

EPA JOURNAL

Environmental Protection: A Look at Pennsylvania

The Administration's Clean Air Principles

Construction Grant Regulation Slash



Front Cover: A panoramic view of Philadelphia with Independence Hall in the left foreground.

The East and West Branches of the Susquehanna River form a picturesque junction at the town of Northumberland, Penn.



The Pursuit of a Better Environment

In this issue, EPA Journal reviews developments at both the National and State levels in the quest for a better environment.

We have an article on the 11 principles which will guide the Reagan Administration in its efforts to extend the Clean Air Act. We also take a look at where most of the work is done in the battle for clean air — at the State level.

We begin with a number of reports from Pennsylvania, partly because this State has such a variety of environmental problems and assets. We hope to review environmental difficulties and progress in States in other sections of the Nation at a later time.

An article on how the Clean Air Act could be made more effective is the first in a series the Journal plans to carry on various aspects of this legislation.

The issue also carries a photo essay on Pittsburgh which indicates that substantial progress in cleaning the air was sometimes possible even before the Clean Air Act was passed.

More new top appointments for EPA are disclosed in this issue. Also included is an article about a proposal explained by Deputy Administrator John W. Hernandez to slash by 50 percent the number of Federal regulations governing construction of municipal waste treatment plants. □

EPA JOURNAL

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

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EPA Journal Changes

The annual subscription price for the EPA Journal is being dropped from \$12 a year to \$8.50 for subscribers in the U.S. because the number of issues per year is being reduced from 10 to six. Budget constraints require the new bi-monthly schedule which begins with this issue. The charge to subscribers in foreign countries will decline from \$15 a year to \$10.65. The price of a single copy of the Journal will be \$2.50 if sent to an address in the U.S. and \$3.15 if mailed to a foreign address. All these prices include mailing costs. Subscriptions to EPA Journal, as well as to other Federal Government magazines, are handled only by the U.S. Government Printing Office. Anyone wishing to subscribe to the Journal should fill in the form at right and enclose a check or money order payable to the Superintendent of Documents. The form should be mailed to: Superintendent of Documents, GPO, Washington, D.C. 20402.

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The 11 Principles

President Reagan in seeking extension of the Clean Air Act has approved a general approach based on 11 basic principles.

EPA Administrator Anne M. Gorsuch has disclosed that the principles are based on recommendations and options presented to him by the Cabinet Council on Natural Resources and Environment and its Working Group on the Clean Air Act headed by Mrs. Gorsuch.

The Administrator said that the principles provide the framework for continuing work with Congress in developing legislation to extend the Act.

"Working with the key Congressional leaders, we are confident that specific legislation based on these principles can be drafted which will ensure we choose the most effective means to maintain continued improvement in the quality of the air that all Americans breathe," said Mrs. Gorsuch.

The 11 principles are:

1

The Nation should continue its steady progress toward cleaner air.

2

Statutes and regulations should be reasonable and should be related to the economic and physical realities of the particular areas involved.

3

The basic concept of the health-based primary standards in the Clean Air Act should be maintained. Cost-benefit analysis should not be included as statutory criteria in setting these standards, but standards should be based on sound scientific data demonstrating where air quality represents real health risks.

4

Secondary standards should also continue to be set at the Federal level.

5

The current program for the prevention of significant air quality deterioration should be maintained for the protection of park and wilderness areas. In other areas, protection should be based on uniform technology requirements for pollution control.

6

States should be accorded a full partnership in implementing the Nation's standards. The Federal Government will monitor state achievement of national health and welfare standards.

7

A more effective hazardous pollutant program should be established to allow, for the first time, efficient control of the serious health hazards posed by airborne toxic pollutants.

8

Research on acid deposition should be accelerated.

9

Deadlines for achieving primary air quality standards should be adjusted to reflect realities in particular areas.

10

As suggested by the National Commission on Air Quality, automobile standards should be adjusted to more reasonable levels. The limit for nitrogen oxide could be raised to a level slightly higher than that suggested by the Commission without affecting air quality goals.

11

Pollution control standards for new coal-fired plants should be based on uniform emissions standards. Environmental protection should be the criterion.



The U.S. Capitol, where Congress will decide what to do about the Clean Air Act.

Why The Clean Air Act Needs Adjustment

By Kathleen M. Bennett

EPA Assistant Administrator for Air Noise, and Radiation



The Clean Air Act has contributed to significant improvements in air quality over the past ten years and should serve as the basis for continued progress in the future. Clean and healthful air is important to America and the original goals of the Act remain valid.

However, despite its many strong points, a number of the Act's provisions need adjustment. The air quality problems of the 1980's are different from the problems of the 1970's. Some have been virtually solved and others are simply better understood. Institutions, particularly State and local agencies, have grown and matured. Experience has shown some provisions require unnecessarily burdensome procedures and others are relatively ineffective in accomplishing their purposes. Finally, several provisions impose costs which are clearly disproportionate to any associated environmental benefit.

It is time to consider revisions to the statute which will contribute to a more efficient program, reduce duplication, uncertainty, and delay and help insure that we get a full return for our investments in air quality protection.

Under the Clean Air Act of 1970, EPA identified and established ambient air quality standards for six major pollutants: Sulfur dioxide, carbon monoxide, particulate matter, lead, nitrogen dioxide, and ozone or smog.

The States have adopted control programs limiting emissions from factories, power plants and other stationary sources of these pollutants and the Federal government has imposed stringent controls on automobiles and other mobile sources. As a result we have seen major improvements in air quality and can predict with confidence the attainment of several of the ambient standards virtually everywhere in the country within the next several years. For example:

- Carbon monoxide ambient concentrations have decreased by more than 40% over the past ten years. Attainment of the standard is virtually assured throughout the country before 1987. Individual cars sold in 1980 emitted less than one tenth of the carbon monoxide that was emitted by the cars of the late 1960's. The 1981 requirement reduced this even further. This progress represents a clear victory for the statute and the vanishing nature of this problem must be considered in the design of future control requirements.

- Sulfur dioxide levels also declined by more than 40% during the last decade. These reductions followed an even sharper decline in the late 1960's as States moved independently to control power plants and other major sources of this pollutant. In 1981 we have a relatively small number of localized sulfur dioxide problems usually associated with individual sources which have yet to come into compliance with State-imposed emission limitations. Of the more than one thousand sulfur dioxide monitors being operated by State and local governments only about three percent recorded readings above the standard in 1980.

- Emissions of particulate matter from industrial sources were reduced 50% during the 1970's. However, ambient concentrations declined by only 20%. This is because many monitors are influenced by localized dust problems caused by agricultural activity, unpaved rural roads or dust from traffic on urban streets. Most industrial sources have installed control technology which captures more than 90% of their particulate emissions and many are capturing more than 99%.

No longer are we faced with the rather simple regulatory problem of controlling smokestack emissions. Now we must deal with unconventional sources of dust, a pollutant of limited health significance. In many cases such dust control may require costly and disruptive changes in transportation and agricultural practices.

- Lead is emitted from both automobiles and stationary sources such as smelters and battery factories. Most public exposure occurs in major urban areas where the use of leaded gasoline in cars and trucks historically has caused high ambient lead concentrations.

The use of unleaded gasoline in new cars has resulted in substantial improvements in urban air quality. Over the past 10 years the amount of lead used in gasoline has declined by almost 70% and urban air lead levels have shown corresponding improvement. Since the lead standard was not adopted until 1978, States are just beginning to implement control programs and reductions from stationary sources will take place in the next three years.

- Photochemical smog, measured as ozone, is the nation's most pervasive air quality problem. In 1980, more than 40% of the ozone monitors showed the standard being exceeded, sometimes by a factor of 2 or 3. Over 500 counties in 45



Smoke from factories like these along the Rouge River in the Detroit area helped spur the demand for pollution control laws.

States do not meet standards for this pollutant and in 35 urban areas in 24 States the problem was sufficiently severe to require extensions of the attainment date to 1987.

Ozone is formed by the chemical reaction of hydrocarbons and other volatile organic compounds in sunlight. These pollutants are emitted from automobiles, chemical plants, painting and printing operations, gasoline storage and distribution and petroleum refineries. Because the problem was poorly understood in the early 1970's, it was generally assumed that the Federal automobile emission limits would eventually solve the problem. Only recently have the States and Federal government come to understand that stationary sources contribute approximately 50% of these emissions.

They have now begun to initiate regulatory action to control emissions.

Reductions in hydrocarbon emissions from automobiles have barely kept pace with increased automotive travel. This combined with deferred action to control stationary sources has resulted in continued high levels of ozone. There is no measurable downward trend to date.

- *Nitrogen dioxide* is formed in the atmosphere through a chemical reaction involving sunlight and nitrogen oxides from automobiles and other fuel burning sources. Few areas exceed the ambient standard and in those cases it is exceeded by only a relatively small margin. At this time only seven areas are designated nonattainment for this pollutant (Chicago, Denver, and five California cities).

Reductions in auto emissions over the next several years are expected to eliminate all but one or two of these problems. Compared to the ozone and particulate problems discussed above, the nitrogen dioxide problem is of minor and declining significance.

STATUS OF CONTROL PROGRAMS

Over the past ten years, Federal, State, and local agencies have significantly increased their staffing and level of expertise in air pollution control programs. State and local agency staffing has increased from about three thousand in 1970 to almost nine thousand today. State and local funding has increased similarly to more than \$230 million in 1981, including \$88 million in Federal grants. These state and local agencies are the key element in the air quality control program — they operate virtually all ambient monitors, adopt the vast majority of emission limitations, conduct inspections, answer complaints, and constitute the first line of enforcement.

To meet the Federal ambient standards the States have adopted plans and regulations. These plans incorporate emission limitations and compliance schedules applicable to thousands of existing sources. In addition, all States require permits for major new sources and many States issue operating permits which are renewed periodically. The vast majority of this structure has been implemented since 1970 as a result of the Clean Air Act's mandates.

In addition to State plans, Federal new source performance standards have been promulgated for 37 source categories and proposed for 15 more. By the end of 1983, virtually all major source categories will have been incorporated in this program which established a uniform national requirement for the application of best available control technology to all major new construction.

Less progress has been made in the control of potentially hazardous pollutants for which ambient standards have not been adopted. Seven such pollutants have been identified to date and regulations adopted for four of those. Although other pollutants have been identified as being of potential concern, the process of reviewing scientific data and making decisions as to the significance of any risk and the appropriateness of regulation has been slow and inconclusive.

UNREASONABLE SCHEDULES

The Clean Air Act includes optimistic deadlines for attaining ambient standards — deadlines which have proved to be impossible to meet. Despite the real and measurable progress in improving air quality, this failure to meet the Act's unrealistic schedules has created a major problem of public credibility.

The particulate matter, sulfur dioxide and nitrogen dioxide standards cannot be attained everywhere by 1982.

