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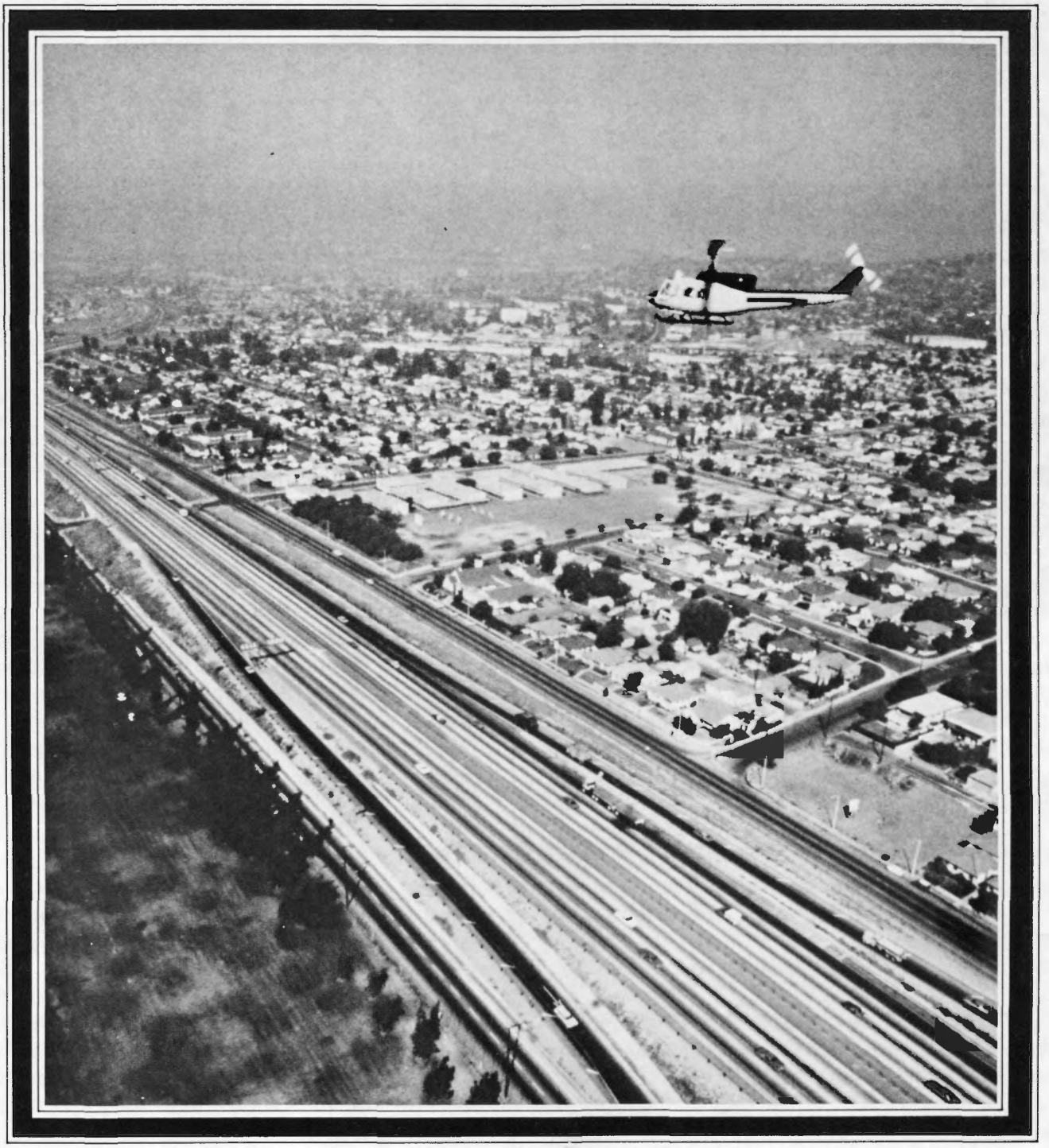
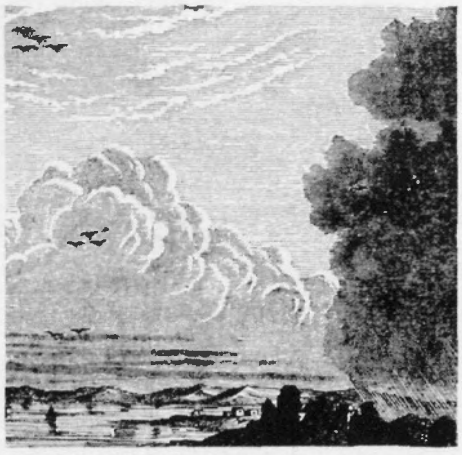


PROTECTING CLEAN AIR
HEALTH EFFECTS OF POLLUTION

U.S. ENVIRONMENTAL PROTECTION AGENCY



THE QUEST FOR CLEAN AIR

Flying at dawn in a small plane over Nevada one could see for miles in the dry, clear air over the valley desert land, much of it used as a nuclear testing site.

Ahead on the sunlit horizon was a green patch, the farm maintained by EPA's Las Vegas laboratory to test the effect of radiation on plants and animals.

As the plane circled to return to Las Vegas one could see miles away some military aircraft, flying high in formation, suddenly plunge in a power dive.

Our pilot explained that these planes were being flown by the Air Force's precision flying team, the Thunderbirds. On the flight back one could see with remarkable clarity the distant planes darting, rolling and cavorting together as they continued their maneuvers.

But as our plane neared Las Vegas one's attention was diverted by a growing brownish haze hanging like a pall in the windless sky over the whole city.

As residents of the gaudy gambling center woke and began driving their cars to work, auto fumes and other air pollutants had stained the desert air.

This pollution scene, witnessed a few years ago, or similar ones, can be found in many of our large cities when weather conditions are right.

In Denver, the air pollution haze which sometimes blurs the view of the Rocky Mountains is known as "the brown cloud."

In Washington, D.C., the spectacular view of the city from the front porch of Arlington House, high on the Potomac's west bank, is sometimes marred by a pollution blanket.

Our gains and problems in trying to control air pollution are discussed in the Journal on Page 2.

While there has been progress in several areas in the effort to cleanse our air, there are still regions like Los Angeles and its suburbs where smog has been compared to a Biblical plague.

The benefits of clean air are shown in the magazine's Photo Essay section (Page 13) in photographs of Springtime activities in four major American cities.

These photographs illustrate what outdoor urban life could be like more often with the aid of fresh air obtained through the enforcement of standards and emission controls and the development of better air pollution control planning.

In another Journal article the impact on health of air and other types of pollution is reviewed on Page 4.

While air pollution is sometimes the breath of death, and often a destroyer of the quality of life, it is only one of several forms of pollution which injure and kill people.

Although deaths in pollution episodes attract the most attention, some scientists believe that a more sinister problem may be the continued exposure to low levels of pollutants over a period of many years.

These are some of the reasons why Administrator Russell E. Train in testifying recently in support of the Clean Air Act told the Senate Public Works Committee that it is imperative that "we not only refuse to relax public health standards and environmental safeguards, but insist even more strongly upon rigorous standards and safeguards."

EPA JOURNAL

U.S. ENVIRONMENTAL PROTECTION AGENCY

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Cover: EPA helicopter taking air samples in Los Angeles area hovers over expressway.

PHOTO CREDITS

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Page 18 & 19	Don Moran Ernest Bucci
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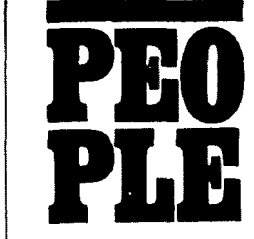
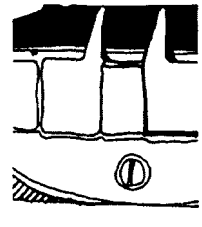
CONTENTS





DEPARTMENTS

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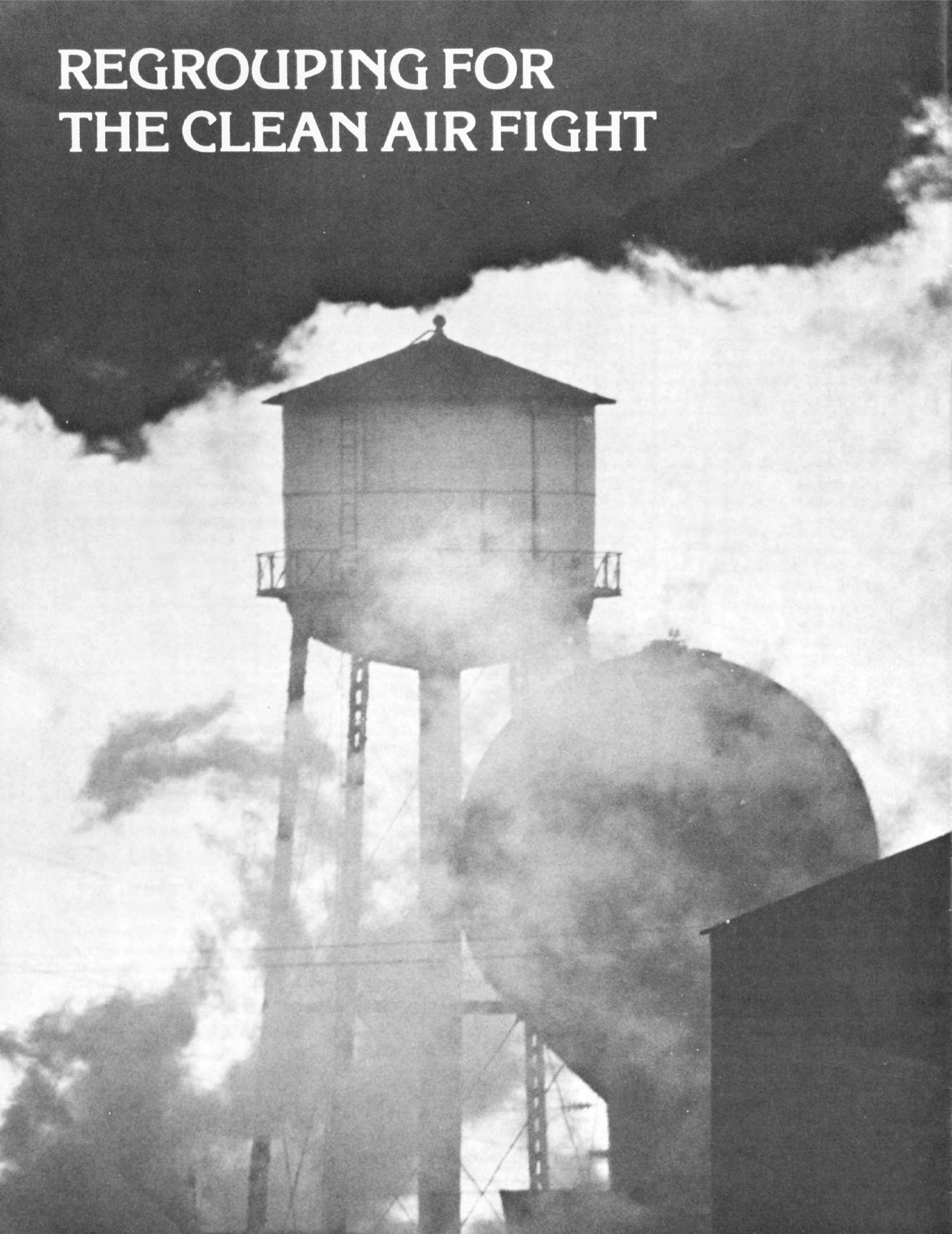
REGROUPING FOR THE CLEAN AIR FIGHT



