regulate those things he believes are harmful to his best interests, "a better understanding of other living things will determine how responsibly we make adjustments in the environment and govern the Earth we share with the coyote and other creatures."—C.D.P.



UPDATE

A listing of recent Agency publications, and other items of use to people interested in the environment.

General Publications

Single copies available from Printing Management Office (PM-215), US EPA, Washington, D.C. 20460. (202) 755-0890.

Mechanics, A New Law Affects You (December, 1977). This 8-panel pamphlet for mechanics and garage owners explains a 1977 Amendment to the Clean Air Act that makes it illegal for anyone to tamper with the anti-pollution devices on a car. It outlines what actions constitute tampering and lists the penalties.

Do You Own A Car? (December, 1977). An 8-panel pamphlet for car owners that explains the implications of new legislation that prohibits tampering with pollution controls on automobiles.

Tuning Down Auto Air Pollution (December, 1977). A 16-page booklet describing the importance of auto inspection and maintenance programs in the fight against air pollution. It lists the major pollutants attributed to automobile exhaust and their health effects.

Women and the Environment (November, 1977). This leaflet outlines the importance of women in the protection of the environment through their roles as homemakers, consumers, and as environmental activists and professionals.

The President's Environmental Youth Awards (December, 1977). A 16-page pamphlet that describes and explains the President's program, which encourages students to plan and carry

out environmentally-oriented projects with the help of teachers and local adult sponsors. It contains instructions, examples, and the necessary forms.

Federal Register Notices

Copies of Federal Register notices are available at a cost of 20 cents per page. Write Office of the Federal Register, National Archives and Records Service, Washington, D.C. 20408.

Motor Vehicle Engines. EPA adopts stringent emission standards for heavy duty gasoline-fueled and diesel engines for the 1979 and later model years; effective 10-18-77. pp. 45131-174 in the Sept. 8th issue.

Pesticides. EPA issues notice of intent to suspend and to conditionally suspend registrations of products containing dibromochloropropane (DBCP). pp. 48915-48923. Sept. 26 issue.

Toxic and Hazardous Substances. EPA, CPSC, HEW/FDA, Labor/OSHA enter into inter-agency agreement for cooperation. pp. 54855, 54856, 54879, 54886. Oct. 11 issue.

Regulations Under Consideration

The following rules are being developed by EPA. The Agency encourages public comment and EPA contacts and proposed issuing date are listed so that interested persons can make their views known. These rules will be issued in January, 1978:

Pesticide Registration Guidelines, to detail the information needed about hazard evaluation to humans and domestic animals write or phone Bill Preston (WH-568), EPA, Washington, D.C. 20460. (202) 557-7351.

Protective Action Guides for Nuclear Incidents, for developing emergency plans for accidents at nuclear facilities and the transportation of nuclear materials, contact Jim Hardin (AW-460), EPA, Washington, D.C. 20460. (202) 755-2890.

Identification and Listing of Hazardous Waste Criteria, for the Resource Conservation and Recovery Act, contact Alan Corson (AW-465), EPA, Washington, D.C. 20460. (202) 755-9187.

Standards for Owners and Operators of Hazardous Waste Treatment Storage and Disposal Facilities that will apply to record-keeping, monitoring and reporting, compliance with operating practices, location and design, contingency plans, and facility maintenance, contact William Sanjour (WH-465), EPA, Washington, D.C. 20460. (202) 755-9200.

Employee Contest

EPA employees have until January 31 to submit original poetry (up to 250 words), photographs (8" x 10" prints), or artwork (oil, watercolor, pastel, charcoal, or acrylic) on the theme "Nature" for the Recreation Association art contest. Entries should be addressed to Recreation Association Office, EPA, Rm. 3132, Washington, D.C. 20460. Plaques and savings bonds will be awarded to the winners.



news briefs

EPA TO STUDY ASBESTOS HAZARD

EPA has announced it will begin a study to determine the danger of asbestos emissions from the use of crushed stone made from serpentinite rock. The crushed stone may release asbestos into the air, and exposure to airborne asbestos fibers has been directly linked to the development of cancers. The study will decide whether a Federal standard is required to protect public health, and if so, will gather data to develop the standard. The study should be completed and the regulatory decision made by mid-1978.

CHEMICAL TRACES FOUND

Minute quantities of over 200 chemicals were found in the waters of several major U.S. industrialized river basins and the Great Lakes during monitoring studies conducted for EPA by the University of Illinois at Urbana-Champaign. The report, "Monitoring To Detect Previously Unrecognized Pollutants in Surface Water," (PB 273-349,-350) is available from the National Technical Information Service, Springfield, Va. 22151.