While nitrogen dioxide is not a significant national problem, attainment in the few areas that exceed the standard will be delayed until cars with better controls are phased in.

The particulate matter problem is marked with hot spots caused by both rural and urban dust from agricultural and transportation activities. These emissions will be difficult to reduce, and control measures will take years to implement.

Regulatory and enforcement actions addressing the remaining sulfur dioxide problems will require additional time to complete.

In a few areas, the 1987 date for attaining the ozone and carbon monoxide standard will not be achievable. The Los Angeles smog problem will require more time and new technology before it is solved.

Failure to attain the standards carries with it the threat of construction bans and funding sanctions provided by the Clean Air Act. These are hardly appropriate responses in cases where there are not feasible solutions to the problem. The dates must be changed if the program is to be made credible. Reasonable time must be provided for planning and implementation.

Recognizing the special problems faced by the non-ferrous smelting industry, Congress provided for deferral of control requirements until 1988 where significant adverse economic impacts were anticipated. Several smelters continue to face severe economic problems and will be forced to close in 1988 under the current statute. Such closures will cause major unemployment in affected areas where smelters are frequently the only major employer and will force further reliance on foreign sources of copper and smelting capacity.

STATE IMPLEMENTATION PLANS

The Clean Air Act requires the States to incorporate emission limitations for tens of thousands of stationary sources in their State implementation plans. These emission limits and any subsequent changes to them or to compliance schedules must be reviewed and approved by EPA before they can take effect. In addition, EPA must review and approve State designations of attainment status and subsequent changes to them.

This approval and revision process requires the annual submission by the States of literally thousands of individual actions to EPA and the processing of hundreds of Federal Register actions. Experience has shown the duplicative Federal review of many State actions serves little purpose other than to divert the skills of Federal and State professionals from more productive work. At the State level, implementation plan revisions require notice and an opportunity for public comment prior to submission to EPA, where the process must be repeated at the Federal level.

Even simple changes can take years despite the fact that many are technical amendments in which the public has little interest. This is most clearly evidenced by the fact that the overwhelming majority of Federal proposals elicit no public comments or, at most, a single comment from the affected State or source.

The expected processing time for Federal approval is more than 10 months and includes two dozen separate review steps to insure conformance with the multitude of applicable Federal rules and policies. Over one hundred Federal and State employees are occupied full-time processing this paper, not counting those that are involved in the substantive aspects of the rulemaking.

Because the Federal staff is always behind in processing these State actions — over one thousand have been in EPA for more than a year — there has been little opportunity for EPA to get involved early in the State process. The resulting second-guessing of State actions has frequently contributed to poor Federal/State relations and increased tension between the two levels of government.

In addition to requiring unnecessary Federal approval of minor changes, the Act imposes specific control requirements on the States and threatens costly and disruptive sanctions if they are not

adopted. For example, the Act requires 29 States to enact and implement automobile inspection and maintenance programs. In many cases these programs are not necessary to attain the standards, and would do little more than accelerate the attainment date by one or two years.

The States were not given adequate time to evaluate and adopt this difficult program, but instead were forced into precipitous action under the threat of prohibitions on economic growth and the loss of critical transportation funding. As a result, the opportunity for a potentially beneficial environmental program may have been lost. States have adopted hurriedly designed programs and have had to require participation without adequate time to inform the public of the potential benefits. In some cases, costly facilities have been constructed or contracted for and those States and municipalities face the prospect of spending millions on poorly designed programs with little chance for public acceptance and success.

Similarly, millions of Federal dollars have been spent to satisfy the transportation control requirements of the statute despite the fact that in many areas these programs hold little promise for significant air quality improvement.

The Federal government cannot effectively mandate the uniform adoption of programs such as inspection and maintenance or transportation controls. These programs must be considered and adopted on their merits after adequate public involvement and consideration of local political realities.

NEW SOURCE REVIEW

All major new sources and modifications to existing sources locating in either clean or dirty air areas must obtain preconstruction permits. In clean air areas the prevention of significant deterioration program establishes limits on the air quality impact of industrial growth. In nonattainment areas, new sources must contribute to or be consistent with State plans for reducing current levels of emissions. In both cases, sources must meet specified technology requirements.

Visitors can see for miles in this canyonland in southeastern Utah where the San Juan River carves a meandering course.

Each year about 500 large sources locating in clean (prevention of significant deterioration) areas must obtain a Federal permit before they can construct. Some of these are modifications to existing factories which would result in increased emissions while others are totally new facilities such as new power plants or manufacturing facilities. In addition, hundreds of sources locating or expanding in areas where the standards are not being met require Federally mandated State issued permits. In many cases sources are required to obtain both permits.

Unfortunately, the permit requirements in prevention of significant deterioration and nonattainment areas are different, the criteria for deciding whether a source

needs a permit are different and the processes and decision criteria are different. This complex web of new source review requirements is disproportionately burdensome when compared to the limited environmental benefit achieved by a number of the provisions.

Under the current system, modifications resulting in even very small increases of some pollutants (as little as a few pounds per year) can force an existing source to obtain a prevention of significant deterioration permit with attendant delays and costs while a completely new source emitting 240 tons per year of the same pollutant would not require review. In some cases, sources can avoid new source review by offsetting

emission increases associated with modifications with decreases in other parts of the plant, but could still be required to meet the new source performance standard where such offsetting is not recognized

AIR QUALITY ASSESSMENTS

In clean air areas, industries frequently must delay siting decisions for more than a year while they conduct ambient monitoring studies costing hundreds of thousands of dollars. The data collected must be submitted to the permitting agency but serves no real purpose in the permit decision.

Industries and other pollution sources must show that they will neither individually nor in combination with all other sources in their area of influence exceed applicable increments and ambient standards. Frequently, other sources in the area will not have been issued permits and there will be no current inventory at either the State or Federal level on which to rely. In one case, a source seeking a permit was forced to conduct a census of more than 100 separate sources in the vicinity of its plant just to identify candidates which might be affecting air quality. That was only the beginning of the problem since the source then had to try to evaluate the cumulative effects of these sources on the short-term prevention of significant deterioration increment — effects which are a function of changing operating characteristics and weather conditions — a virtually impossible task.

TECHNOLOGY REQUIREMENTS

Despite uniform national rules prescribing best available control technology for major new sources, permit applicants must subject their proposals to a case-by-case review of alternative control technology, costs and energy impacts. Such demonstrations may cost tens of thousands of dollars to prepare and can result in months of uncertainty and delay as various government reviewing officials redefine control requirements. Such reviews have accomplished only minimal reductions beyond those required by the new source performance standards and have not been found to have any environmental significance.

In nonattainment areas the problem of case-by-case technology reviews is even





worse. Sources must identify the most stringent requirement imposed on similar sources in any other State or local jurisdiction and must demonstrate that they meet an equivalent level or that it is unreasonable for them to do so. States are required to make case-by-case determinations to this effect prior to issuing permits despite the fact that it is virtually impossible for EPA to collect, evaluate, and disseminate the necessary information for their use.

A recent survey of permits conducted by EPA indicates that case-by-case best available control technology determinations reduced emissions from 214 permitted sources by only 15% beyond that which would otherwise have been accomplished by relying on applicable new source performance standards. This difference represented less than 1% of national emissions of sulfur oxides and less than .1% of national industrial emissions of particulate matter.

PERMIT DELAY

The "average" Prevention of Significant Deterioration permit takes nine months to process and approve in addition to the many months or even years required to prepare the application and conduct required monitoring. In a number of

cases, the review has taken years as the applicant and the government debated modeling results and case-by-case technology determinations. Such delays cost sources millions of dollars as inflation increases the cost of construction and the use of investment capital is delayed. In virtually all cases where the applicant has the necessary patience, the permit ultimately will be issued with little substantive change in environmental impact. High cost — little or no benefit.

In summary, the new source review provisions of the statute as interpreted by the courts are so complex that they are unworkable. Many aspects of them contribute to delay and uncertainty but do little for the environment. Simplification is essential and can be accomplished while retaining effective protection of the standards and air quality in national parks and by insuring that all new sources are designed to incorporate best available control technology.

UNNECESSARY COSTS

The statutory automobile emission limitations are more stringent than necessary to assure that the ambient air quality standards for carbon monoxide and nitrogen dioxide are attained in virtually every area of the country. Automotive emission controls are estimated by EPA to add more than \$300

to the price of a new car (the manufacturers believe them to add more than \$700). The cost to make the last step from the 1980 standards to the 1981 standards cost more than \$100 per car (the manufacturers believe this to be as much as \$300 per car).

Uncontrolled cars in the 1960's emitted more than 80 grams per mile of carbon monoxide and more than 4 grams per mile of nitrogen dioxide. The average car on the road in 1981 emits about 48 grams per mile of carbon monoxide and about 3 grams per mile of nitrogen dioxide. As new, cleaner cars are phased in and old, dirtier cars phased out of the fleet, emissions will continue to decline.

Automobile limits of 7.0 grams per mile carbon monoxide and 2.0 grams per mile nitrogen dioxide will result in reduced emissions when compared to current levels. By 1990 average in-use emissions of carbon monoxide will be reduced by about 50% from today's levels and of nitrogen dioxide by about 25%. These alternative limits would ultimately save consumers over \$1 billion per year.

The average cost of reducing carbon monoxide emissions at the 7.0 grams per mile standard is \$19 per ton while the incremental cost between the 7.0 grams per mile and the 3.4 grams per mile standard is \$89 per ton. Similarly the

average cost of nitrogen dioxide emission reduction at the 2.0 grams per mile standard is \$57 per ton while the incremental cost between 2.0 grams per mile and 1.0 gram per mile is \$512 per ton. These are significant changes in cost-effectiveness which should not be imposed, given the limited air quality problem.

The current statutory requirement that all 1984 cars be able to meet the emission limit for carbon monoxide when operated at high altitude would impose hundreds of millions of dollars in additional costs and is not necessary to attain the ambient standards in high altitude areas.

The current approach of certifying individual prototypes to meet emission limits served a useful purpose when the technology was developing and changing frequently. This is no longer the case. Manufacturers are now using control systems which have already been shown to meet the standards and in the future the certification process will contribute little to air quality improvement.

The hundreds of millions of dollars now spent certifying prototype cars could be better spent on insuring that cars continue to perform while in use.

The current requirement that every car meet the same emission limit constrains the manufacturers, limits consumer choices and results in increased costs. A change which would permit manufacturers to average emissions across several models would provide the same level of environmental protection at a lower cost.

The 1977 Amendments require that all fossil-fuel-fired combustion sources employ scrubbers or other technology to obtain a specified percentage reduction in sulfur oxide emissions. This requirement applies to both high and low sulfur fuels and was designed to achieve objectives other than environmental protection.

This provision will increase costs to consumers in 1985 by \$3 billion per year more than they would have paid if plants were simply to meet the emission limit established by the original new source performance standard for power plants.

