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STUDY BY THE STAFF OF THE U.S.

114027

# General Accounting Office

## Environmental Protection Issues In The 1980s



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In recent years the need to protect human health and the environment from pollution has become clearly evident. The Federal Government has responded to this need by enacting far-reaching legislation which could cost an estimated half a trillion dollars over the next decade. Questions have been raised on whether the environmental goals are too costly to achieve or whether the right balance has been struck between environmental objectives and energy, economic, and social goals.

This study examines current and emerging issues relating to Federal involvement in the environmental protection area and represents the perspective used in organizing GAO audit efforts.



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## FOREWORD

Environmental pollution affects everyone in some form or manner. Excessive pollutants introduced into the environment have an adverse effect on environmental quality, on human health, and on other factors important to human life.

The United States each year absorbs billions of tons of natural resources and turns out goods and services which we either consume or reinvest for future production. As the economy is producing these goods and services that contribute to our standard of living, it is simultaneously producing other things--polluted rivers and streams, the smog that characterizes our major cities, poisonous pesticides, toxic substances, unsafe drinking water, hazardous wastes, radiation, congestion, noise, encroachment on our wilderness areas--all of which detract from our quality of life.

As part of our continuing reassessment of critical national issues, and as an aid in focusing our own objectives, we have tried to identify the environmental program areas most in need of attention. This study describes and identifies what we believe are the major environmental issues facing the Congress and the Nation. Each issue is tied into a series of goals representing crucial elements of the national environmental program. The issues and goals represent the perspective we used to plan our future auditing activities.

It is hoped that others will find this study helpful in planning their own activities and that a better understanding of environmental issues will result.

Questions regarding this study should be directed to Sam A. Madonia, Issue Area Planning Director/Environment, on (202) 275-5165.



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## C o n t e n t s

CHAPTER		<u>Page</u>
1	OVERVIEW OF THE ENVIRONMENTAL PROTECTION AREA	1
	Perspective on Environmental Protection	2
	Recent Trends and Outlooks	3
2	ENVIRONMENTAL PROTECTION ISSUES	6
	Selection Criteria	6
	Environmental Issues	6
3	ISSUES MERITING PRIORITY ATTENTION	9
	Are Environmental Protection Regulatory Strategies Effective and What Alternative Approaches Exist?	9
	What is Being Done to Reduce the Social and Economic Impacts of Environmental Protection Programs on the Public and Private Sectors?	14
	Are Institutional Arrangements Effective for Implementing Environmental Laws and Considering Tradeoffs with Other National Priorities?	19
	Is the Public Adequately Protected from the Harmful Effects of Dangerous Pesticides and Chemicals?	25
	Are Federal and State Efforts Adequate to Protect Human Health and the Environment from Air Pollution?	30
	Are the Nation's Water Quality Goals Achievable with Present Programs and Resources?	35
	Are Federal and State Solid and Hazardous Waste Programs Effectively Protecting Public Health and the Environment?	40
4	OTHER ISSUES	45
	Are Research and Development Programs Effective in Supporting Environmental Protection Activities?	45
	How Effectively is the Public Protected from Noise Pollution?	46
	Are the Nation's Drinking Water Systems Safe?	47
	Are Federal Facilities Complying with Environmental Standards?	49

CHAPTER

Page

Is the U.S. Promoting Worldwide Pollution Abatement Actions?	50
Radiation--How Serious and What Can be Done?	51
Is Implementation of the National Environmental Policy Act Effective?	52

APPENDIX

I.	Senate and House Committee Jurisdictions	54
II.	Major Executive Branch Agencies with Environmental Responsibilities	56

ABBREVIATIONS

CEQ	Council on Environmental Quality
DOD	Department of Defense
EDA	Economic Development Administration
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
FmHA	Farmers Home Administration
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
GAO	General Accounting Office
HUD	Department of Housing and Urban Development
NEPA	National Environmental Policy Act
OTA	Office of Technology Assessment
PCBs	Polychlorinated biphenyls
SIP	State Implementation Plan
TSCA	Toxic Substances Control Act

## CHAPTER 1

### OVERVIEW OF THE ENVIRONMENTAL PROTECTION AREA

Environmental pollution affects everyone in some form or manner. Excessive pollutants introduced into the environment have an adverse effect on environmental quality, on human health, and on other factors important to human life.

The United States each year absorbs billions of tons of natural resources and turns out goods and services which we either consume or reinvest for future production. As the economy is producing these goods and services that contribute to our standard of living, it is simultaneously producing other things--polluted rivers and streams, smog that characterizes our major cities, poisonous pesticides, toxic substances, unsafe drinking water, hazardous wastes, radiation, congestion, noise--all of which detract from our quality of life.

Pollution in its various forms has been an environmental concern in the United States for many years. Federal policy has gradually evolved to deal with pollution on a national basis, culminating in comprehensive legislation enacted by the Congress during the 1970's. This legislation substantially enlarged and strengthened the regulatory and subsidy parts of Federal environmental policy and committed the Nation to ambitious goals for a clean environment. The Council on Environmental Quality estimates that total pollution abatement and environmental quality expenditures of about \$711 billion will be required over the next decade by taxpayers, consumers, industrial firms, and municipalities. In fiscal year 1981, the Federal government expects to have outlays of about \$12.8 billion for environmental programs to protect the environment and conserve the Nation's natural resources.

The Nation has embarked upon an ambitious program to clean up our environment. The success or failure of this effort will depend to a large extent on how well Federal, State, and local governments are implementing environmental protection programs. But decisionmakers seem to be unsure as to whether environmental goals are too costly to achieve and whether the right balance has been struck between environmental quality objectives and energy, economic and social goals. The energy crisis coupled with a period of inflation and unemployment has led to a general reexamination of our pollution control goals and strategies.