More than four years ago, in December 1970, the Congress enacted comprehensive clean air legislation. Now EPA, the Congress, State and local officials, and others are taking stock of what has been accomplished and what remains to be done in our campaign to give Americans a clean and healthful atmosphere.

The searching review now under way is prompted by many things, but perhaps most importantly by:

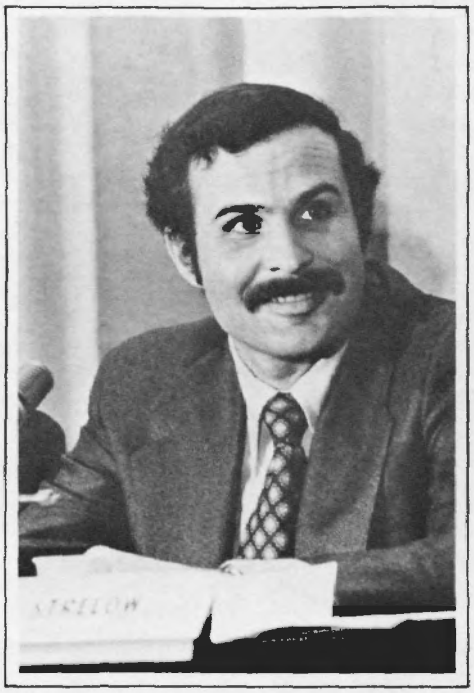
1. The imminence of the mid-1975 target established by the 1970 law for meeting the primary air quality standards designed to protect health.
2. A heightened awareness of the complexities of both the air pollution problem and its solutions.
3. The need to reconcile potentially (and, even more often, allegedly) competing energy and clean air goals.
4. The necessity of securing broad-based support from the public and their elected representatives for the strategies needed to carry on our campaign.

PUBLIC SUPPORT HIGH

As a recent Lou Harris poll confirms, Americans continue to rank air and water cleanup very high on their list of national priorities, and most of them reject claims that pollution control either should or must be compromised in order to meet energy needs. This public support is not only reassuring—it is essential. The major challenges we face now are to identify the specific measures needed to intensify the fight for clean air and to win public understanding of and support for these measures.

Inevitably, some of the public's support for air pollution control rests upon the notion that success can be achieved simply by getting tough with some corporate "villains" at little or no cost or inconvenience to the average citizen. This clearly is not so. Although the overall economic impacts of air pollution control are relatively modest, specific communities, as well as specific industries and their customers, will be substantially affected. In certain areas, for example, the cost of complying with fuel or emission control standards for electric utilities can add significantly to the price the consumer pays for electricity.

In addition, clean air will not be attained without some constraints on individual activities. In most large urban areas, for example, significant changes in urban transportation are needed, as a supplement to vehicle controls, if auto-related air pollution standards are to be met and maintained. Restraints must be imposed on unnecessary single-occupant vehicle use to stimulate carpooling and public transportation. These restraints will affect a large proportion of urban residents since less than 15 percent of them now use public transportation to travel to work. The small number that participate in car pools is demonstrated by the fact that average car occupancy is only 1.2 persons per commuter trip and only slightly higher for total trips.



By ROGER STRELOW
Assistant Administrator for Air and Waste Management

The foregoing examples illustrate the paradox that air pollution control is both strongly supported in general and highly controversial in certain respects. One of the key challenges EPA faces is to resolve this dilemma, through public education, better integration of clean air objectives into related programs like urban transportation systems, and continuing reassessment using new information to target our efforts most efficiently.

With today's economic pressures and the long-term need to correct a serious imbalance in energy supply and demand, the clean air program will face even greater demands for rigorous analysis and careful assessment of alternatives than in the past. We must meet these legitimate demands even as we reject and discredit claims that clean air must or should be sacrificed to meet economic and energy goals.

Fortunately, the pending amendments of the Clean Air Act afford EPA the opportunity to obtain both Congressional reaffirmation for the clean air program and the more explicit guidance needed in such areas as transportation controls and prevention of significant deterioration. At the same time, these amendments will give the Agency more flexible mandates in such matters as compliance deadlines, without weakening the invaluable pressure for prompt action that is built into the Act.

REJUVENATED PROGRAM

In seeking to identify some of the most important elements of a rejuvenated clean air program, I have developed the following list which is by no means exhaustive:

* Nothing is more critical to our future success than improved information, particularly concerning the actual quality of the air and the causes and health effects of various pollution conditions. (I refer to "conditions" rather than "pollutants" to emphasize that pollutant combinations and interactions require increased attention). We cannot afford, however, to suspend control measures while seeking better information. We must always act with incomplete data, doing our best to insure that we do not insist on unjustified requirements. The most unacceptable risks, of course, are those taken at the potential expense of public health.
* We must take the initiative to explain what we know and do not know. Oversimplification and overpromising create risks of losing public credibility, without which the clean air effort is in real trouble.
* The total motor vehicle pollution control program must be reassessed and strengthened. The most immediate priority is to identify an adequate long-term solution to the potential sulfuric acid emission problem while at the same time maintaining maximum control of hydrocarbon and carbon monoxide emissions. All of us involved in the Administrator's difficult suspension decision for the 1977 models hope that EPA and others can work together to find the most rapid route to attain the statutory standards consistent with adequate protection from the sulfuric acid threat.

But there is a lot more to be done in any event. Vehicles like trucks and motorcycles that contribute an increas-

Continued on Page 7

health effects of pollution

The wide range of ways in which pollution can cause sickness and death is reviewed in a slide show being developed by Dr. Lawrence A. Plumlee, EPA medical science advisor in the Office of Research and Development.

It consists of 43 color slides and accompanying text. The slides are photographs or illustrations of pollution victims, sources of pollution and trend charts of diseases caused by pollution.

One chart, for example, reports an enormous increase in "emphysema, lung cancer and chronic bronchitis" in the United States.

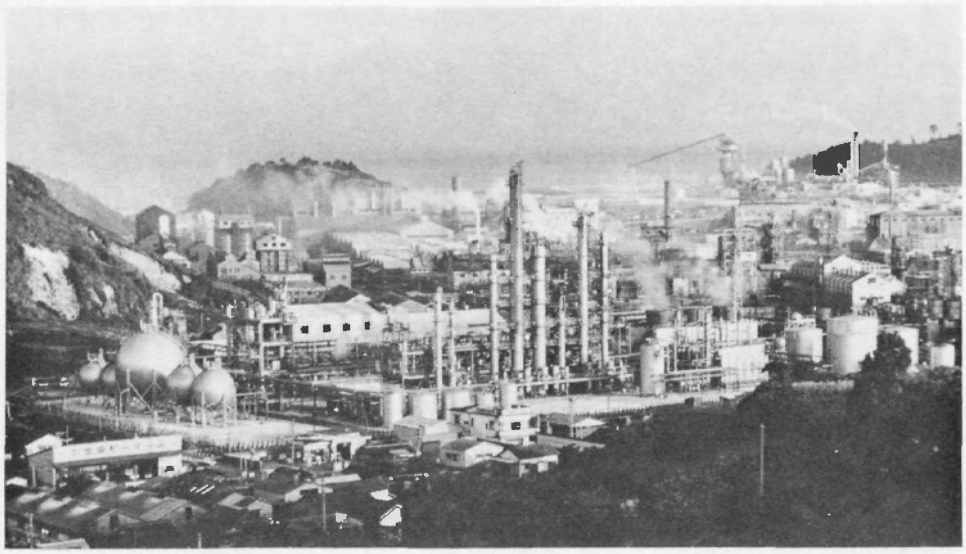
Dr René Dubos, noted environmentalist, is quoted in the show text: "Many chronic diseases are due, in part . . . and probably in a very large part to the environmental and behavioral changes that have resulted from industrialization and urbanization."