Stack gas scrubbers are more cost-effective when used on high sulfur coals. Because the standard will require new plants to scrub low-sulfur coal, marginal costs of removal will exceed \$1,000 per ton of sulfur dioxide. A ton of sulfur dioxide emissions could be reduced by scrubbing high-sulfur coal for less than one-half that cost.

Fears that western low-sulfur coal will displace eastern coal and cause

widespread unemployment are unfounded. Available evidence suggests that rail rates will preclude such long distance transport and that growth in coal demand will insure continued employment opportunities for high-sulfur coal miners.

The country cannot afford to increase its electric bill by billions of dollars without obtaining any environmental benefit. There are cheaper and more efficient ways to achieve reductions in sulfur dioxide emissions than the mandatory percent reduction.

INEFFECTIVE PROVISIONS

Over the past ten years only four hazardous pollutants have been regulated under the Clean Air Act (beryllium, mercury, asbestos, and vinyl chloride). Three others have been listed but standards have not been promulgated (arsenic, benzene, and radionuclides).

Air emissions are the largest source of environmental contamination of the twenty highest priority chemicals which have been identified by EPA. A number of pollutants have been identified as potentially hazardous and candidates for regulation, but decisions on the appropriateness of such regulations have been impeded by the structure of the current statute.

No provisions for comparing the degree of risk to the cost of control are provided in the current statute. Given the fact that no absolutely safe level can be identified for suspected carcinogens and some other toxicants, it is not possible to establish the "no risk" level called for by the statute. As a result, decision-making is hampered and little progress has been made to establish and implement a policy for dealing with ambient exposures to these compounds.

While attainment of the ambient standards is accomplished through the state implementation plan process where the reasonableness and cost of control can be considered, no such buffer exists for the emission limits established for sources of hazardous air pollutants.

Clarifying language is necessary if decision-making on these pollutants is to proceed and regulations eliminating unreasonable public health risks are to be implemented.

New, more effective and less costly technology is essential to attain and maintain ambient standards and provide for continued economic growth.

Technology-based standards (new source performance standards) have the potential to discourage innovation by making it easy to comply using the known technologies on which the standards were based.

Despite provisions in the law to permit waivers from new source standards for innovative technology, few such waivers have been granted. This is in part because the current statute does not provide adequate time for sources to amortize control equipment investments.

Air pollution does not respect political boundaries. As a result, industrial development in one State can create attainment problems in another. This is particularly apparent in major river valleys where industry concentrates and which frequently form the boundaries between States.

Under the current statute, States can request relief by petitioning EPA. EPA is required to hold hearings and respond to the petition, but is given virtually no guidance as to the nature and magnitude of the problems for which relief is appropriate or the factors to be considered in specifying relief. Further, it is unclear what burden petitioning States should bear in demonstrating problems or in contributing to their solution.

As a result of the statute's ambiguity, States have been unable to obtain relief under this section and petitions have generated little more than hearings and paperwork.

We have not attempted to describe in every detail the changes in the Clean Air Act that the Administration considers necessary or desirable. But some changes are needed, and the Administration proposals are worthy of serious consideration by the Congress and by the public.

As it is written now, the Clean Air Act has in some instances actually slowed our progress toward cleaner air. Many of the problems are procedural. Uncertainty and delay have inhibited business decision-making. We have to eliminate or modify requirements that simply raise obstacles while producing little or no improvement in the Nation's air quality. These obstacles adversely affect productivity. They adversely affect employment. And they adversely affect the public health.

Our first concern is the well-being of our citizens and the generations to come. That must also be the priority concern in building a more efficient, more effective air pollution control program in this country. □



Construction under way on new wastewater treatment plant facilities.

Cutting Construction Grant Red Tape

EPA is considering a major cutback in red tape for compliance with Federal requirements for construction of municipal waste water treatment plants.

EPA Deputy Administrator John W. Hernandez explained that the Agency's new goals include giving "States and local government more responsibility in determining when and how a treatment plant is built." He added that "less paperwork and red tape in complying with Federal requirements will also reduce costs for the taxpayers."

He said that EPA is reviewing four major factors in the control regulations:

- Determining which construction grant provisions are required by the Clean Water Act and therefore cannot now be altered;

- Deciding which regulations should be retained because they are the minimum necessary requirements;

- Determining which provisions are necessary for guidance, but not as

regulatory requirements;

Identifying existing regulations which are unnecessary or not needed for Federal guidance.

"Wherever guidance is desired by a State or municipal agency, EPA will work to help develop such materials," Dr. Hernandez said. "In any case, the local and State agencies will have discretion on how to reach the pollution control goal line. We'll only suggest the possible plays."

He noted that the proposed regulatory reform could result in faster processing of Federal grants and significant savings in direct construction costs for local communities.

Hernandez said that comments from citizens and officials is invited on this proposed cutting of red tape. The formal process of changing the construction grant regulations is expected to begin in November. □

**A
Report
on
Pennsylvania**

New Perspectives on the Environment

By U.S. Sen. John Heinz
of Pennsylvania



The President's regulatory reform program will have positive and far-reaching implications for the environment in Pennsylvania and all other States.

Regulatory reform, one of the four elements of the President's Economic Recovery Program, is being spurred by an Executive Order mandating what many of us have been trying for years to accomplish legislatively: attaining regulatory goals in the most cost-effective manner.

To conduct the painstaking review of all existing regulations to weed out or modify those that are duplicative, contradictory, or needlessly burdensome, the President has appointed a Task Force on Regulatory Relief chaired by Vice President Bush.

One of the Task Force's first actions was to extend the "bubble policy" under the Clean Air Act so that industrial plants in non-attainment areas like Pittsburgh can qualify. This allows companies in such areas the flexibility to meet regulatory goals in the most cost-effective manner, while *not* jeopardizing environmental quality . . . in the long run, the policy may actually enhance quality because the bubble policy removes the most serious objections to environmental laws — the costs they impose on workers, consumers, and producers alike.

The process going on in Washington amounts to the reexamination of all the goals we've set for ourselves — all laudable in themselves — and the establishment of priorities in the knowledge that we don't have the resources to do everything at once. The process is healthy, it's long overdue, and I don't believe it will mean sacrificing the environment. It will mean trying new approaches, because some of the old ones haven't worked or have had unintended consequences for economic growth and employment.

Take the area of environmental regulation, for example. The goals of a healthy, clean, and aesthetically pleasing environment have, over the past decade,

been translated into reams of regulations and dozens of laws . . . like the National Environmental Policy Act, the Federal Water Pollution Control Act, . . . the Clean Air Act, the Safe Drinking Water Act, and the Noise Control Act.

These laws and regulations reflect value judgments based on political as well as public health considerations: they reflect the determination by our society that the levels of air and water pollution, noise, and hazardous substances produced by industry must be controlled and reduced.

The effect of these laws and regulations has been on balance, positive, as environmental quality has improved and the external costs of pollution have been reduced. But some provisions of these laws have, in certain circumstances, hurt economic development.

Moreover, an army of technocrats and lawyers has been recruited to write, interpret, and litigate the laws and regulations. All too often, the resultant technocracy has become a nightmare for the state and local governments, the businesses, and private citizens alike.

Rather than incentives for cleaning up the environment, the current system seems to produce mostly incentives for delays, for litigation, and for added costs. The result has been a counter-productive adversarial relationship between business and government, so that the interests of neither are served. And, as a direct result of this adversarial relationship, both labor and business seek major amendments to the Clean Air Act.

A significant problem is that our current system of environmental regulations ignores the basic strengths of the American enterprise system: decentralized decision-making and motivation by economic self-interest. Rather than simply coercing industry to meet detailed and costly regulations, we ought to make it in their economic self-interest to attain certain goals — and then let the private sector do what it does best:

find the most efficient means of attaining its objectives.

As an example of steering toward providing incentives rather than only imposing regulations, I have introduced legislation, namely, S. 169, providing expanded tax incentives for pollution control. These tax incentives could be a significant first step toward re-ordering our current regulatory maze towards economic incentives.

In short, I believe that regulatory reform does not have to involve a rollback of standards. Instead, we can often achieve our objectives differently. In another case, we may decide to accept a delay in attaining the standards so that they do not have so great an adverse economic impact.

A case in point on the latter is a bill I have pushed in particular, growing out of my interest as Chairman of the Senate Steel Caucus. The so-called "steel stretchout bill" amends the Clean Air Act but doesn't lower or revise the standards themselves. Rather, it simply allows individual steel companies to extend compliance deadlines up to three years, if they can demonstrate that they will use resultant savings to modernize existing steelmaking facilities. The effect of the bill should be to preserve jobs and allow us to compete better with foreign producers . . . without sacrificing our environment.

In other words, there are responsible regulatory reform approaches now underway with the common objective of ensuring that laudable goals — such as the current environmental goals Americans agree are socially desirable and necessary — are not attained at the unnecessary expense of economic growth.

Let me caution you against two traps: what I call the "so am I" and the "either or."

The "so am I" trap is simple. Not every reform proposed will be benign or environmentally well-intentioned.

The "either or" trap would have us believe that we cannot have both environmental quality and economic growth.

We cannot afford to fall in the "either-or" trap. In my judgment, returning to the days of unrestrained industrial pollution isn't a credible alternative. But neither is remaining in this present day of arbitrary and inflexible regulation.

We have to balance both the economic and environmental considerations. Americans need jobs and housing as well as a safe and unspoiled environment. And, as I hope my modest examples demonstrate, we can achieve this balance.

It will be all the more attainable for us with a healthy and strong economy.

And it is here that the President's economic program is undeniably on the right track. We do not need and we cannot afford business as usual — especially if we care about both the environment and jobs.

Since 1973, we've had a major fall-off in the productivity growth rate, and we've had virtually no real economic growth.

What has been growing . . . partly because of the Federal Government's approach to regulation . . . is inflation, interest rates, and unemployment, . . . and the size and cost of government . . . beyond the willingness of people to pay that cost.

As a result, the Federal Government is borrowing vast amounts of money . . . so much, and with such success, that the private sector has had trouble getting the money it needs to invest and be competitive and create jobs.

We should all be deeply concerned that over the past decade, most people have come to accept federal deficits as a way of life. The fact that our national debt will break \$1 trillion with this year's estimated \$75 billion deficit doesn't mean much to most people. But the problem takes on meaning when you realize that in 1981 the interest on the national debt will be \$90.6 billion — the third largest single expenditure in our whole budget!

We simply must do something to rein in federal spending that's galloping out of control. That's why the President is right in restraining the growth of the federal budget, emphasizing tax incentives for savings and investment, and urging regulatory reform.

I know very well that people differ over what should be cut back, and some shifts will be made — I hope especially the ones I propose, but the answer is that virtually every item will have to experience some shrinkage from projected levels.

I believe that reducing the budget already has had some positive consequences.

First, it has forced us to reevaluate and justify all Federal programs, as has happened at Interior and at EPA.