JUSTICE DEPARTMENT FILES COMPLAINT AGAINST VELSICOL

The Justice Department has filed a civil complaint against Velsicol Chemical Corporation of Houston, Tex., according to EPA's Dallas regional office. Velsicol is charged with failure to obey an EPA administrative order of March 1, 1977, that called for the company to eliminate contaminated stormwater runoff from its Bayport, Tex., plant. Soil and runoff samples from the site showed the presence of the insecticides leptophos and EPN.



Return this page if you do NOT wish to receive this publication (), or if change of address is needed (), list change, including zip code.

MILLIONS SEE DRINKING WATER FILM

More than six million people have now seen a new half-hour television program, "Is Your Drinking Water Safe?" produced by Connecticut Public Television under a grant from EPA.

The film has been widely used on both educational stations and commercial television stations. By June the film will be shown on 220 more commercial and cable television stations to an audience estimated at nine million people.

The film, made possible by a \$75,000 grant for production from EPA's Office of Water Supply, will also be widely shown to schools, civic, and community groups. This movie is available on loan without charge and is also available for purchase.

Congress passed the Safe Drinking Water Act of 1974 because during recent decades as society became more industrialized, and population increased, our sources of water supply became increasingly threatened by hundreds of new chemicals and pollutants.

Now the more than 40,000 community drinking water systems and 200,000 other public water systems in America must routinely sample their product to make sure that EPA's standards are being met. Also, in what EPA Deputy Administrator Barbara Blum has termed "the most novel feature of the new program," customers will be notified by their public water system if standards or monitoring requirements are not being met.

As this notification clause is enforced, the public will have the opportunity to participate in the improvement of the quality of their drinking water.

It is because of the importance of the public's role in achieving safe standards for drinking water that the Office of Water Supply gave a grant to public television to produce a documentary on the subject. Under this grant, Connecticut Public Television produced the half-hour special, "Is Your Drinking Water Safe?" first broadcast

last June.

The success of the Connecticut project prompted the Agency to award two more grants to public television. The Office of Public Affairs in Kansas City has given a grant to Kansas City Public Television to produce a half-hour program on the problems of providing safe drinking water in rural communities. The program will be broadcast later this year. Washington's Office of Public Awareness has awarded a grant to the Southern educational television network to produce an hour-long special on chemicals in the environment. This show is scheduled to be aired in late 1978.

Bert Shapiro, a veteran of many years of documentary television programming, produced, wrote and directed the new drinking water film for Connecticut Public Television. He had the following comments about the documentary:

"We first reveal the nature of water treatment in cities like Philadelphia, Cincinnati, St. Louis, New Orleans and others which have access only to heavily polluted surface water. These communities have so-

called 'complete' treatment plants which add coagulants, settle, sand filter and chlorinate their water. . . .

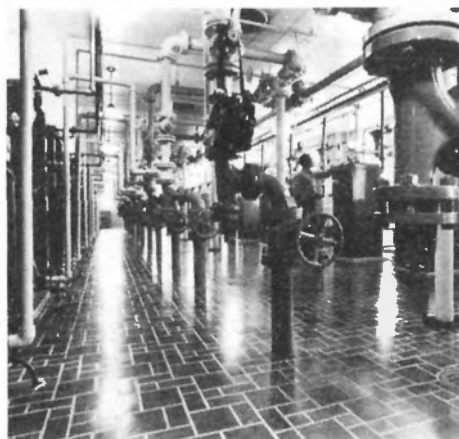
"The program next deals with supply systems in cities like Boston, New York, Los Angeles, Bridgeport, that use fresh mountain water. . . . Water treatment in these cities is much simpler. . . . The principal tool of treatment is chlorine. Most of the year the systems that use fresh mountain water but which do not have filtration plants can meet uniform, national standards.

"We next deal with underground systems starting with the largest underground water supply system in the country in San Antonio, Tex. Again, treatment of water is simply chlorination. The problem with underground water is that when polluted it will remain so for long periods of time. . . . The land feeding the underground supply, therefore, needs to be carefully supervised to prevent long-term pollution. But a large portion of the land above the source is up for development. The issue here is the protection of a pure sole source vs. allowing developers to use the land as they see fit with a minimum of controls and regulations.

"The more typical underground system is the small well system in towns like San Marcos, Calif. Usually these small systems are one-man, part-time operations. . . . The difficulty is that there are thousands of small well systems in each State and a limited number of State health officials to do the supervising, as well as to enforce uniform, national standards."

"Is Your Drinking Water Safe?" is available on free loan for group showings from Modern Talking Picture Service, 2323 New Hyde Park Road, New Hyde Park, New York 11040. Please order by Film Digest #31486 and state your first, second, and third choices of booking dates.

The film can be purchased from Capital Film Lab NY Inc., 343 West 54th Street, New York, N.Y. 10019 for \$71.45. ■



The Dalecarlia Water Treatment Plant on the Maryland-District of Columbia boundary which treats drinking water for the Nation's Capital.