Highlights from the commentary by Dr. Plumlee for the slide show are:

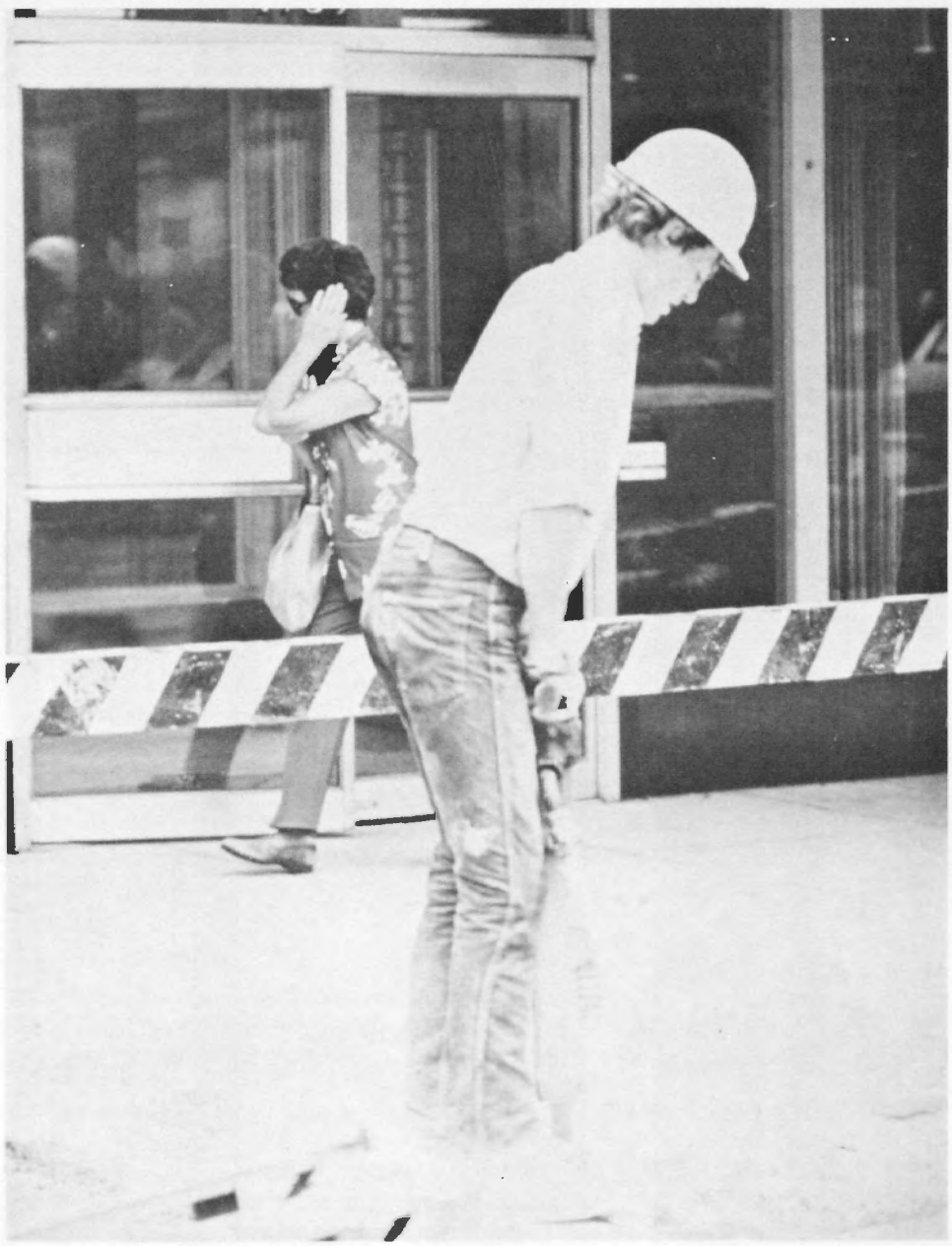
"Temperature inversions which trap air pollutants, bringing tears to the eyes, and substantially increasing sickness and death rates, accentuate the effects of air pollution on health.

"However, of even greater concern to many is the effect of chronic exposure to air pollutants which, along with smoking and occupational exposure, has contributed to the dramatic increase in emphysema and chronic bronchitis.

"People with asthma have special problems because pollutants in the air irritate the asthmatics' air tubes, causing them to close off. This can cause disability or death.



This factory in Japan discharged a lethal mercury containing substance into Minamata Bay.



Air hammer creates deafening din.

"In the area of hazardous substances, asbestos is known to cause cancer in people who work with it and in persons living near where it is processed and used.

"Another dangerous pollutant is lead. One of the slides is a photo of a two-year-old child poisoned by eating flakes of a lead-based paint. Lead poisoning can cause permanent mental retardation."

"Some other sources of excess lead in the environment are battery reclaiming factories and lead smelters such as those in El Paso, Texas, and Kellogg, Idaho.

"A serious problem in drinking water is excessive nitrates which can seep into underground water supplies from animal feed lots and fields where high-nitrate fertilizers have been spread.

"The high nitrate content of some drinking water can cause methemoglobinemia, a blood disease which seriously decreases the oxygen-carrying capacity of the blood in babies and gives the infants a bluish appearance.

"Death or serious illness can also be caused by eating fish or shellfish that have been contaminated by sewage, spills of hazardous materials, or discharge of toxic industrial chemicals.

deaths from mercury

"In the 1950s more than 52 Japanese died after a factory discharged waste – containing mercury into Minamata Bay. The mercury became concentrated in fish, a staple food for the population in that area. A number of other residents suffered partial paralysis or deformities as a result of eating contaminated fish. This mercury discharge has now been brought under control.

"Sewage contamination of drinking water can cause typhoid fever and hepatitis and, more commonly, infectious diarrhea. Polluted water caused an epidemic of typhoid in Dade County, Florida, in 1973.

"Noise is another pollutant which can harm human beings. People can be deafened by high levels of noise. Already an estimated 16 million people in the U.S. suffer some hearing loss caused directly by excess sound. Environmental pollutants also have effects on mental as well as physical health. Anxiety produced by noise is one example.

"Pesticides can be very dangerous, especially to those who apply them. Worker education is essential to the safe use of many DDT substitutes. Even when workers know and follow proper precautions, potential for accidental toxic exposure and resulting clinical illness still exists.

"Recognition of the early symptoms of pesticide poisoning, accurate diagnosis and prompt treatment can mean the difference between life and death.

radiation hazard

"Another potentially dangerous pollutant is radiation from such sources as uranium mines and mining wastes, faulty color TV sets, medical X-rays and nuclear power wastes.

"The principal adverse effects that radiation can have on human health are genetic disturbances and cancer. In Japan, cases of leukemia increased greatly following detonation of the atomic bomb."

Dr. Plumlee, who is a graduate and former faculty member of the Johns Hopkins University School of Medicine and is licensed to practice medicine in Maryland, explained that "I started collecting these photographs used in the slide show because I felt that we needed more than just photographs focusing primarily on esthetic damage to the environment.

"I believed that photographs of sick people were needed to emphasize more urgent reasons for controlling pollution." Dr. Plumlee invited anyone in EPA who has photographs showing the health impacts of pollution to provide them for possible inclusion in the collection.

At the same time, Dr. Plumlee emphasized that most patients suffering health damage due to pollution do not show changes that can be captured in a photograph.

"Even in some serious illnesses such as bronchitis and cancer, the patient may look normal for a long time," he said.

Thus his collection of color slides cannot cover all diseases caused by pollution. Furthermore, while all of the diseases shown are known to be caused by pollution, Dr. Plumlee cautioned that one cannot always be sure that any single case of some disease is due to environmental pollution.

Some of the photographs of patients in Dr. Plumlee's collection could not be shown in EPA Journal because of restrictions placed on use of these photographs by the patient's family. Other pictures could not be used in this black and white magazine because they are only effective if seen in color.

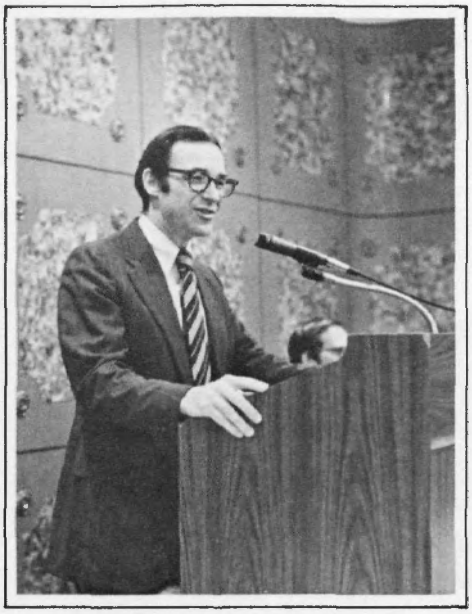
A preliminary version of Dr. Plumlee's slide show was exhibited recently in the Visitor Center at EPA headquarters.

EPA's Office of International Affairs hopes to make the slide show available to foreign visitors. Plans for presenting the show to other audiences are still being developed. □

A 15-year-old girl, one of the victims of eating mercury-poisoned fish from Minamata Bay, attempts to button her sweater despite her partial paralysis.

This asthmatic uses a respirator to help his breathing.

REDUCING SOLID WASTE



John R. Quarles, Jr., Deputy Administrator, speaking at Conference on Waste Reduction.

The Nation's wastage of material should be reduced when products are designed and packaged and not merely dealt with at incinerators, land disposal sites, and recycling facilities.

This view was expressed by John R. Quarles, Jr., Deputy Administrator, at the Conference on Waste Reduction, held by EPA in Washington, D.C., last month, and attended by representatives of industry, public interest groups and government.

Noting that national concern over solid waste is a more recent anxiety than concern over air and water pollution, Mr. Quarles said:

"The generation of waste is the consequence of our day-to-day living. High levels of waste generation accompany societies with advanced technology ... But the United States is unique among advanced societies in the amounts of wastes we create ... We have made a fetish of convenience. We are simply wasteful—using more material, more land, and more energy than is justified against perspectives of future need."

Citing the profligate use of resources in modern convenience food packaging, Mr. Quarles noted that overall consumption of food in the United States increased by 2.3 percent per capita between 1963 and 1971. But in the same period, the tonnage of food packaging increased by an estimated 33.3 percent per capita, and the number of food packages increased by an estimated 38.8 percent per capita.

Elimination of all tomato juice cans smaller than 32 ounces in 1971 would have resulted in a reduction in steel use of 19.6 percent for this product, he noted.

Inevitably, this wastage of resources and energy is accompanied by pollution of air and water and the further environmental degradation that results from inadequate disposal of waste products. To curtail the waste and pollution that characterize current practices throughout the cycle of production and consumption, Mr. Quarles strongly endorsed the necessity of waste reduction.

"Waste reduction is a radical concept. We might as well recognize that at the outset. It means basic change in our ways of approaching day-to-day activities ... Air and water pollution control, noise regulation, federal supervision over food and drugs, and transportation safety requirements—these and many other departures from a simpler time all were equally radical once, but they are now well accepted requirements of our society."