Second, it has spurred us to look for ways to do more with less. With my bill, S. 169, for example, we are exploring the economic incentive approach to environmental goals.

Third, it has forced us in Congress to determine the truly fundamental needs of our regions and act on those needs, while still maintaining the integrity of our new budget.

We must restore the proper relationship between the public and private sectors . . . or else face economic, and ultimately, social ruin.

In the end, there can be no choice between a healthy environment and a healthy economy. The future of the environmental movement is inextricably tied to the health of the economy. Industry needs profits to clean itself up. And my hunch is that if a deep depression hit us, the political pressures on government to sacrifice environmental standards would be tremendous. Thus, it's in the best interests of environmentalists to work not against business, but together with business to find ways to balance environmental and economic issues. □

For The Benefit of All

By Cliff Jones

Secretary, Pennsylvania Department
of Environmental Resources

The Pennsylvania Department of Environmental Resources recently celebrated a "Decade of Service." While during its first 10 years the department has taken giant strides toward alleviating many environmental problems, there are many challenges still to be met as we pursue our goal of assuring the commonwealth's residents of clean air, pure water and uncontaminated land.

Many of Pennsylvania's water systems are in need of repairs and improvements, a condition highlighted by the recent drought. Beset by old age and lack of funding for maintenance and improvements, the condition of many of these facilities casts doubt on whether the commonwealth will continue to have enough fresh water for its many domestic, industrial, agricultural and recreational needs.

Before recessing for its summer vacation, the General Assembly passed a legislative packet calling for establishment of a Water Resources Management Code for a referendum on a \$300 million loan program to provide financial assistance for the restoration of aging, ailing water supply systems across the state.

If voters approve the referendum on the pay-back loan program, funds would be used to rehabilitate water supply systems plagued with supply, storage and distribution problems; to rehabilitate unsafe water supply dams; for flood control projects; and for port facilities.

Water-borne disease outbreaks cost Pennsylvanians more than \$16 million annually. Many of these outbreaks can be attributed to crumbling water distribution systems and to uncovered reservoirs that expose treated water to possible contamination. Recent studies show that many water distribution systems are too small to store the amounts of water needed to properly serve their consumers.

Pennsylvania has 2,400 community water supply systems. Of these, 1,800 serve fewer than 1,000 people, and 540 serve between 1,000 and 15,000 people. More than 100 report annual revenues of less than \$5,000. At least 360 systems have deficiencies in their distribution systems, 255 need filtration plants, 62 have filtration plant deficiencies, 278 have insufficient yields, 240 have insufficient storage capacity, 164 have difficulty meeting drinking water bacteriological, chemical and turbidity standards, 200 have uncovered reservoirs, 300 have inadequate sources and many lose up to 50 percent of their treated water through leaking pipes each day.

State and federal surveys also revealed 93 unsafe water supply dams in the state. Public safety is threatened by dams with spillways so inadequate that water "overtops" the dams after heavy rainfalls. The department now has a comprehensive statewide Dam Safety Program.

Pennsylvania is blessed with more than 50,000 miles of streams. Its citizens rely on fresh water for their everyday needs, for recreation, for electric power and to produce a variety of agricultural and industrial products.

Helping to keep Pennsylvania's waterways clean are some 550 municipal waste-water treatment (sewage) plants, about 1,200 non-municipal plants which handle domestic sewage from trailer parks, schools and similar areas and 2,800 industrial waste treatment facilities. The Department of Environmental Resources issues permits to all these and applications for about 200 additional industrial waste treatment permits are being processed.

When the Department of Environmental Resources was activated Jan. 19, 1971, only some 1,300 industrial waste treatment facilities and 650 municipal and non-municipal sewage treatment plants were operating. New

and upgraded treatment facilities, the department's active erosion and sedimentation control program, completion of 364 stream improvement projects and 195 acid mine drainage projects all contributed to the state's realization of a net gain of 981 miles of clean streams during the past decade.

Today, 10,110 miles, or 78 percent of Pennsylvania's nearly 13,000 miles of major waterways meet water quality criteria. We keep check on the water quality through hundreds of chemical and biological monitoring stations on major river basins throughout the state. We also certify 5,920 sewage treatment plant operators, 3,790 waterworks operators and 1,133 sewage enforcement officers.

However, the department cannot rest on its laurels where water is concerned. While coal and limestone deposits make the commonwealth a leading mineral producer, the recent energy squeeze and the national deregulation of oil and gas prices have attracted many new oil and gas prospectors to the state.

Oil and Gas

Ten years ago we issued 2,500 permits for oil and/or gas wells. The department now is issuing 10,000 to 12,000 such permits a year and anticipates that the number will be increased to between 15,000 and 20,000 a year within the next two years.

Because of the increased activity, the commonwealth is witnessing increased problems of soil erosion and sedimentation, improper disposal of brine and process waters, and oil spills. An Oil and Gas Environmental Advisory Committee was formed recently to help the department get input into the drafting of needed law and regulation changes and to step up the cooperative training

Canadian geese feed in a Philadelphia park.



program. The department also is seeking increased monetary resources to beef up its inspection and enforcement program.

Fishing, boating and other water sports are among the many attractions which bring thousands each year to the nearly 2 million acres of forest land and 117 state park areas managed by the department. We used more than \$25 million to acquire, develop, rehabilitate and improve recreational facilities during the past decade when 15 new state parks and expanded facilities at 21 others were dedicated, 44 State Forest Natural Areas and 15 State Forest Wild Areas were designated, a Pennsylvania Scenic Rivers System was authorized and two components were named to the systems, 368 million park visits were recorded, a Coastal Zone Management Program was developed to protect the Delaware Estuary and 40 miles of Lake Erie shoreline and a biological control program was instituted to battle the gypsy moth.

Much yet is to be done to keep these recreational lands and the lands on which people live and work free from pollution, particularly that caused by the improper handling of toxic and hazardous wastes.

July 7, 1980, was a "red letter" day for the department. That is when the Gov. Dick Thornburgh signed Act 97, Pennsylvania's new Solid Waste Management Act, which provides for state and local cooperation in establishing a comprehensive program to properly manage all solid wastes within the commonwealth.

The act places special emphasis on the proper "cradle-to-grave" handling of hazardous wastes. It defines such wastes as those which could cause severe illness or death or which pose substantial threats to the environment when improperly

stored, transported or disposed. Wastes which could contaminate surface and underground waters, explode and burn, pollute the air, contaminate food and poison by direct contact are included.

Pennsylvania is the fourth largest hazardous waste generating state in the nation. While all hazardous wastes are not of industrial origin, the department estimates 4 million tons of the 26 million tons of industrial wastes generated annually within the commonwealth are hazardous. These wastes are produced by as many as 3,000 sources. Pennsylvania has some 2,000 transporters of hazardous wastes, about 2,000 unpermitted hazardous waste storage areas and some 265 hazardous waste disposal sites.

Solid Waste

Pennsylvania's new Solid Waste Management Act was only a week old when, on July 15, 1980, the state's Environmental Quality Board adopted rules and regulations detailing the "Criteria, Identification and Listing of Hazardous Waste." On Nov. 18, 1980, the environmental board adopted regulations governing the transportation, storage, treatment and disposal of hazardous wastes, setting requirements for hazardous waste activities and defining more than 100 hazardous waste-related words and phrases. The Department of Environmental Resources instituted its hazardous waste manifests, which trace such wastes from point of generation to point of disposal, on Nov. 29, 1980.

Recently we initiated one of the most important phases of its stepped-up solid waste management program — the search for adequate disposal sites. Everyone enjoys the modern life-style which helps create wastes, many of them hazardous and/or toxic, but no one wants a waste disposal site in his neighborhood.

This anti-disposal sentiment is most vocal on the issue of locating sites for hazardous waste treatment and disposal facilities.

Aided by a 14-member Hazardous Waste Facilities Planning Advisory Committee, mandated by the act, the department had drafted proposed "Preliminary Environmental, Social and Economic Criteria and Standards for Siting Hazardous Waste Treatment and Disposal Facilities." These proposed criteria define environmental, social and economic factors which must be considered to assess the geologic, hydrologic, soils, air and water quality, natural, scenic, aesthetic and economic impacts of locating each hazardous waste facility. They also define how the effects of each facility should be assessed in relation to transportation, population, land use, ownership, and proximity and possible compensation to the host municipality.

The proposed criteria were published in the Pennsylvania Bulletin, the commonwealth's legal publication comparable to the Federal Register, for public comment. They also were the subject of public meetings and of press briefings. Once all the written and oral comments are digested, the proposed criteria will be amended to reflect this public input. The criteria then will be made part of the Pennsylvania Hazardous Waste Facilities Plan, which must be adopted by the Environmental Quality Board by July 1982, and will be applied to all prospective and existing hazardous waste treatment and disposal facilities which must be permitted under the act.

While the department looks for adequate disposal sites for wastes which cannot be recycled or reused, it also recognizes that "one man's waste can be another man's raw material." Therefore, it not only encourages recycling, but also offers grants for unusual resource recovery projects under the state's 1974

Solid Waste Resource Recovery Development Act. Several on-going projects have been funded and applications now are being sought for a special \$535,000 grant to be used for a municipal waste-to energy project demonstrating the burning of municipal wastes in a modular, or pre-packaged, incineration system with the resulting energy being sold to facilities owned and operated by private enterprise.

Late last year, the Pennsylvania Chamber of Commerce launched PWIX — the Pennsylvania Waste Information Exchange — through which both hazardous and non-hazardous industrial wastes are transferred from generators to potential users. This saves the generator high treatment and disposal expenses and enables him to recoup a percentage of his original investment while enabling the user to reduce capital expenditures for raw materials. At the same time, the department is promoting the use of treated sewage sludge as a fertilizer and to reclaim strip-mined land.

Mining

Solid wastes and sewage sludge are not the only threats to the commonwealth's precious land and water. Mining can have a devastating effect on these. The state has spent millions restoring land scarred by strip mine pits and culm banks and treating water polluted by acid mine drainage. The department now wants to achieve "primacy" under the federal Surface Mining Control and Reclamation Act so that it can implement the commonwealth's coal mining acts as amended in October 1980.

Because the necessary amendments to the state's coal mining acts were not signed prior to the fall 1980 deadline for application for such primacy, the department made a preliminary application.



Heading for home after a day's work in the fields, an Amish farmer gives directions to his team of seven mules.

Commonwealth Court issued an injunction, at the request of the state's coal mining interests, stopping the department from making final primacy application and/or implementing regulations adopted by the Environmental Quality Board as part of the primacy package. This injunction will expire under its own terms on Nov. 26, 1981, and could be lifted earlier by a Commonwealth Court decision.

Once granted primacy, the department plans to implement a set of mine-related regulations that provide for maximum environmental protection while being least burdensome to the industry. The department also must develop a bonding system which keeps rates reasonable while assuring adequate funds for completing reclamation of mined areas where operators can't, or don't, properly reclaim the land. We plan to continue offering mine subsidence insurance against structural damage to buildings constructed above or near coal and clay mines.

At the same time the department will continue to try to make mines safer for miners. We have an active mine safety program which includes a statewide program of pre-employment orientation training and retraining for coal and non-coal surface and deep miners, periodic safety inspections, an emergency medical training program for coal miners, a mine rescue team program, an emergency response procedure for underground mining accidents and two mine rescue

emergency vehicles with sophisticated equipment.

While miners often wear protective breathing apparatus, most Pennsylvanians must breathe "raw" air. The department constantly keeps a check on the quality of this air through a concentrated ambient air surveillance program which encompasses a network whose 97 stations sample total suspended particulates every six days; the Commonwealth of Pennsylvania Air Monitoring System (COPAMS), a computer-controlled system of 17 remote stations in major population areas where sensing equipment measures a variety of data related to air quality; and Pennsylvania Air Quality Surveillance System (PAQSS), 15 microprocessor-controlled air sampling modules which continuously measure sulfur dioxide and ozone and record results on magnetic tapes.

These systems have shown the department that total suspended particulates levels have been declining but still remain a problem; sulfur dioxide levels fluctuate but remain within compliance standards; carbon monoxide and nitrogen dioxide levels remain the same and are not problems in Pennsylvania; and ozone continues to exceed the standard and remains a problem throughout the state despite significant improvement in recent years.

Major amendments to the state's Air Pollution Control Act gave the department the authority to press for specific emission limits by air contaminant

sources and more than 6,500 such sources achieved compliance during the past decade.

However, because air knows no state boundaries, many sectors are unable to meet national ambient air standards. Pennsylvania has rigid regulations governing sulfur dioxide emissions, but sulfur dioxide-polluted air drifts into the state from West Virginia, Ohio and other upwind midwestern States. Pennsylvania industries face increasingly heavier regulations as long as this inequity in emission controls exist. The department would like to see equal air regulations among all states in the air region.

Sulfur dioxide drifting into the state is transformed into sulfate particulates affecting the state's ability to comply with national particulate standards, endangering health and contributing to acid rain.

Air, land and water are the basic elements of life. They form a circle of interdependence bound so tightly that one cannot be changed without disturbing the delicate balance in which they all exist. Pennsylvania's General Assembly recognized this interdependence when it created the Department of Natural Resources and when it proposed and adopted an Environmental Amendment which became Article 1, Section 27, of the Pennsylvania Constitution on May 18, 1971. The department's programs are dedicated to carrying out the principles of this amendment which states:

"The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment.

Pennsylvania's natural resources are the common property of all people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all people." □

A horse-drawn carriage at sunset in Pennsylvania's Amish country.



Pennsylvania's Environment — Its Assets and Problems

By Eleanor W. Winsor,
Executive Director
Pennsylvania Environmental Council, Inc.



At its formation in late 1969, the Pennsylvania Environment Council, Inc., perceived that Pennsylvania's environmental problems would only be solved if environmentalists worked together and cooperated with government and industry. Equally important, its founders realized that the State legislature and administrative agencies could act before environmentalists in outlying areas of the Commonwealth had any idea what was happening. These grassroots organizations needed a source of accurate information rapidly so they could respond accordingly.

The result was creation of the Council. Since 1979 its membership has grown to over 150 organizational members in addition to individual and corporate supporters. When developing its positions on environmental issues, the Council reviews available technical and scientific information, talks with people with as many viewpoints as possible, discusses the issues at board meetings, and develops a stance. When dealing with legislation, however, such a methodical approach is not always practical. Action must be fast.

"A blitz in time" was how the *Delaware Valley Agenda* described the Council's intensive six-day effort to prevent passage of a bill to prevent the Department of Environmental Resources from enforcing Pennsylvania's constitutional environmental amendment. This amendment guarantees all citizens the right to clean air and water and a healthy environment. In September, 1980, the bill, introduced at the request of the coal lobby, was set to pass until the environmental grassroots effort mobilized. The Council concentrated on four areas: member groups, which could contact their members to expand the public response, the Council's individual members, the media, and the Legislature.

Letters and telephone calls were used to reach the maximum number of people. When the dust had settled, the bill was never called up for a vote, and it died in the waning days of the Legislative session.

Such action indicates how a public interest organization can act effectively. The day-to-day reality, however, is not as visible or exciting. Citizen involvement is a slow, steady, methodical process embracing these principles: Get the facts, learn who the actors are, develop a position, and work to see that it comes to fruition. Many times goals are only partly realized. Resources are always limited for non-profit groups, but enthusiasm is never lacking.

Managing Rich Resources

For those people who know Pennsylvania, it's easy to see why. Rich in historical heritage and natural resources, Pennsylvania is the keystone of the Atlantic Seaboard States and the transitional area between the East and the Midwest. While it has many points of great beauty, including the historic streets of Philadelphia, the rolling farmlands of Lancaster County, the meandering paths of the upper reaches of the Susquehanna River, the Delaware Water Gap, the canyon of Pine Creek, shores of Lake Erie, white waters of the Youghiogheny, and a myriad of other beautiful spots, it is the resource base that concerns her environmentalists most. Air, water, forests, coal, and agricultural lands — these are five resources Pennsylvanians are still struggling to handle in an environmentally responsible manner. In some areas the past decade has resulted in resource management. In others, developments have not been so fortunate, in the eyes of environmentalists.

The 1970's saw an improvement in Pennsylvania's air quality. There was still plenty of room for additional cleanup, but there was a steady change for the better. Governor Dick Thornburgh, in his first year in office, moved vigorously in the courts to eliminate a major Pennsylvania problem which is the transport of air pollutants, particularly sulfur oxides, from the Ohio Valley eastward into Pennsylvania. This failed to solve the problem, however, and the pollution continues to migrate eastward unabated. Acid rain increases with it, and for a wide swath of Pennsylvania the acidity of the rain is impacting fishing streams, lakes, and forest productivity. An inspection and maintenance program for automobiles in certain heavily industrialized areas has lapsed after the Legislature almost unanimously voted to ignore a court order and postpone using State funds to finance an inspection and maintenance program, despite efforts of the Delaware Valley's Clean Air Council.

Saving the Schuylkill

Pennsylvania's many clean streams are matched by those which new pollution sources are destroying. The Schuylkill River changed over the past thirty years from a mine silt laden disaster area to a relatively clean resource, showing that industrial and recreational users can utilize the river compatibly. Strong grassroots citizens support, led by the Schuylkill River Greenways Association, resulted in the Schuylkill being named the first recreational river in the State's Wild Scenic and Recreational River System.

In contrast, however, the Citizens Advisory Council to the Department of Environmental Resources reported in

April, 1981, that "water quality in northwestern Pennsylvania . . . was being severely degraded as a result of production practices associated with oil and gas development." The Department issued 79 percent more drilling permits for oil and gas in 1980 than in 1979. Regulations for oil and gas activities are limited, and water pollution is a major problem.

Water quality as well as quantity is a factor in Pennsylvania. The contrasting nature of the State's different geographical areas stands out clearly. While the western part of the commonwealth is deluged with rain, for the past year and a half the eastern portion has suffered from a drought. Clearly, more effective water resource management is called for, and Pennsylvanians are now reviewing what the method shall be.

The third Pennsylvania resource, coal, may have greater impact than any other on air and water. Environmentalists see a twofold problem here. The rush for energy is resulting in more coal operations. Enforcement of the State's stringent surface mining standards is lax and hampered by a court injunction obtained by the coal industry prohibiting the Department of Environmental Resources and its Environmental Quality Board from enforcing regulations which the industry, the Department, and environmentalists had spent over two years working together to develop. The impetus for delay in part came from a belief by the industry that Federal regulations would be relaxed.

Solid Waste Law Revised

The highlight of 1980 for Pennsylvania environmentalists was a complete revision of the State solid waste management law, which included major provisions governing the storage, disposal, and treatment of hazardous wastes. This was the result of a strong push by the Governor, the Legislative leadership, the Department of Environmental Resources, and environmentalists. The challenge now is to implement it — setting criteria for waste disposal sites that protect the public, developing a State plan for management of such wastes, setting up permit, inspection, and enforcement procedures, and educating the public on how waste streams can be reduced, the nature of the wastes remaining, and how these can be handled safely. Improper hazardous waste management can jeopardize the quality of other resources in the State. Since November 19, 1980, when the majority of regulations under the Federal Resource Conservation and Recovery Act went into effect, the State has seen an increase in illegal disposal of hazardous waste due to a lack of treatment and disposal facilities..

Pennsylvania's backbone since its founding has been agriculture. More than many people realize, agriculture still remains critical to a healthy Pennsylvania economy. To many Pennsylvanians nothing is lovelier than the rich farmlands of so many counties, yet this irreplaceable resource is being whittled away far too rapidly. The Pennsylvania Farmers Association points out that in the last decade approximately 52,000 acres of cropland have been lost annually to urbanization. Losses from erosion add substantially to that.



*A Pennsylvania
farm scene.*

Ironically, it was the industrialists who came to the environmentalists in the 1970's, urging the adoption of consistent environmental standards Nationwide so that companies operating in one section of the United States did not obtain an unfair economic advantage, as a result of laxer environmental standards. Coal, steel, petroleum, and paper were but a few of the industries the Pennsylvania Environmental Council worked with to push for the National standards.

In reviewing Pennsylvania's environment one is always impressed by how blessed Pennsylvanians are. There is a temptation to say, "there is so much, the loss of a little agricultural productivity here, or stream mileage there, will not matter." This is not the case. The loss of a little here and a little there results in a cumulative impact that can be devastating. To counteract the cumulative impacts of improper resource use, which all of us in Pennsylvania would pay for in the future through scarcity, all of us must use the resources available today wisely. The environmentalist is a true conservative. He or she wants to manage society's assets in such a way that the resources upon which the economy depends are available for succeeding generations. This is the same philosophy that guides a board of directors of a company when it declares dividends today, but retains sufficient capital for a successful and prosperous future for tomorrow. □

Although they are as diverse as the Commonwealth in which they live, Pennsylvania environmentalists are united firmly in their concern that the 1980's can result in the sacrifice of many of the environmental gains of the 1970's. Citizens of a State where special interests have historically controlled the governorship and the Legislature, they

are particularly concerned to see the strong National movement to transfer the setting of regulations and the administration of those regulations "back to the State." They perceive it as a "divide and conquer" syndrome, with State officials lacking the political support to enforce the regulations.

Pittsburgh: Yesterday and Today

A letter to the Pittsburgh Gazette on June 10, 1814, recognized that "much of the prosperity of Pittsburgh is owing to its 'Fires,' but complained that the evil of smoke is "daily increasing and relief is now universally called for." Despite this early identification of the smoke problem, the Pittsburgh skies were not cleansed of this type of pollution until community leaders mounted an effective campaign after World War II.