Traditionally, in our system, the economics of the market place dictate what products should be made, how they should be made, their durability, and their cost. But conspicuously absent from these considerations, Mr. Quarles said, is a concern for the external effects that products cause—neither producers or consumers worry about the disposal of products, their potential for recycling, or their environmental, resource, and energy effects.

"It is precisely this lack of attention that has led to the dramatic increase in our waste generation and to the consequent problems of managing these wastes in the disposal phase. A new interest in reducing wastes at the source as a way to deal with these problems—by preventing the waste, rather than letting it happen and then cleaning up afterward—is now forced upon us with urgency because in the past this problem has been almost totally ignored."

The problems of handling municipal solid waste are increasing at a geometrical rate and there is no end in sight. The old city dump is obsolete, incinerators use scarce fuel and cause air pollution, development pressures limit sites for land disposal, and as tight controls are imposed on air and water pollution, new municipal and industrial solid wastes are being created that must be disposed of as well.

There is also resource recovery and the processes by which wastes are made ready for recycling. If contaminants are eliminated at the source, the solid waste manager will not have to make costly adjustments in the conversion process. A production system which dumps everything on the waste manager, regardless of recyclability, inhibits resource recovery.

Looking beyond the present, Mr. Quarles sees this generation imposing a heavy debt against the future by its exorbitant use of materials and energy. To the usual argument that the future is uncertain, that technology will produce the resources as required, and that therefore there is no present need to interfere with free market forces to obtain uncertain future benefits, Mr. Quarles countered:

"The argument is sound enough as far as it goes. What it leaves unsaid is that the market mechanism is imperfect at best. Short-term dislocations may have severe political consequences, both domestic and international ... The national government is held responsible, and rightly so, for failing to foresee and to make provisions for unpleasant contingencies. Just because the future is uncertain does not mean that we should not manage the present, especially if the costs are reasonable and the benefit predictable."

However, Mr. Quarles continued, the implementation of waste reduction cannot be accomplished overnight.

"The key to successful waste reduction is orderly transition ... This is the foundation of EPA's policy on beverage container legislation. A year ago in May, I testified on Capitol Hill in favor of the concept of a mandatory national beverage container deposit re-

Attentive audience at the Conference includes one shoeless note-taker.

quirement. One aspect of that testimony has been largely overlooked. It was an insistence that any such legislation be phased in over time, in such a way that the adverse consequences ... would be minimized or eliminated."

Deploring the extremism of those who want rapid changes in production and consumption practices now and those who want no change ever, Mr. Quarles said:

"It is the middle-ground position which all must come to in the end. We recognize that immediate transformation of established practices cannot be obtained. We recognize that existing capital investments must be counted, and that people's jobs must be counted even more. We recognize that no change should be commanded until all of the benefits and the costs have been calculated. We want to be reasonable, and we will be careful. But we are insistent that certain changes can be made."

In conclusion, Mr. Quarles asked the conference to explore the problems of implementation—how to bring about change at least cost.

"Because we do desire to proceed with care it is especially important that progress be made through cooperation. Public education, industrial cooperation, and improved practices must go hand in hand. Surely the most promising and least disruptive way to implement waste reduction would be by cooperative agreements among the various interests involved: labor, industry, the citizenry, and government." □

Continued from Page 3

ing share of the vehicle pollution problem must be brought under stronger controls, and we are working aggressively towards that end. We must upgrade our efforts to ensure that vehicles already on the road actually meet the standards.

The proposed assembly-line audit program is a promising step. Inspection and maintenance should have a key role, quite possibly an expanded one. Both programs involve further testing of vehicles to determine if they are meeting Federal motor vehicle emission standards.

All reasonable transportation control measures must move forward, with more specific and broadly-based legislative support. Since many of the measures EPA has required for clean air reasons (e.g., car pool incentive programs, bus lanes, parking controls) have energy conservation benefits, or benefits for making public transportation more attractive and efficient, or both, they should be given the multipurpose support they deserve both in the Clean Air Act and in related legislation where added leverage could be provided to secure their implementation.

Preventing significant deterioration of clean air areas is a critical priority. Explicit Congressional guidance is needed to support EPA and State actions and to provide reasonable certainty to those who must make development plans.

A more explicit and effective role should be defined for local governments, with appropriate requirements for regional action. This should include effective integration of land use considerations and transportation controls.

The long and bitter debate over constant emission controls for stationary sources versus intermittent controls and tall stacks should be resolved.

EPA has concluded that the law does and should mandate the former whenever feasible, but the legislative language and history are not free enough of debate to prevent continuing challenges. A clear policy is needed which will end the debate and force utilities, smelters, and others to get on with the cleanup job. A clear constant-control rule is needed not only to ensure significant air quality improvement but also to facilitate reasonable growth and to permit the safe use of our abundant high-sulfur coal resources.

The national atmospheric cleanup program set in motion by the 1970 Clean Air Amendments has come a long way. There have been substantial reductions in urban sulfur oxides and particulates in recent years. Emissions of hydrocarbons and carbon monoxides from automobiles have been cut by 63 percent and 56 percent respectively, compared to 1970 model year vehicles. Some 70 percent of the nation's 20,000 major stationary sources of air pollution are either in full compliance with State Implementation Plans or meeting the appropriate interim requirements. About 85 percent are expected to be in compliance by the mid-1975 statutory deadline.

NO EASY LAURELS

But we also have a very long way to go. Attainment of the oxidant standard is literally out of sight in a number of urban areas. Many urban areas will fail to meet particulate and carbon monoxide standards by the applicable deadline. There is widespread noncompliance in the utility, smelter, steel and other industries.

While progress has been made in reducing particulates in the air, approximately 101 of the 247 air quality control regions in the Nation will probably not attain the primary particulate standards by mid-1975 date.

However, this failure to meet national standards at one or more monitoring sites in an air quality region does not necessarily mean that the air quality throughout the region exceeds the standards. Dust and particulates from fires or gaseous pollutants are responsible for the non-attainment in some cases.

In the field of automotive-related pollutants, ten or more metropolitan areas are not expected to achieve the primary standards by the mandated dates without severe limitations on automobile use.

Proposed amendments to the Clean Air Act are designed to provide increased legal flexibility in these areas and at the same time ensure that the maximum feasible progress will be made.

We have precious few laurels yet—certainly none to rest on. Renewed dedication is required at all levels of government to mount the sustained effort needed not only to attain the air quality standards but also to maintain them and to prevent significant deterioration in clean areas. The challenge is enormous, but the reward for perseverance will be invaluable. □

SHOULD TOXIC HERBICIDE BE BURNED AT SEA?

EPA is expected to decide soon whether to allow the U.S. Air Force to burn more than 11,000 metric tons of a toxic plant killer, Herbicide Orange, far out in the Pacific Ocean. This cannot be done until EPA grants a permit under the ocean dumping law.

The Air Force wants to burn the herbicide in an incinerator ship about 1,000 miles west of Hawaii. Public hearings have been held in Honolulu and San Francisco, and the public has had 30 days for comment on the application.

Announcing the hearings, Administrator Russell E. Train said he had tentatively decided to permit incineration at sea of one shipload (about 4,200 metric tons) of the herbicide as an experiment under closely controlled conditions.

Herbicide Orange is a half-and-half mixture of two common plant-killing chemicals, 2, 4-D and 2, 4, 5-T. Both are chlorinated hydrocarbons, and both are registered by EPA only for restricted uses and at much lower concentrations than the Air Force stocks.

Herbicide Orange was manufactured in great quantities for use as a defoliant in the Vietnam War. This use was halted in 1970, and the Air Force has left about 2.26 million gallons in storage. About 1.4 million gallons are at Johnston Island in the central Pacific, and 860,000 gallons at the Naval Construction Battalion Center, Gulfport, Miss. All of it is stored in 55-gallon steel drums.

The Air Force proposes to burn the herbicide in the Dutch incinerator ship, Vulcanus, which EPA permitted Shell Chemical Company to use last year to burn chlorinated organic wastes far out on the Gulf of Mexico.

Reclamation of Herbicide Orange for reformulation as commercial pesticide or for salvage of chemical constituents is not feasible, the Air Force said in a two-inch-thick environmental impact statement.

One problem with reclamation is the presence of a highly toxic impurity, TCDD or dioxin, in certain lots of Herbicide Orange. EPA has banned pesticides containing more than one part of dioxin per million.

Other disposal options studied by the Air Force included incineration on land, injection into deep wells or nuclear test cavities, sludge burial, and degradation by microbes.

Second best option to incineration at sea would be incineration on Johnston Island in facilities that would have to be constructed there, the Air Force statement said.

Burning the herbicide on the Vulcanus would be carefully controlled. The furnaces would be brought up to operating temperature of at least 1,400 degrees C (2,552 degrees F) by conventional fuel and then fed with undiluted Herbicide Orange and compressed air. The herbicide, a thick, oily liquid, has a very high heating value of 10,000 British Thermal Units per pound. It would be preheated before being sprayed into the furnace, and at least 30 percent more compressed air than necessary would be used to assure complete combustion.

Based on sample incineration studies, the Air Force estimates that virtually all the herbicide would be burned. Combustion products would be water vapor, carbon dioxide, and hydrogen chloride, plus very small amounts of carbon monoxide and carbon particles.

With the worst possible combustion efficiency of 99.9 percent, the Air Force estimated that only 3.6 pounds per hour of unburned Orange products would escape to the atmosphere when the incinerators are operating at their maximum allowable rate of 53,000 pounds per hour.

Even though Herbicide Orange will not be dumped directly into the ocean, at-sea incineration comes under the ocean dumping law because combustion products from the incineration process will enter the air and the water, according to T.A. Wastler, chief, Marine Protection Branch. EPA is concerned with minimizing the effects of such combustion products in the air and water mixing zones downwind and downcurrent from the incinerator ship, he said.

The dumping area proposed by EPA is about 50 square miles of empty ocean 120 miles from Johnston Island and 1,000 miles west of Hawaii. The Pacific equatorial current there moves westward, and during the proposed incineration periods prevailing winds are from the east. The nearest land downwind and downcurrent from the site is 1,000 miles away.