Above: An old Pittsburgh cartoon post card which joked about the smoke pollution problem.

Right: This is Fifth Ave. in Pittsburgh on Nov. 5, 1945, before the smoke control campaign became effective.



Below: Darkness at noon. A Pittsburgh scene before pollution controls helped ease the smoke problems.



An aerial view of modern Pittsburgh on a clear day. In the left foreground is the Three Rivers Sports Stadium. Rising behind the riverfront point near the center of the photo is the Golden Triangle area with its looming skyscrapers.



You Have a Friend in Pennsylvania

Nicholas De Benedictis

Director, Office of Intergovernmental
Relations and Public Affairs.
EPA Region 3

The "You Have a Friend in Pennsylvania" theme being advertised by the State of Pennsylvania in its campaign to attract tourists also symbolizes the improvement in cooperative efforts in recent years between EPA and the Pennsylvania Department of Environmental Resources.

EPA will now be making even more vigorous efforts to help improve the already cordial relations it enjoys with Pennsylvania.

Pennsylvania boasts the origins of America's environmental rebirth. Here is Pittsburgh, where the Nation's most dramatic beginnings were made in fighting air pollution . . . by State and local governments. Here also is Moraine State Park, where abandoned mines are now restored, acid flows stopped, and a lovely, safe lake created. Moraine is one of the Nation's pioneer mine reclamation projects . . . again, the work of State and local governments.

Early on, officials at EPA's Middle Atlantic Region (Region 3) and at Pennsylvania's Department of Environmental Resources (DER) recognized that environmental goals could best be achieved through cooperation, not confrontation.

EPA's new Administrator, Anne M. Gorsuch, is making improved relations between EPA and its State partners a top national priority for the Agency. Improving intergovernmental relations has been one of our Region's top priorities.

The Regional office has consolidated the areas of intergovernmental relations and public information. This organization is called the Office of Intergovernmental Relations and Public Affairs (OIRPA).

The major role of this office is to facilitate communications and

cooperation between EPA and each one of the States in the Region. In addition, stepping on each other's toes has been avoided partly because many groups have been able to participate in advising EPA and State officials responsible for making specific environmental decisions.

This procedure has worked well, particularly in our relations with Pennsylvania. The office tracks the programs of other Federal agencies in the housing, health, and agricultural areas, to make sure EPA/State environmental programs are complementing and not contradicting other national policies. The EPA Congressional office also keeps in close touch with Pennsylvania's Senators and Congressmen, to respond to their constituents' suggestions concerning EPA and DER environmental activities.

A Basin Commission Coordinator maintains contact with the Federally-sponsored river basin commissions which are responsible for many important water quality programs in the Commonwealth. The Delaware, Susquehanna, and Ohio River Basin Commissions are partners with EPA and the Department of Environmental Resources in ensuring that Pennsylvanians have the use of clean streams and rivers.

Important projects such as environmental impact statements are moved with greater ease because of coordination by Region III. A recent example is the Gettysburg environmental impact statement which provides options that permit the construction of needed sewage facilities while still protecting the unique environment of this historically significant area. Another important area of emphasis is public communication on EPA projects. EPA's Public Affairs Office works closely with the Department of Environmental Resources' Public Information Office to communicate with the public about environmental matters, particularly in issues concerning

hazardous wastes, and especially during emergencies such as oil spills. The days of EPA or the Department of Environmental Resources trying to upstage each other for a headline are gone.

The most notable example of this close cooperation began in July 1979 during the "Pittston Emergency" when toxic chemicals began pouring from abandoned coal mines into the Susquehanna River in northeastern Pennsylvania. While the technical experts from DER and EPA worked on containing the chemicals, a joint on-scene press office was established to handle the hundreds of daily press inquiries and calls from concerned citizens.

Region 3's Public Affairs chief, George Bochanski, believes that the information provided to the media was made more credible because of the cooperation between EPA and the State agency. "We avoided the possibility of incomplete or conflicting new releases which would have surely occurred otherwise," says Bochanski. The State DER and EPA public affairs personnel continued to work together during the entire cleanup effort which lasted more than a year.

Following the episode, Robert Niehand, President of the Professional News Media Association of Northeastern Pennsylvania, cited the Pittston incident as one in which State/Federal cooperation provided the media with "a clear, concise, and accurate account of what was going on . . . and that because of this cooperation the news media, and most importantly, the public which we all serve came out the winners."

Perhaps the most innovative aspect of OIRPA is the utilization of State program officers who ensure that a single contact point exists for State and local officials to call with their problems or questions. While EPA managers have worked closely



A view from the steps of the Philadelphia Museum of Art down the Benjamin Franklin Parkway toward City Hall.

better manage pollution control programs, particularly those that address problems that cut across traditional program boundaries.

The program officer also works with municipal governments on sewage facility construction grants, the issuance of wastewater discharge permits, and the location or cleanup of waste disposal sites. These activities are highly controversial local matters, even though the decision-making authority many times rests at the State and Federal levels.

One of Pastor's most time-consuming jobs is coordinating activities that involve joint State, local, and EPA action bringing people together and chiefly setting the stage for decision makers at all levels of government to communicate.

Another task of the program officer is that of reaching out to the general public, environmental, and industrial groups, and State legislators to seek their input and inform them of EPA activities. Pastor often attends public meetings or addresses citizen groups about important local issues. He also has spoken to industrial trade organizations concerning Federal programs that impact their activities. Further, he has testified before Pennsylvania legislative committees to explain various Federal laws and regulations. At all of these meetings, he listens as well as talks, and has often brought back valuable information which helps EPA better serve the citizens of Pennsylvania and improve its programs.

The employees of EPA and the Pennsylvania DER are working hard to make sure their cooperative approach works. There is too much at stake for it not to. □

with counterparts at the State level for years, difficulties often arise when a particular problem cuts across several environmental program areas (air, water, solid waste) or when State officials are unsure of the right person at EPA to contact on specific issues.

A program officer has been assigned to each State in the Region. For Pennsylvania, the program officer is Richard Pastor. Although Pastor primarily provides liaison with State officials, he also keeps in touch with local officials, public interest groups, state legislators, citizens, and trade and environmental organizations as the personal representative of the Regional Administrator.

One of the program officer's most important activities is negotiating the State/EPA Agreement with the

Commonwealth. This agreement provides for joint Federal/State decision making on important environmental priorities. This is particularly important for those programs where Federal enforcement authority has been delegated to Pennsylvania and where substantial amounts of Federal funds are being provided to help the State carry out pollution control programs.

While the State/EPA Agreement is not a panacea for all environmental problems, it has eliminated much duplication of effort and has set priorities for State and Federal pollution cleanup efforts. It has also aided Pennsylvania's own program planning process. The Department of Environmental Resources is a large integrated agency responsible for all of the Commonwealth's environmental programs. The State/EPA Agreement process has enabled DER officials to



Some of Philadelphia's treated and screened sludge is marketed in 40-pound bags under the name of "Gardenlife."

The Selling of Waste

By William J. Marrazzo
Water Commissioner for Philadelphia

The City of Philadelphia is putting to constructive use a by-product of its wastewater treatment that once posed an environmental problem along the Atlantic coast.

The product is sludge, and at one time the disposal of this unwanted substance embroiled the city, the State of Pennsylvania, the U.S. Environmental Protection Agency and several other organizations in protracted litigation.

Thanks to research and some creative technology, the product is now not only being used to help transform abandoned strip mines into grazing lands, but it also helps keep Philadelphia baseball parks

and golf courses green and is even earning revenues marketed as a soil conditioner called "Gardenlife." To date, the city has sold an estimated quarter million 40-pound bags of what it used to haul, in cruder form, in barges out to sea where it was dumped east of coastal beaches.

The story of the waste conversion program began in 1971 when Congress passed the Marine Protection, Research, and Sanctuaries Act, aimed at controlling ocean dumping. Under its authority, EPA required Philadelphia to move its sludge dump site 36 miles farther out into the Atlantic as an interim measure while the city developed an alternative and more hygienic methods of sludge disposal.

EPA further required Philadelphia under the permit system to reduce the quantity of barged sludge for ocean dumping by 50 percent before 1979, and totally stop ocean dumping by December 31, 1980.

After a number of lawsuits involving many parties, agreement was reached on May 30, 1979, when they signed a consent decree incorporating three major provisions. First, the decree called for specific construction dates for upgrading each of the three city-operated wastewater treatment plants.

The construction schedule is designed to ensure that by November 1983, 86 to 89 percent of the biochemical oxygen demand (BOD) that the three plants discharge into the Delaware River will be removed. (Biochemical oxygen demand refers to the oxygen required to decompose organic matter in water.)

To accomplish the cleanup, the secondary treatment systems of the three plants will increase their capacities to 250 million gallons per day (mgd) at the Northeast Plant, 210 mgd at the Southwest Plant, and 140 mgd at the Southeast Plant.

A second part of the decree called for the city to reaffirm its commitment to stop its ocean dumping of sludge by December 31, 1980 (EPA Journal, January 1981). Third, the agreement provided for the creation of a fund with a deposit of \$2.165 million, to be used to undertake environmentally beneficial projects not currently required by law. One such program that the city has initiated is a monitoring program for metals and toxic chemicals entering the city's water treatment plants and being discharged from wastewater treatment plants. This program is funded for \$165,000. The other existing program is a \$2 million project to upgrade Philadelphia's combined sewer overflow control system.

Sludge Characteristics

Philadelphia presently generates 190 dry tons of sludge per day (70,000 per year) and the projected sludge load for 1985 is 305 tons per day (111,300 per

year). In comparison to that of other large cities, Philadelphia sludge is rich in organic nutrients and low in contaminants — averaging 20 parts per million (ppm) cadmium, less than 2 ppm polychlorinated biphenyls (PCB's), and 600 ppm lead.

The Philadelphia authorities examined a series of alternatives to ocean dumping of its sludge, particularly thermal processing, land disposal, and land utilization. One form of thermal processing that the city chose is known as the "Ecorock" process, where dewatered sludge and municipal solid waste incinerator residue is combined in a rotary kiln. The inert material in the wastes will reach a molten state at 981°C (1,800°F) that, when cooled, becomes a hard rock. When crushed, the rock is expected to be a high quality road aggregate that will pass Federal Highway Administration tests for paving materials. A demonstration plant for the project is being completed.

Land disposal of sludge was not a viable alternative, because the Pennsylvania Department of Environmental Resources does not recommend mixing wastewater sludge with municipal refuse in landfills. Using sludge to help improve land, on the other hand, presented the most economically feasible alternative. The Philadelphia authorities were particularly interested in using the sludge to recover stripmined areas of the state.

After examining the alternatives, Philadelphia formulated the Sludge Master Plan, which incorporated a number of programs.

Producing A High-Quality Product

The sludge must be as free of toxics as possible. One way in which Philadelphia maintains a consistently high quality sludge is through its industrial waste regulations. Starting in 1977 and before EPA promulgated industrial effluent limitations for metals, the city implemented its own set of metals effluent limitations for industrial contributors to the city's treatment facilities. These limitations significantly lowered the metals concentrations of the city's sludge.

Philadelphia's sludge is further improved by anaerobic digestion for at least 15 days at 37°C (98°F), which

serves to significantly reduce pathogens and odors. The digested product (5% solids) can then be utilized in one of the alternative plans — the Liquid "Philorganic" Program. Containing up to 50% organic matter with 3 to 4% nitrogen by weight, the liquid digested sludge can be sprayed or injected on grain or sod farms.

Dewatering also enhances the use of other alternatives in managing sludge.

After dewatering, the sludge is loaded on dump trucks and transported to interim composting sites at each plant. The Philadelphia authorities use the extended pile aeration method, where woodchips are used as a bulking agent in a 2 to 1 ratio of woodchips to sludge. Because woodchips are a major expense at over \$8 per cubic yard, a shredder and screen system is used to reclaim them. Moreover, the screened compost is a fine, homogeneous soil conditioner that is marketed under the name "Gardenlife" as a soil conditioner and may be purchased in 40-pound or bulk quantities. The screening process greatly increases the desirability of the product, and the city therefore plans to expand the screening facilities, presently rated at 200 cubic yards per day.

The marketing program sold more than 250,000 bags of "Gardenlife" by July of 1981. This may eventually phase out a current give-away program, but both will continue until marketing proves successful.

Sludge not screened and sold is given away as part of the Philorganic program. The city provides a series of brochures at distribution centers that explain how the compost can and should be used by consumers. No EPA regulations or guidelines cover the distribution and marketing of Philorganic, although the Philadelphia Water Department has adopted a conservative policy, one condition of which recommends that Philorganic not be used on vegetables. The program's popularity is on the increase. Between July and December of 1980, 2,600 dry tons of Philorganic were given away.

Dry and liquid Philorganic has also been used in several special projects. Ball parks, parks, and city-owned golf courses have benefited from Philorganic, as have several reclaimed landfills and abandoned lots.

Reclaiming Strip Mines

Philadelphia's plan to use sludge to reclaim strip mines stemmed from a demonstration project conducted in 1978 on 10 acres of land in Somerset County in southwestern Pennsylvania. One part unscreened compost and one part dewatered digested sludge, called a "mine mix," are added to loosened soil that has previously been recontoured and limed to immobilize heavy metals. Present guidelines allow a maximum application rate of 60 dry tons per acre.

For each reclamation project, a permit application is prepared and submitted to the Pennsylvania Department of Environmental Resources, with copies also sent to township supervisors and local health officials for review. Once a permit is approved, local truckers are hired to transport the sludge. Usually, these are coal trucks delivering coal to the Philadelphia area that can transport the mine mix back to western Pennsylvania on the return trip.

Before the sludge is applied to the land, erosion and drainage control measures must be carried out and the site preparations approved by inspectors. For the application, 2-acre plots are staked out, and at the 60 dry tons per acre loading rate, 10 truckloads of mine mix are added to the limed soil. Finally, a seed mixture of two legumes and two grasses is spread at a rate of 60 lb. per acre. The site will then be monitored for two years to guard against contamination by metals. The goal is to make the land suitable for grazing.

The city presently is using 60 to 70 percent of its sludge in the stripmine reclamation program, and plans are being made to reclaim 800 acres in Fiscal Year 1981. The cost of the program is about \$200 per dry ton, making it one of the city's most economically feasible alternatives to ocean dumping. □

An Industry View

By Philip X. Masciantonio

*Vice President, Environment
and Energy, U.S. Steel Corp.*



Modern waste treatment facilities at a U.S. Steel plant at the Homestead Works near Pittsburgh.

The past decade has seen improvement in environmental quality in Pennsylvania as a result of the combined effort and cooperation by government and industry as well as by our local communities. Pennsylvania has unique environmental problems associated with its river valley terrains and sharply contrasting urban and rural areas. On the one hand, we have vast forests, streams, and agricultural regions, and on the other, highly developed cities with heavy industries such as steel, power generation, and mining that play a significant role in the economic backbone of the State.

Immediately following the post-World War II era, emphasis on cleaning our streams of acid mine drainage and solving municipal sewage problems produced significant environmental improvement that was obvious both in the visible and the chemical purity of our water. The emissions from burning bituminous coal as a source of power for railroads and industrial plants were also cleaned and the air was cleared of "soot." The dirty image of our major metropolitan areas was transformed in an outstanding example of cooperation between government and the private sector.

The opportunity to advance these air and water cleanup activities further came with the environmental movement in the late 1960's and early 1970's. A major effort in pollution abatement was made by industry as required under the Clean Air Act of 1970 and the Clean Water Act of 1972. New State and county regulations also provided the added degree of environmental improvement required by the Federal laws.

There were many arguments among industry, the government, environmentalists, and others during the period of the 1970's. An intense emotion-filled climate characterized the period, with participation at all levels to

resolve differences. Some of these problems were associated with forcing untried technology as required by various laws and regulations. This made it very difficult to agree always on installation of control facilities. Nevertheless, some progress was made, and the 1970's can be looked upon as a time in Pennsylvania when a readjustment was made in how our environmental problems could be solved.

The progress that was made in this period in pollution control ultimately will be most remembered and represents a lasting benefit to our State. For example, in Eastern Pennsylvania (Bucks County) where we operate steel facilities, air quality is now meeting standards. In Western Pennsylvania, a dramatic air quality improvement has been realized in metropolitan areas of Allegheny County and Pittsburgh. Readings for total suspended particulates and sulfur dioxide have been reduced drastically, and air pollution episodes have been essentially eliminated. Data collected from four suspended particulate monitors near U.S. Steel's Clairton Coke Works, one of the largest of its kind in the world, show a dramatic reduction in this pollutant. Two of the stations have gone from nonattainment to attainment with primary standards. Sulfur dioxide measurements also have sharply declined. Some of the air quality improvements were made because of controls installed by industry and utilities, and others by better quality control of government sampling devices and attempts in recent times to get more representative samples.

Water Quality

The water in our State has continued to show improvement. The progress in cleaning up the Monongahela and Ohio Rivers and other smaller streams and tributaries is gratifying. Further environmental improvement from industrial as well as municipal sources is continuing.

The cost to achieve this was very significant, and at times meant a great sacrifice in terms of other competing priorities. We are now at the point where we need to examine the benefits of sacrifice for further progress. We have removed sufficient pollution from the air and water so that no obvious health effects presently endanger our citizens. Even the most extreme environmentalists recognize that as we achieve greater degrees of environmental cleanliness, the cost for removal of the last traces of impurities becomes exorbitant. It is necessary to examine such expenditures carefully to be sure that the high cost associated with achieving the final percentage of cleanup is properly assessed. We cannot afford to spend billions of dollars on additions and questionable environmental improvement projects in the absence of evidence that this is necessary to protect health or public welfare, particularly in view of other pressing community needs.

However, the steel industry is ready to move forward on additional environmental improvement in a cost-effective manner if we know that the benefits from such improvement are justified. The State of Pennsylvania can proudly look to its environmental record, knowing that its efforts have been the result of a cooperative and continuing activity by government, industry, and the public.

It is important that careful study be given to the strategy for further environmental cleanup, particularly with regard to industrial sources of pollution. A recent study by A.D. Little, Inc., indicates that the steel industry has already reduced air emissions by 95 percent and water pollutants by 91 percent from its discharge. Numerous studies have shown that the cost for removal of the initial 90-95 percent of the pollutants involved a cost-effectiveness factor of about \$1,000 per pound per hour of pollutant removed. As efforts are made to remove the last remaining percentages of pollutants from industrial sources, the costs rise dramatically and cost-effectiveness factors approaching several hundred thousand dollars per pound per hour are not uncommon. Although, in certain cases, such pollutant removal may be necessary when it is clear that a significant pollution problem is involved, for the most part removal of the small amount of particulate matter or sulfur dioxide that remains does not result in any measurable environmental improvement. Detailed studies on a number of these cases at steel plants in Pennsylvania and across the nation have shown consistently that removal of the last few percent of pollutants has no significant or measurable effect on air quality in the vicinity of the community involved.

It appears imprudent to require that existing sources of pollution retrofit costly control facilities because of the adverse effects that this has on the competitive capability of the steel plants involved. Imposing costly retrofit controls on older steel plants causes premature closure and loss of productive facilities. For example, it has been estimated that to add retrofit controls to an old sinter plant to meet allowable limits could cost about \$30

million. An owner would have to give very serious consideration to spending this magnitude of funds, especially with the severe shortage of capital that already exists in the steel sector. Any unnecessary upgrading of environmental controls subtracts from the capital for modernization or construction of modern production facilities.

Experience since enactment of the Clean Air and Clean Water Acts has shown that environmental cleanup takes place quickly and effectively when modern facilities are constructed. Efforts to retrofit older plants are difficult, not only in installing controls in crowded and outmoded plants, but also in trying to capture the emissions cost-effectively from older processes.

Best Interest

It is in the best interest of all concerned in industrial, government, and public sectors to provide as rapidly as possible the means for industrial modernization and to accomplish this through every means available including proper tax legislation, proper control of imports which violate our trade laws and, most important, supporting reasonable environment regulatory strategies that encourage (not discourage) modernization, and do not overburden certain fragile industrial facilities that are struggling to maintain even marginal profitability.

With regard to the problem of particulates in Pennsylvania, road dust controls and other strategies should be

carried out by government as well as industry sources. Existing industrial emissions in air and water should be manageable with reasonable enforcement and interpretation of regulations and reasonable location of sampling monitors.

There is considerable uncertainty as to how the Resource Conservation and Recovery Act will be implemented to handle the disposal of solid and hazardous waste in the State. There also is a significant problem with siting facilities needed to take care of future industrial hazardous wastes.

Industry, including the major steel producing facilities in the State, must continue to maximize recycling and reuse of such materials. Those materials which do not lend themselves to recycling or reuse must be handled so as to pose no threat to the environment. On the other hand, there is a need to inform the public properly on the nature of waste materials which must be disposed of at future sites. All sectors including government, the public, and news media should work together to avoid the impression that every material classified on paper as hazardous poses a real threat to the future of our State. In many cases, hazardous wastes have been managed in a safe manner by responsible industries for many years. The occasional incident where material has escaped into the environment does not necessarily mean that additional legislation or regulation is needed.

In summary, environmental progress has been made in Pennsylvania during the decade of the 1970's. If further environmental progress is to be realized, it must be consistent with modernization and economic growth. Some of the principal problems that still face us relate

to emissions from congested urban systems, discharges into our waterways by municipalities from storm runoff, and other urban discharges. The solution will rest with the development of a solid economic base in the State for managing these remaining areas. Pennsylvania has been abundantly blessed not only with minerals and various energy sources, but also with water supplies and a highly developed transportation system. In addition, we have a vast pool of skilled labor and an excellent educational and research base to provide for further economic development.