Dutch ship Vulcanus has two incinerators at the stern (left).

Another special concern with the proposed permit, Mr. Wastler said, is the handling and disposal of the 55-gallon steel drums. There are 15,700 of them at Gulfport and 25,000 at Johnston Island. They should be opened and drained with great care by workers wearing protective clothing and respirator masks when necessary. Aircraft refueler trucks would pump the herbicide from the Gulfport drain sumps to railroad tank cars for transfer to the ship. At Johnston Island, the aircraft refueler trucks would drive directly to the ship's dock.

All empty drums, sump tanks, and pumping equipment would be rinsed with diesel fuel and that fuel (about 40,000 gallons) would be burned with the herbicide, the Air Force application said.

The 40,700 empty drums would be crushed and sold as scrap steel. The steel furnace heat, about 2900 degrees F, and six-hour duration, would safely destroy all the herbicide remaining in the drums, said the Air Force's impact statement.

Taking part in negotiations with the U.S. Air Force over its application were Edwin L. Johnson, Deputy Assistant Administrator for Pesticide Programs; Kenneth Biglane, Director, Oil and Special Materials Control Division, Office of Water Program Operations; Mr. Wastler; Dr. Henry F. Enos, Director, Equipment and Techniques Division, Office of Research and Development; James Rogers, attorney, Water Quality Division, Office of General Counsel; and Charles Sell, assistant to the Director, Office of Federal Activities. □

around the nation

1 BOSTON

boston deadline
The City of Boston has until June 30 to close down its South Bay Avenue incinerator. The City had been notified as early as October, 1972, that it was not meeting emission limitations prescribed by the State's implementation plan. The enforcement order requiring the shutdown was issued by EPA March 5.

air pollution meeting
The Air Pollution Control Association will hold its 68th Annual Meeting in Boston June 15–20. A number of speakers from EPA Headquarters are on the program, as well as two former Region I employees. Thomas Bracken, former Regional Counsel, will speak on "Air Quality Maintenance and Land Use Implications," and Anthony Cortese, presently at the Harvard School of Public Health, will speak on "Determination of Environmental Carbon Monoxide Exposures Through Personal Monitoring."

nuclear power plant
Region I recently announced conditions that will have to be met if a proposed nuclear power plant is constructed in Seabrook, N.H., by the Public Service Company of New Hampshire.
EPA is concerned about the heat of the discharged water and the structure and location of the intake valve. Jeffrey Miller, director of Region I's Enforcement Division, said the company can use once-through cooling rather than a cooling tower. However, the company will have to modify the water intake to protect shellfish, fish, and wildlife.

2 NEW YORK

salt water tower
Regional Administrator Gerald M. Hansler recently presented a special award to the Atlantic City Electric Co., Atlantic City, N.J., for building the first natural-draft salt water cooling tower in the Nation. Mr.Hansler said the tower at the B.L. England plant, Beesely's Point, N.J., was designed after EPA informed the company that once-through cooling would not meet certain water quality criteria recommended to New Jersey by EPA. The tower protects Great Egg Harbor Bay from heated water discharge which could adversely affect existing marine life.

$1,000 for tampering
Hory Chevrolet, Larchmont, N.Y., agreed to pay a $1,000 fine for replacing the standard, emission-controlled engines in two Vega coupes (1972 and 1973) with uncontrolled 1970 Corvette-type engines in violation of the Clean Air Act. In the consent decree filed by the Justice Department, the company also agreed to an injunction against any future emissions tampering.

puerto rico smoke
The Puerto Rico Water Resources Authority agreed to correct visible smoke emissions and set compliance schedules at two generating plants: San Juan Steam Plant, Puerto Nuevo; and South Coast Steam Plant, Guayanilla. The Authority was ordered to burn fuel with a sulfur content of no more than one percent to comply with revisions in Puerto Rico's Clean Air regulations.

gas station checkup
Visits to more than 1,600 service stations in Region II indicate that 98 percent are offering unleaded gas needed for the proper functioning of catalytic converters on many 1975 cars. Inspectors, sometimes using a specially equipped mobile van, visited stations at random to make certain the gas was available and that the station had proper nozzles and signs. Minor violations occurred in a small number of cases. Where unleaded gas was not available, it was usually due to late deliveries.

federal installations

Region III has pioneered a new approach to insure that Federal installations comply with provisions of the Clean Air Act. Many Federal installations that have difficulty attaining emission standards have been reluctant to sign compliance agreements with State agencies because of Federal sovereignty questions. In these cases, the Region's Federal Activities staff meets with the staff of the Federal agency to negotiate a compliance schedule satisfactory to both sides. EPA maintains close liaison with the State to ensure that all requirements of the State Implementation Plan are met. After agreement has been reached, the Regional Administrator and a senior official of the other Federal agency sign a consent agreement and compliance schedule.

The first such agreement was reached with the Naval Surface Weapons Center, Silver Spring, Md. Agreements have also been signed with the National Naval Medical Center, Bethesda, Md.; the Naval Training Center, Bainbridge, Md.; and the Bureau of Printing and Engraving, Washington, D.C.

The Region is negotiating agreements with six other Federal installations.

steel company dispute

EPA and U.S. Steel are in a confrontation on open hearth furnaces in the company's Birmingham, Ala., operation similar to the one last fall in Gary, Ind., which resulted in shutdown by the company of some furnaces—and a side argument about how many jobs were affected.

Involved in Alabama are five open hearths at U.S. Steel's Ensley Works. Ensley is a suburb of Birmingham. In its other operations in this southern steel-and-coal producing city, the big steel company has switched to the basic-oxygen process and has announced plans for installing such facilities in Ensley. But at the same time, U.S. Steel has in effect sought a delay until late 1977.

The Jefferson County Health Department first indicated dissatisfaction with the request. Now Region IV has by letter informed U.S. Steel that the five open hearths are in violation of the Clean Air Act. A series of conferences have followed, and the Region hopes the issue can be resolved by late May.

Meanwhile two Birmingham newspapers, the News and the Post-Herald, have expressed some scepticism about the company's assertions on the effect a shutdown would have on jobs. The News reported:

"U.S. Steel claims that 2,000 jobs would be affected by closing down the furnace, *500 at first, 1,500 later, as steel* production is cut back.

"In Gary, Ind., last fall, U.S. Steel said 4,000 people would lose their jobs if the open hearths there were closed. The furnaces were closed and EPA records show that 400 steelworkers were temporarily out of jobs but later returned to work or retired."

bunch-up

Helping Region V cities with their transportation control plans has been a prime goal of the regional Public Affairs Office in recent months. Catchy television and radio spots, posters, bumper stickers, and public service ads are designed to promote car pooling, public transit, and other ways of saving fuel and reducing congestion.

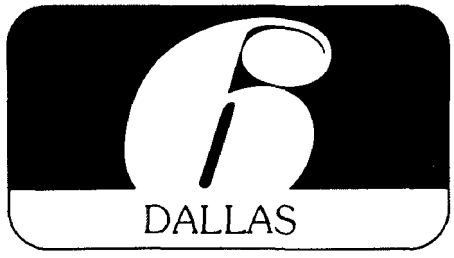
One campaign called "Bunch-Up" was put together with the help of Dick Orkin Creative Services, who created the "Chicken Man" radio comedy ads. The "Bunch-Up" television campaign has been nominated for a public service award at the Hollywood International Film Festival. It has been widely used in the Chicago area and has been picked to be shown at Sears shopping centers throughout the country.

A follow-up campaign is under way to get people to have their cars inspected voluntarily. The Office has been working with Cincinnati air pollution control officials on a similar campaign titled "I'm Clean." This also is a multimedia effort, and cars that pass the test get "I'm Clean" bumper stickers.

meetings

A national symposium on food processing wastes was held in Madison, Wisc., April 9-11. Sponsors were EPA's Pacific Northwest Environmental Research Laboratory and two canning industry associations.

The Second National Conference on Water Reuse was slated to be held May 4-8 in Chicago, sponsored by the American Institute of Chemical Engineers and EPA's Technology Transfer Staff.



leaky can roundup

Region VI pesticide officials are helping to locate and recall an estimated million leaking cans of a toxic pesticide, methyl bromide. Most of the defective cans were packed in El Dorado, Ark., at a plant of the Great Lakes Chemical Corp.

The recall order was issued by Region V, since the company's headquarters is in West Lafayette, Ind., but Region VI is also involved in supervising execution of the recall order.

Methyl bromide is used as a soil fumigant and is packed under a number of different brand names. It is a colorless, sometimes odorless, liquid and is extremely poisonous, according to Alex Gimble, regional pesticide enforcement officer. Skin contact with the liquid or inhaling its fumes can be fatal.

funds and jobs

A recent EPA grant of $48 million to the City of Fort Worth for the construction of new wastewater treatment facilities will create about 3,000 jobs, according to Deputy Regional Administrator George J. Putnicki.

scrubber film

An educational motion picture on scrubber systems for removing sulfur oxides from coal burning plant emissions is being produced by the Regional Public Affairs Office.

The largest scrubber system in the world is located at LaCygne, Kan., and regional officials feel the film will help to answer questions about this much debated pollution control technique.

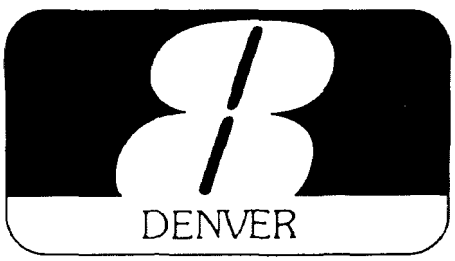
The film will follow the general format of the Office's film, "Trash to Kilowatts," on reclaiming energy from municipal solid wastes. The scrubber film, not yet titled, is expected to be finished in four to six weeks.

water workshop

A workshop to acquaint municipal and industry officials with the provisions of the new Federal Safe Drinking Water Act was held April 1 at Lake Ozark, Mo., by EPA Region VII, the Missouri Department of Natural Resources, and the American Water Works Association.

Regional Administrator Jerome Svore, Deputy Regional Administrator Charles V. Wright, and Otmar Olson, water supply officer, took part in the program.

Missouri Governor Christopher S. Bond and AWWA President Robert B. Hilbert addressed the meeting.



getting to work

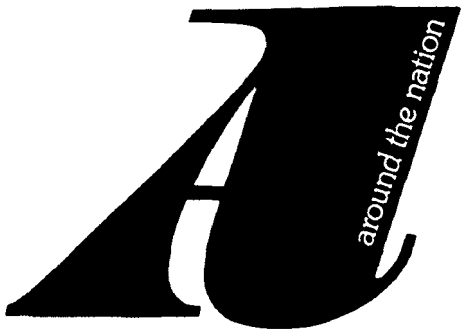
Practicing what they preach, some 74 percent of Region VIII employees stationed at the downtown Denver offices get to and from work by means other than single-occupant auto commuting.

Of the employees responding, 104 are in car pools, 99 ride buses, six walk, and three ride bicycles.

In a city where mobile sources contribute an estimated 90 percent of total emissions in the air, alternatives to private auto commuting are being pushed by EPA, the city administration, the State health department, local businesses and citizen groups.

Region VIII hopes to keep the "Driving Alone Is Exhausting" idea before Denver-area motorists through posters, bus cards, commuting-time radio spots and other suitable devices.

EPA staff commuting habits were surveyed in cooperation with the State's transportation control plan designed to meet national standards in the Mile-High City by mid-1977.



airport suit

A conservation group, Friends of the Earth, is suing the San Francisco Airport and the Federal Aviation Administration, trying to block an airport expansion project until an environmental impact study has been made.

At first the conservationists failed to get an injunction, because the Federal judge required them to post a $4.5-million bond as a condition of establishing their standing to sue. Six weeks later the U.S. Court of Appeals reduced the bond to $1,000, it was promptly posted, and the injunction was granted.

One issue in the case is whether a Federal impact statement is required when no Federal funds are used to begin the project. Airport officials say the initial work — now halted — involves no Federal money. Other aspects of the airport's expansion plans will involve Federal funds, about $50 million out of a total cost of $385 million. The FAA is preparing an impact statement.

spokane grant

A grant of $33.7 million — largest ever made by EPA in the Pacific Northwest — has been awarded to the City of Spokane for construction of new sewerage facilities to replace the present 21-million gallons-per-day primary treatment plant with secondary treatment capacity of 40 million gallons a day.

Regional Administrator Clifford V. Smith said the new plant, to be built at the northwest edge of the city, will require 60,000 cubic yards of concrete, clarifiers 160 feet in diameter, and aeration basins the size of a football field.

"EPA expects the project to create a fulltime work force of 500 persons during the peak construction phase, and — beyond that, once the job is complete — to provide environmental protection for years to come," Mr. Smith said.

The chief feature of the plant will be its capability for removing phosphorus from Spokane's sewage. Phosphorus is the key nutrient which stimulates algae growth in Long Lake, on the Spokane River about 20 miles from the city. The plant is expected to be completed in late 1977.

gas pump survey

Almost 100 gasoline station operators in the Region have been warned they are in violation of Federal regulations on no-lead gasoline.

The warnings were sent by Regional Administrator Smith as follow-up to the Agency's continuing inspections of all gas stations in Washington, Oregon, Idaho and Alaska that are required by law to offer unleaded gasoline. Since late last year when the inspection program began, more than 900 station visits have been made.

"The cooperation of gasoline distributors and retail operators has been outstanding," Mr. Smith said. "In only a few instances was it discovered that a station required to sell unleaded gasoline had failed to do so."

PROFILE

"Dedicated people, decentralization and strong leadership." These are the three characteristics of EPA which have made the deepest impression on him, Peter L. Cashman said in an interview with EPA Journal.

Mr. Cashman, who was appointed Director of the new Office of Regional and Intergovernmental Operations in January, has completed visits to all of the Agency's ten regions.

"These visits," Cashman said, "bore out my faith in the concept of decentralization. Without question EPA has the strongest regional operation in the Federal Government and I doubt that the significant progress this Agency has made could have been achieved had it been operating strictly from Washington."

A former Lieutenant Governor of Connecticut, Mr. Cashman said that he was impressed by the enthusiasm of EPA employees.

"From my experience in both Government and industry," Cashman said, "I have never seen employees who care so deeply about what they are doing. If there is any one thing that makes EPA different, it is the attitude of its employees."

Asked about the role of his new office, Cashman said "I regard the Office of Regional and Intergovernmental Operations as fundamentally a communications office.

"The former EPA Regional Liaison Office did an extremely effective job in this area, but the addition of the intergovernmental relations function will broaden its scope and activities.

"Hopefully, we can increase our commitment to include State and local points of view in our decision-making process. I consider that one of the primary missions of this office."

Mr. Cashman said "we have a tremendous job to do in the intergovernmental relations area. It is the goal of the Congress, of the President and of this Agency to have a shared responsibility with State and local government in all of our programs."

Acknowledging that shared responsibility complicates the carrying out of programs, Mr. Cashman said "in the long run, in our very responsive democratic society, it is the only way we can meet the difficult challenges before all levels of Government."

PETER L. CASHMAN

He noted that "we undoubtedly will have to focus more attention on working with the State and local Governments."

Mr. Cashman said that in his new post he is looking forward to working with seven major public interest groups:

The Council of State Governments, the National Governors' Conference, the National Conference of State Legislatures, U.S. Conference of Mayors, the National League of Cities, the National Association of Counties and the International City Management Association.

Mr. Cashman, 38, served as Connecticut's Lieutenant Governor from June 1973 to January 1975. During that time he presided over the State Senate and chaired the State Council on Human Services which coordinates the work of nine human service agencies. He also worked closely with all State commissioners and agency heads.

Before succeeding to the post of Lieutenant Governor, Mr. Cashman was elected twice to the State Senate; he was elected President Pro Tempore of the State Senate in 1972.

As a State legislator he was instrumental in the enactment of State environmental legislation, including the so-called Cashman Bill providing for the preservation of the lower Connecticut River Valley.

His previous experience includes three years as Vice President of an industrial marketing research company, preceded by administrative and teaching positions at a Connecticut preparatory school. Mr. Cashman makes his home in Washington, D.C.

SPRINGTIME IN THE CITY

Boy meets girl by Trinity Church fence at Broadway and Wall Street, New York.

As these photographs illustrate, spring in the cities can be a pleasant time to enjoy some of the good things of urban life such as fountains, flower gardens, parks and nature. All of these activities depend on a healthy environment. These photographs from EPA's Documerica collection help illustrate how fresh air can help bring enjoyment to urban life. Scenes from four cities, New York, Cincinnati, Minneapolis and Chicago, are depicted here.

Sidewalk diners can watch and be watched at Fountain Square, Cincinnati.

Bench at Foster Avenue Beach Park, Chicago, offers chance to rest and read beside Lake Michigan.

Minneapolis postal workers take an afternoon break on Nicollet Mall.

Cincinnati's Tyler Davidson fountain prompts a make-believe dunking.

NEW LOOK PLANNED FOR EPA GRAPHICS

EPA has launched a project that could result in a new look for the Agency's visual materials. The project has a single purpose—to improve communication with the public.

The project is part of a Federal design program started three years ago by the National Endowment for the Arts to upgrade Federal architecture and other government design, including graphics. A number of Federal departments including the Department of Labor, the Department of Agriculture, the Department of Interior, and NASA are participating. EPA was invited to join in this effort about 18 months ago, and Administrator Russell E. Train accepted.

Mrs. Patricia Cahn, Director of Public Affairs, said: "Federal Agencies that have undergone such a design review have found that in addition to giving a cleaner, more professional appearance to their information materials, it reduces overall design costs about 15 percent. The program appears to be well worth its initial cost."

In a first step, EPA submitted a representative sampling of published material for evaluation by a panel of leading graphic designers.

The panel's key recommendation was that EPA attach high priority to improving the appearance and efficiency of publications, periodicals, posters, stationery, exhibits, etc. "All major categories," panelists urged, "need attention because they do not possess a recognizable visual unity; they do not appropriately support, nor adequately represent, EPA aims and programs; they have no discernable style. For the most part, professional decisions concerning layout, style, format, typography, and reproduction are inadequate."

The panel's suggestion: retain an outstanding graphics designer.

After receiving competitive bids, EPA awarded a $67,000 contract to the New York design firm of Chermayeff & Geismar, Inc. The Office of Public Affairs is the contract project office. The national bicentennial symbol and the signs of the National Park Service are among the firm's nationally visible designs.

As steps in designing a unified visual communication system for EPA, Chermayeff & Geismar will:

- Review all Agency printed materials—booklets, pamphlets, technical reports, reports to Congress, labels, posters, stationery, signs, press releases, directories, decals, newsletters and exhibits.
- Talk with key headquarters, regional and laboratory people to develop an understanding of the Agency's mission, functions and objectives.
- Consider and explore all EPA graphics and printing capabilities.

The firm then will develop a unified graphics design program to help EPA communicate its message to the public.

During the one-year contract Chermayeff & Geismar will produce an EPA graphics manual and work with the Office of Public Affairs on its implementation and maintenance of design quality throughout the Agency. □

Manuela Alvarez, Clerk-Typist, Region VI, Dallas: "I would like to continue working where I am now. All my family and friends are here. I have lived in Dallas since I was five years old and I've never lived outside the city. I don't know what it would be like outside of Dallas. I would like to travel though, and I would like to visit Washington because of its history. I enjoy coming to work every day and I find the work rewarding. I work in the legal branch and there are career possibilities here."