It has been shown repeatedly that industrial modernization and environmental cleanup can harmoniously proceed to the benefit of all citizens in our State. The adversarial relationship which characterized the period of the 1970's must not recur to inhibit the harnessing of the forces and resources available to our State. The key to further progress is cooperative action from all segments of our society. In this respect, industry has a grave responsibility to proceed in a manner that is consistent with the protection of our environmental resources and of our job opportunities. The economic development so badly needed by our State is the area where the private sector is most uniquely suited to act. With understanding and with the good faith effort of all parties, continued economic and environmental progress can be realized, jointly. □



More Key EPA Appointments Announced

President Reagan and Administrator Anne M. Gorsuch have announced additional selections for management positions at EPA both at Headquarters and in the field.

Matthew N. Novick, a government budget and fiscal expert, was nominated by the President to be Inspector General of EPA, responsible for managing audits and investigations to ensure the fiscal integrity of the Agency's operations.

The Honorable Richard Funkhouser, former Ambassador and career Foreign Service Officer, was named by Mrs. Gorsuch as Director of the Office of International Activities. Other key officials selected by Mrs. Gorsuch include:

A former business and government official, Jack Woolley, as Director of Congressional Liaison.

Andrew P. Jovanovich, a management and research expert with experience in the chemical industry, as Acting Assistant Administrator for Research and Development.

Bruce R. Barrett, a veteran Federal environmental specialist, as the Acting Assistant Administrator for Water.

The Administrator also has appointed Lester A. Sutton as New England Regional Administrator of EPA Region 1, and John R. Spencer as Northwest Regional Administrator for Region 10.

Helen Cameron, executive assistant to two U.S. Senators since 1973, has been named by Deputy Administrator John W. Hernandez as his executive assistant.

Lewis S.W. Crampton, a management expert and consultant, was appointed Director of the Office of Management Systems and Evaluation at Headquarters.

In commenting on Novick's nomination, Mrs. Gorsuch said:

"Fiscal integrity is a cornerstone of efficient government. Mr. Novick's expertise and experience will play an important role in ensuring that EPA's programs meet the highest standards of efficiency, honesty, and effectiveness."

Novick, 47, was formerly Director of the Office of Technical Assistance at the Interior Department. From 1978 to 1980 he was Deputy Director for Finance and Administration there, and Financial Manager and Budget Officer under the Deputy Assistant Secretary for Management 1974-78. He served as budget analyst in the Office of the Director of Procurement in the Defense Department 1971-74. Previously he had served as an auditor in the U.S. Army.

Novick received a Bachelor of Commercial Science degree in 1963 from Benjamin Franklin University in Washington, D.C., and a diploma in 1971 following a year's study at the Industrial College of the Armed Forces.

Funkhouser has served as a career diplomat in several countries. He was United States Ambassador to Gabon in Africa, Economic Counselor in Moscow, Political Counselor in Paris, and was a member of the State Department Policy Planning Staff as energy specialist 1972-74. He resigned from the Foreign Service in 1976 to become an international affairs consultant, living in Edinburgh. He is a Trustee of the Scottish Civic Trust, the principal environmental organization in Scotland. He is author of numerous papers relating to international affairs, energy, and geology, including the basic table on the magnetic susceptibility of sedimentary minerals.

Jack Woolley



Andrew P. Jovanovich



Bruce R. Barrett



Funkhouser studied civil engineering, geology, and geophysics at Princeton and was graduated in 1939 summa cum laude and a member of Phi Beta Kappa. Prior to World War II he served as a geologist with steel and oil companies in the United States and abroad. During World War II he was a pilot in the China-Burma Theater with the rank of first lieutenant in the U.S. Army Air Corps. He holds the Distinguished Flying Cross with three Oak Leaf clusters and the Air Medal with four Oak Leaf clusters.

Woolley held key positions in the Eisenhower and Nixon Administrations and in the California Republican Party.

"The Agency, the Congress and Congressional staff will all profit from Jack Woolley's knowledge of the legislative process and his longtime relationship with the members, both in the Senate and the House," said EPA Administrator Anne M. Gorsuch.

In 1966, Woolley became director of federal government relations for the T.R.W. Systems Corp., Redondo Beach, Calif.

During the first Nixon term, Woolley served as Assistant Secretary for Legislative Affairs with the Department of Housing and Urban Development. He then became Washington office manager for PPG Industries, from which he retired in 1980.

A native of Salina, Kan., Woolley was commissioned as an ensign in the Navy after graduation from the U.S. Merchant Marine Academy in 1944. He served in the Atlantic, Mediterranean and Pacific theaters, joined the Naval Reserve in

1946, switched to naval aviation and retired as a captain in 1975.

At the University of Southern California, Woolley received a M.B.A. degree in 1949 and is a doctoral candidate there. He also was an adjunct professor there from 1949 to 1956 in business and telecommunications.

Woolley lives in Alexandria, Va., with his wife, Judith, who is a confidential assistant to the Deputy Attorney General of the Department of Justice.

Jovanovich, 37, will head EPA's national research and development effort which has a quarter-billion-dollar budget this fiscal year. He was appointed for an interim period until the President selects a nominee for the position. Since 1977, he has been a senior research chemist and oil shale program manager at the Denver Research Institute of the University of Denver, managing about \$1.5 million in research annually and serving as senior technical expert for various research projects. From 1975 to 1977, Jovanovich held a number of senior management positions at Western United Resources, Inc., a manufacturer of agricultural chemicals, including Vice President. He also has published numerous technical articles in professional journals on such subjects as chemistry, air pollution, and environmental aspects of oil shale development. Jovanovich received his Ph.D. in physical organic chemistry in 1970 from Northwestern University, and a B.S. in chemistry from Colorado College in 1965. Most recently, he received an M.B.A. in marketing and finance from the University of Denver in 1974.

Commenting on the selection of Barrett as Acting Assistant Administrator for Water, Mrs. Gorsuch said:

"Mr. Barrett has been a pollution control specialist for 19 years, and has experience in municipal and industrial waste treatment technology, water quality surveillance and analysis, and regulatory and legislative procedures at the Federal and State levels. We look forward to sharing his knowledge and expertise in directing the EPA water programs during this interim."

Barrett formerly headed the environmental affairs office at the Department of Commerce. He had been in that operation for nine years, during which time his special assignments included participation in the Domestic Council Task Force on Water Quality and an assignment with the Public Works and Transportation Committee, U.S. House of Representatives, which has responsibility for pollution control legislation.

From 1966 to 1972, Barrett was assigned to the EPA Research Center at Ada, Okla., and was involved in several multi-discipline surveys and investigations of water pollution control problems.

From 1962 to 1966, Barrett was on the staff of the Central Valley Regional Water Quality Control Board in California.

A native of Ardmore, Okla., Barrett is a registered professional engineer in that state and also in Texas and California. He received a B.S. in Civil Engineering in 1961 and an M.S. in Environmental Engineering in 1962 from Oklahoma State University. He has written on environmental issues for several publications.

Sutton, 51, has had more than 25 years, professional experience in all aspects of environmental engineering and management. In announcing his

Lester A. Sutton



Helen Cameron



John R. Spencer



appointment, Deputy Administrator John W. Hernandez declared that Sutton's "technical experience coupled with his administrative abilities make him uniquely qualified to administer EPA's programs in the New England States."

Sutton has been with the Region 1 office since its inception in 1971. The Region includes Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont. For the past two years he has served as Senior Project Manager, responsible for planning, management and implementation of major urban water pollution control projects in Boston, Providence, and New Haven. Previously he served as the Region's Water Division Director and headed the Air and Water Program Division there when the Agency was created. He also has had extensive experience with the Interior Department, U.S. Army Corps of Engineers, and U.S. Public Health Service.

He received a Bachelor of Civil Engineering degree in 1953 from City College of New York and a Master of Civil Engineering degree with a speciality in environmental engineering from New York University in 1959. He is a licensed professional engineer and a member of numerous professional associations.

Spencer, 41, has been chief executive officer in Alaska of Anchorage Telephone Utility, the Anchorage Water and Sewer Utility, and the Municipal Light and Power Department since 1977, supervising some 1,200 employees and managing an annual operating budget of about \$100 million plus a current construction budget of more than \$65 million.

The Administrator termed him "a skilled manager with a solid experience in both business and government," adding: "He will bring to EPA a pragmatic results-oriented approach that will help State and local governments protect the justifiably highly-prized quality of life of people living in the Pacific Northwest and Alaska." EPA Region 10 includes Alaska, Idaho, Oregon, and Washington.

During his tenure with the three Anchorage utilities, Spencer introduced new planning and budget processes that reduced expenses at a time when levels of service were being increased, with the result that the utilities — although owned by the city government — are operated as a profitmaking business earning in excess of 20 percent on equity.

Spencer was with RCA Alaska Communications, Inc., 1975-77, where he became vice president and general counsel, and was Anchorage city attorney 1971-75. He served in the U.S. Army in Anchorage 1967-70.

He received a bachelor's degree in business administration in 1964 and a law degree in 1965, both from the University of Texas.

Ms. Cameron, the new executive assistant to Deputy Administrator Hernandez, is a native of New Mexico. Her grandfather helped settle the town of Alamogordo when New Mexico was still a territory. Before joining Senator Robert W. Kasten, Jr., (R-Wis.) last March, Cameron was on the staff of Senator Pete V. Domenici (R-New Mexico). She served in numerous management posts with the New Mexico Republican Party.

"We are fortunate to have Helen in top management," said Dr. Hernandez. "She brings to the Agency a breadth of administrative experience which will be highly beneficial."

Crampton, 40, will evaluate Agency programs, suggest any needed reforms, and will design and operate a management accountability system to improve the Agency's overall efficiency.

The Administrator said Crampton's management expertise "will be a definite asset to EPA as we strive to improve efficiency. His analytical and management skills will do much to increase the Agency's effectiveness."

He has served as EPA Region 5's Assistant Regional Administrator for Planning and Management since last December. Before joining EPA he was senior consultant with the Arthur D. Little, Co. for two years, specializing in studies of toxic substances regulation and international trade. He also worked on a self-auditing program to help industries meet environmental requirements. During 1979 he appeared regularly on "The Advocates," a TV program on current events, discussing issues such as undersea mining, nuclear power, and energy policy.

Crampton served as Commissioner of the Massachusetts Department of Community Affairs 1973-75 and also has held several teaching positions. He received a B.A. degree with honors in public administration from Princeton University's Woodrow Wilson School of Public and International Affairs in 1965, an M.A. in East Asian studies from Harvard University School of Arts and Sciences in 1967, and later pursued graduate studies in urban and regional planning at M.I.T. □

Back Cover: A rural road winds over a one-lane bridge in this Autumn scene of Pennsylvania's Poconos Mountains country.

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