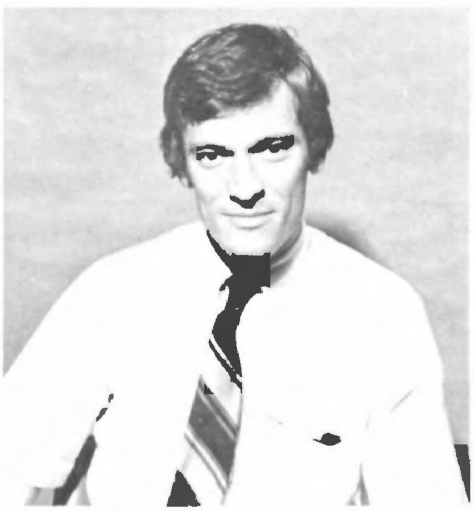
Ann Occhino, Staff Assistant, Region VIII, Denver: "Working at headquarters and then transferring to a region has given me a broader knowledge of EPA activities. Here I have the opportunity to observe the reality of the implementations and their repercussions. Of course, the rapport with your boss and co-workers is an important factor in self-happiness no matter where you are and I can truly say I am happier here. This region is well managed and works on a highly constructive level. Being the female that I am, I find Denver inconvenient as far as shopping is concerned. The selections are not as varied as in Washington, and I find myself doing a lot of mail ordering or driving the sales personnel batty asking for articles that I find in magazines. I also miss that wonderful Chesapeake Bay where I enjoyed loafing on a boat and listening to Nature's tranquility."

Would you rather work in a regional office or headquarters and why?

Robert Burd, Director of the Water Division, Region X, Seattle: "Unequivocally, I prefer working in the regional office. While headquarters offers considerable ego satisfaction because you are working at the seat of power and dealing with national policy issues and the Congress, I think regional office assignments offer even greater satisfaction. Basically this is because the regions are closer to the real world. You can see waste treatment plants built through your efforts and water cleaned up before your eyes. Day by day you deal with programs and people that are on the front lines. I find this very rewarding. Also regional office work is very challenging because there are so many practical but often difficult problems to solve. I think I am well qualified to give an opinion on the question, having worked at headquarters for five years followed by four years in a regional office. Furthermore, since Seattle is the regional office most distant from Washington, I am obviously an expert."

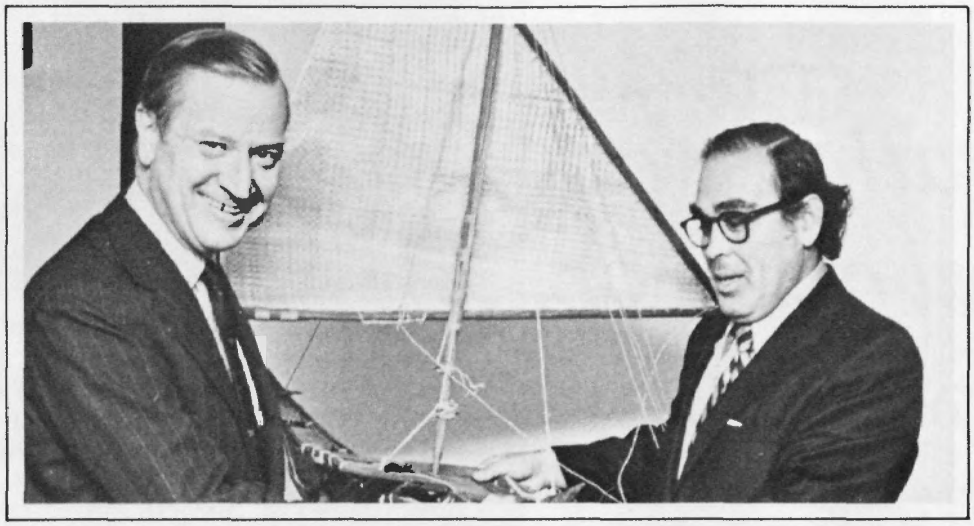
Mary Leyland, Chief of Grants Administration Branch, Region II, New York: "Given a choice, I would opt for work at the regional office level. Having worked in Region I and II as well as in short term assignments at headquarters, I can find a number of advantages to regional office work. At headquarters, people plan and write regulations and think in broad terms and time frames. At the regional level, personnel deal with the immediacy of day to day operations. It is in the regional office that the implementation of broad policies occurs, that issues are resolved and the future takes a more realistic form. In the region, we talk to people from other program areas, from State and local agencies, acquainting ourselves with their operations. Higher grades at headquarters should lure regional personnel there—a good idea in that regional personnel know best what is happening in the field, what can happen and, in a sense, what must happen so that the Agency can function properly and effectively."

Robert Davis, Biologist, Region III, Philadelphia: "Like W.C. Fields, I would rather be in Philadelphia. I feel I can live more in the style in which I like to live in this region. Philadelphia has cultural opportunities within easy access from where I live. Although I have little to do with policy setting, I feel I am close to the problems and the people. I enjoy working on matters such as acid mine drainage, rural waste management and ocean monitoring. It's a little more satisfying if you get to deal directly with these problems."



Bill Keffer, Chief, Water Section, Technical Service Branch, Region VII, Kansas City: "I prefer being in Kansas City. I spent a year in Washington back in about 1961 when I was starting out on my career. It was good experience, but I was glad to leave. Once in Washington was enough. I have been in the region here in Kansas City about eight years. My interests happen to be technical and I want to assure that EPA's technical work is satisfactory. I do field sampling for the water programs. I find it easier to do well when I like something I am doing. Kansas City is a nice place. The pace here is not as fast or as pushy as it is further East, but it's about as big a place as I would like to live in."

PEOPLE



Administrator Russell E. Train, left, receives model Micronesian outrigger vessel from Dr. William D. Rowe, Radiation Programs. Gift was made by South Sea islanders who hope to have their radioactive atoll cleaned up and made habitable.

A model South Pacific outrigger was recently presented to Administrator Russell E. Train as a gift from islanders displaced 28 years ago so the United States could use their atoll for nuclear weapons tests.

It is one of several made by residents of Ujelang, in the Marshall Islands, for heads of Federal agencies making plans to return the people to their old home, Enewetak Island (formerly spelled Eniwetok).

For several years teams of radiation experts have been surveying Enewetak to determine what work is needed to clean up and dispose of radioactive debris and make the island safe to permanent settlement. The experts represented both EPA and the Energy Research and Development Administration (ERDA), formerly the Atomic Energy Commission.

An environmental impact statement being prepared by the Defense Nuclear Agency estimates the cost at about $40 million, which Congress will be asked to approve and appropriate.

After 117 Enewetak islanders were moved in 1947 to Ujelang, a smaller island 200 miles to the southwest, the population increased. It now totals about 435, most of whom want to move to Enewetak.

The Interior Department, which administers the Pacific Island Trust Territory, is also involved in the resettlement planning

Peter L. Cook has been appointed Assistant Director, Policy and Procedures Staff, Office of Federal Activities. Mr. Cook joined the Agency in 1971 as a federal activities coordinator.

Prior to his employment with EPA, Mr. Cook was with the National Oceanic and Atmospheric Administration where he acted as a project engineer in the weather satellite program. He holds a degree in electrical engineering from Clarkson College of Technology in New York, and a masters' degree in business administration from American University, Washington, D.C.

Dr. Aaron A. Rosen recently received the Professional Accomplishment in Government Award for engineers or scientists, given annually by the Cincinnati Technical and Scientific Societies Council.

Dr. Rosen, who has been with EPA since 1970, is Scientific Advisor of the National Field Investigation Center in Cincinnati. He is a member of the American Chemical Society, American Water Works Association, Water Pollution Control Federation, and other professional societies. He is the author and co-author of many publications in his field.

William J. Dircks, Executive Assistant to the Administrator, has been appointed to a post with the new Nuclear Regulatory Commission. He will be Assistant Executive Director for Operations with special responsibility for policy coordination.

Mr. Dircks was appointed Executive Assistant to the Administrator in February, 1974. From 1971 to 1974 he had been a senior staff member at the Council on Environmental Quality. His Federal service also included work with the Atomic Energy Commission, the U.S. Office of Economic Opportunity, and the Economic Development Administration of the Department of Commerce.

Linda Buono, coordinator of Region II's unleaded gas program, analyzes a sample from an area service station. Mrs. Buono and her team of field samplers from the Surveillance and Analysis Division, have the responsibility for verifying that the approximately 20,000 service stations in the Region have gasoline that meets lead-free regulations. Mrs. Buono is making the analysis in the EPA Mobile Fuels Laboratory.

Alvin L. Alm, Assistant Administrator for Planning and Management, recently presented the President's Safety Award for 1973 to the EPA Safety Management Systems staff. This award is made annually by the President to Federal agencies. EPA received Honorable Mention in Category 2 for agencies with between 6,000 and 112,000 employees. Only two awards are presented in each category. In order to be eligible for award consideration, agencies must show at least a one percent improvement in accident frequency rate for the contest year when compared to the average frequency rate for the previous three years.

EPA received the award not only because of its reduction in injury experience for the year 1973 but as a recognition of its effective safety program during that year. The Safety staff, headed in 1973 by former Safety Officer Trenton Crow and directed since May, 1974, by Lawrence F. Gaffney, is based in Washington but travels to all Regions and National Environmental Research Centers to review and strengthen safety programs.

Michael L. Springer, director of the Management Information and Data Systems Division, starts this month on a year-long executive training program sponsored by the Civil Service Commission and the Office of Management and Budget. After a seven-week course at the Federal Executive Institute, Charlottesville, Va., Mr. Springer will be assigned to successive posts with EPA and other Federal, State, or local agencies in a program designed to strengthen his leadership qualities and broaden his experience. Only 26 other Federal officials were chosen for this year's program.

Mr. Springer, 37, was financial and budget officer for the National Library of Medicine before coming to EPA in March, 1971. He attended Millsaps College, Jackson, Miss., and was graduated from George Washington University. He was born in Florida but has lived most of his life in the Washington, D.C., area.

John Moran recently left his post as director of catalytic converter and fuel additive programs at the National Environmental Research Center, Research Triangle Park, N.C. His new assignment is to direct the vehicle efficiency program, Office of the Associate Administrator for Transportation, Federal Energy Administration. Mr. Moran came to EPA in May of 1971. Previously he was associated with the Dow Chemical Co. in Midland, Mich.

Edwin L. Johnson, 39, has been named Deputy Assistant Administrator for Pesticide Programs. He began his professional career in 1958 as an engineer and project director for the U.S. Public Health Service. He later became the chief economist for comprehensive planning and programs for the Public Health Service, responsible for economic analyses and mathematical modeling for nationwide water quality management plans. Mr. Johnson joined the Department of Interior in 1966 and became chief of the systems analysis and economic branch of the Federal Water Quality Administration.

In 1970, he became a member of the newly organized Environmental Protection Agency. In 1972 Mr. Johnson became the Director of Operations and Strategic Studies for Pesticide Programs where he remained until his present appointment. A native of New Britain, Conn., he has a bachelor's degree in civil engineering, Yale University, 1957; a master's in public administration, Harvard University, 1962; and a master's in economics, Harvard University, 1963. He succeeds Henry J. Korp, currently a senior science advisor to the Assistant Administrator for Water and Hazardous Materials.

HIGH VOLTAGE POWER LINES STUDIED

John Nelson climbs radiation analysis van to put microwave antenna on the traveling lab's mast. A pneumatic mechanism can lift the mast 10 meters, the better to detect and record electromagnetic fields.

Can high-voltage electric power lines affect the health of people living near them and the environment through which they pass?

The Office of Radiation Programs has been seeking answers to these questions as part of its regular study of non-ionizing radiation—the kind produced by infrared and microwave devices; radar, television, and FM radio transmitters; and certain kinds of electric equipment.

Under the direction of David E. Janes Jr., the six-member Electromagnetic Radiation Analysis Branch is investigating transmission line effects because of the increasing use of extremely high voltage, defined as more than 700 kilovolts. Several such lines are already operating in the United States, others are being built, and proposals have been made for lines at 1,000 kV (one million volts).

Not enough is known about the electromagnetic fields that surround such a line, Mr. Janes said, or what effects they may have on human health, plants, animals, and other forms of life.

Mr. Janes explained that electric and magnetic fields created by power lines are most intense near the line and decrease with distance from it. As transmission voltages are raised, field intensities at ground level may become high enough to affect living cells in ways still unknown.

Other environmental effects could come from corona, the discharge that occurs with the breakdown of the insulating properties of air surrounding a power line. Corona can produce visible light, sometimes seen as a glow around the line; audible noise; radiation that can interfere with radio and television reception; and ozone, an oxidant air pollutant.

Mr. Janes and his colleagues are gathering data to help determine if a standard is needed to protect public health and the environment from non-ionizing radiation. Their studies cover a broad range from the extremely low frequencies at which power lines operate to ultra-high frequencies employed in radar and microwave devices.

Two trailers at the Forest Glen Annex, Walter Reed Army Institute of Research, Silver Spring, Md., serve as their office and laboratory.

A specially equipped van allows them to take their instruments and recording equipment into the field. The van has a spectrum analyzer—essentially a very fine radio receiver—connected to a small computer that controls and analyzes the data collected. Several antenna systems are used in the measurement of electromagnetic fields. These antennas are individually mounted on a 10-meter telescoping mast, as needed.

The van also has several types of portable instruments to measure high-level fields near specific sources. These portable instruments have been used by the Branch in studies of military and civilian radar, powerful satellite communication systems, and some broadcasting stations.

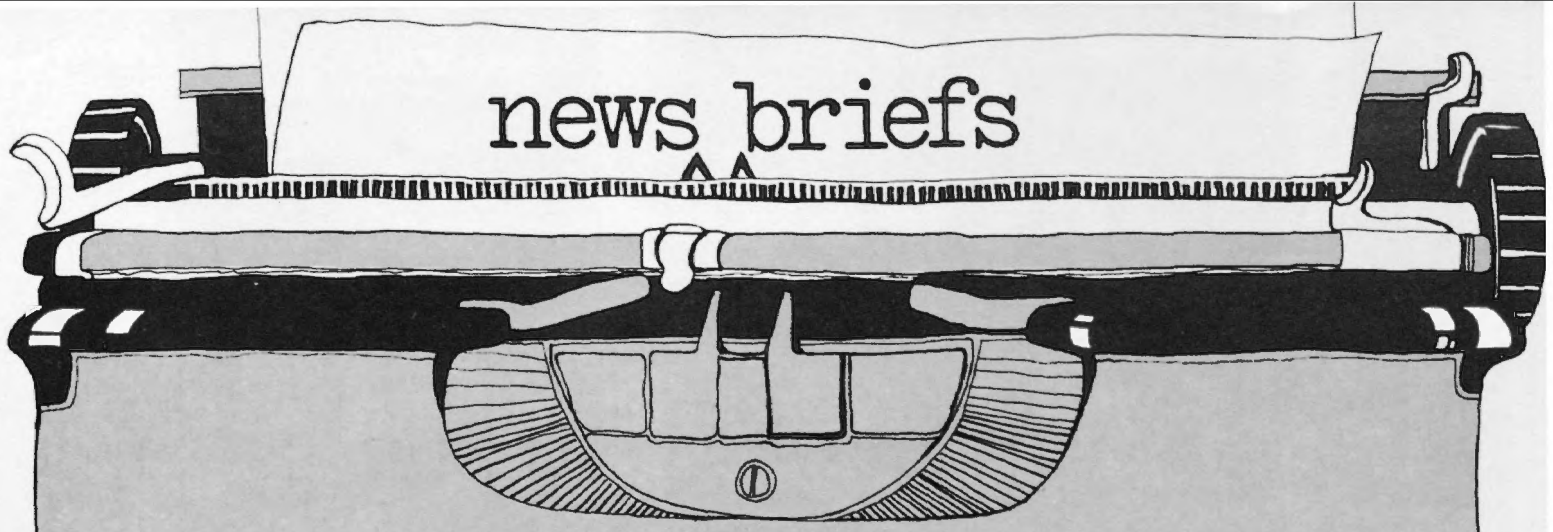
A study of electrostatic fields at a 500-kV overhead transmission line near Frederick, Md., has been completed and will soon be published. Another study during the next two months will make a similar evaluation of a 765-kV line at a site still to be chosen in Indiana or Ohio. This study will be supported in part by the Nuclear Regulatory Commission under an interagency agreement.

Working with Mr. Janes on these projects are Richard A. Tell, T. Whit Athey, Norbert N. Hankin, John C. Nelson, and Vicki Gocal.

A formal notice by EPA seeking data from industries and the scientific community was printed in the Federal Register March 18.

Signed by Roger Strelow, Assistant Administrator for Air and Waste Management, the notice said "there appears to be no central focus in the Federal Government" for collecting and analyzing data on the health and environmental effects of high voltage power lines.

Mr. Strelow asked interested persons to submit data by June 30 on electric and magnetic fields, induced voltages and currents, discharge phenomena, and health effects. He said this information would help EPA's investigations and "assist in the determination of the need to provide guidance . . . or formulate plans for such future regulatory action as may be necessary to protect the public health and welfare." □



EPA BARS CONTRACTS, GRANTS, LOANS TO POLLUTERS

Industrial and manufacturing facilities in violation of the clean air and water laws will not be eligible to receive any Federal contract, grant, or loan, according to final regulations recently adopted by EPA. Starting July 1 the Agency, with assistance from the States, will place such violating facilities on a list, based on administrative and civil court decisions and criminal convictions in Federal, State, and local courts. Listed facilities will be barred from receiving any payment over $100,000, or for any amount if the facility is involved in a Federal criminal conviction for water or air pollution. One exception will be grants to help facilities to comply with pollution control standards.

ORGANIC CHEMICALS FOUND IN WATER SUPPLY OF 79 CITIES

Small quantities of organic chemicals have been found in the water supplies of 79 cities throughout the country, Administrator Russell E. Train announced. The findings are the first results of a national survey begun last November after the chemicals had been identified in the drinking water of New Orleans and Cincinnati. The six chemicals are all "volatile" organic compounds. The use of chlorine to disinfect drinking water is believed to contribute to the formation of four of them. "Even at the low levels we found (parts per billion)," Mr. Train said, "the chemicals are a matter of concern...EPA is working to determine their health effects, their sources, and what can be done most practically to solve the problem."

CONSTRUCTION GRANT AUDITS INDICATE WEAKNESS

Weaknesses in the local administration of some EPA grants for sewage plant construction may have resulted in overpayments, according to a preliminary report released recently by Alvin L. Alm, Assistant Administrator for Planning and Management. Audits of 41 projects in 12 States are under way and are expected to show deficiencies in administration, accounting, and costing, plus some examples of excessive profits, Mr. Alm said. Actual audit reports will be released as soon as completed, he said, "and we are stepping up all of our audit and inspection activities" to correct any abuses.

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MINIATURE WORLDS FOR PESTICIDE TESTING

Jay Gile, research biologist, makes regular observations of plant and animal activity in one of the National Ecological Research Laboratory's model pesticide research ecosystems.

Scientists at the National Ecological Research Laboratory at Corvallis, Ore., have put a simulation of the natural world in a box. The purpose of the experiment is to provide chemical manufacturers with a research tool to evaluate the environmental impact of new pesticides.

The plexiglass box (about 39 x 29 x 23 inches) is a miniature ecosystem, designed to be a practical, intermediate investigative step between the test tube and field studies. The research is a spin-off of EPA's Substitute Chemical Program, started in 1973 to find safe, effective chemicals to replace pesticides that harm the environment. The project is directed by Dr. James Gillett, laboratory ecologist.

Researchers use the chamber to develop methods and procedures that can be used to evaluate the pathways, biological effects and fate of selected substitute pesticides. A conceptual model has been developed to trace pesticide movements in soil, air, and water.

Controlled amounts of light, temperature, humidity, air, water and defined living and non-living elements are combined in the box to duplicate specific field conditions. Seeds are planted, and soil invertebrates, insects, and larger life forms like the praying mantis, chameleon, field mouse and Japanese quail are put in this laboratory world. When the system is balanced and functioning, selected pesticides "tagged" with radioactive carbon-14 are added so that their movements can be traced.

At the end of each experiment (30 to 60 days) the living and non-living portions are segregated, weighed and counted and analyzed.

It is anticipated that within two years this process of microcosmic testing should be developed to the point that it can be made available to chemical manufacturers for commercial uses.

The Corvallis program is being coordinated with those of three other EPA associate laboratories—the Gulf Breeze Environmental Research Laboratory, Gulf Breeze, Fla.; the National Water Quality Laboratory, Duluth, Minn.; and the Southeast Environmental Research Laboratory, Athens, Ga.□