## PERSPECTIVE ON ENVIRONMENTAL PROTECTION

If the environment's capacity to absorb or assimilate wastes were unlimited, there would be no pollution problem. However, the natural environment which acts as a "sink" for waste material, whether of natural or man-made origin, does have limited capacity for self-cleansing. Further, because the environment is not owned by anyone and is controlled by no one, it is overused and abused.

Actions, therefore, must be taken by Federal, State, and local governments to manage the environment by placing limits on the amount of pollution that can be tolerated without endangering the health and welfare of human beings and the ecological systems in which we live.

The key to effectively managing the environment is to know how much pollution the environment can assimilate, what abatement or control actions need to be taken at minimum cost--both economically and socially--and how these actions will interact with developing the Nation's natural resources and continuing our general prosperity. Unfortunately, these things are generally not clearly known because the research, monitoring, and analytical efforts to provide precise information have been lacking.

Therefore, the strategy to control air, water, and noise pollution has centered on national uniform technology based standards. In other words, if pollution control equipment is available, then it will be used regardless of cost and regardless of whether it is needed to achieve environmental quality objectives. This strategy is not considered cost-effective, efficient, or equitable and is being resisted by industry, States, and municipalities on the basis that costs outweigh benefits. In the future, attention needs to be given to identifying alternative regulatory strategies and cost/benefit analyses.

The two dominant Federal agencies responsible for implementing environmental protection legislation and programs are the Council on Environmental Quality, which has oversight responsibilities to provide policy guidance to Federal agencies in implementing the National Environmental Policy Act, and EPA, which is responsible for implementing environmental protection regulatory and financial assistance programs. Other Federal agencies who have major environmental responsibilities are shown in Appendix II.



## RECENT TRENDS AND OUTLOOKS

The Congress, during the last several years, recognized the need to protect human health and the environment from pollution and enacted tough Federal laws--the National Environmental Policy Act, Clean Air Act, Noise Control Act, Clean Water Act, Marine Protection, Research and Sanctuaries Act, Safe Drinking Water Act, Resource Conservation and Recovery Act, and the Toxic Substances Control Act with far-reaching consequences that would be felt for years to come. As a result of this legislation, considerable improvement in air and water quality has or will take place in the near future as Government and industry spend huge sums of money on pollution control equipment.

Because of escalating environmental expenditures, the battles have begun with industry on one side, environmentalists on the other side, and Government somewhere in the middle. Much of EPA's staffing resources have gone into defending the Agency against more than a thousand suits, brought both by environmentalists seeking sterner enforcement and by companies seeking relief from what they regard as arbitrary interpretations of the statutes.

Another problem is that of the growing mass of disjointed environmental regulations that plague industry and communities. The problem is perceived in the fact that the Congress, starting in 1970, tackled pollution areas one by one, passing the Clean Air Act in 1970, the Federal Water Pollution Control Act Amendments in 1972, and others in succession, culminating in the Toxic Substances Control Act and the Resource Conservation and Recovery Act in 1976.

The statutes and resultant regulations, which now fill several 5-foot shelves, often overlap confusingly in their impacts, both physical and fiscal. The problem of fragmented environmental regulation bears especially heavily in regard to restrictions to be applied to industrial growth, at a time when industrial pollution generally is still excessive. The proposed Energy Mobilization Board would waive certain environmental regulations.

There is a definite lack of flexibility in much of the environmental legislation and economic considerations are not adequately presented. It is far easier to calculate the costs of pollution abatement than the benefits. However, it is difficult to place a price tag on clean air and clean water for there are many factors to be considered: health, recreation, land values near recreational sites, and aesthetic factors that resist quantifying. Therefore, it is largely unknown whether the costs of complying with

environmental protection standards and requirements will exceed benefits.

To overcome problems with current regulatory strategies, efforts are underway to depart from such strategies based on regulation to one using economic incentives such as imposing emission and effluent fees on polluters, providing subsidies for abating pollution, or assessing charges for failure to meet abatement schedules.

### Long Range Outlook

We can anticipate that the most critical environmental protection issues which will confront the United States in the mid 1980's and beyond will be those of global environmental protection challenges.

As a result of stringent Federal laws passed by the Congress in the last several years, major strides have been made toward improving the quality of the environment in the United States. However, while pollution used to be a regional or local problem, the side effects of new technology are now being felt over increasingly larger distances and have become global in character. We have come to realize that polluted air and water respect no national boundaries.

During the next decade and beyond, the United States will have to concentrate on much broader environmental problems which may have a more devastating effect on the quality of life in the world. For example,

- A corrosive "acid rain" is showering the earth when it rains. This damaging sulfuric acid is a result of coal burning and is discharged into the atmosphere from electric power plants and sent drifting to all corners of the globe. Acid rain is attacking fish life, making lakes sterile, and marring forest production.
- The buildup of carbon dioxide (a product of fossil fuel combustion) in the atmosphere produces the "greenhouse effect": heat becomes trapped producing an increase in global temperatures. This could lead, in turn to melting of the polar icecaps, producing a rise in the sea level and consequent widespread flooding.
- Fluorocarbons released into the atmosphere from aerosol spray cans may harm the earth's ozone layer which protects the planet from harmful effects of the sun's ultraviolet rays. Scientists say depletion of

the ozone layer could lead to a higher incidence of skin cancer and to changes in the earth's climate.

The Environmental Protection Agency, the Food and Drug Administration, and the Consumer Product Safety Commission, have jointly taken action to ban the use of fluorocarbon gas in aerosol spray cans in the United States. However, fluorocarbon emissions are a worldwide problem. Because the United States is responsible for less than one-half of all fluorocarbon emissions, a comprehensive attack on this global problem must be coordinated with the other major fluorocarbon-producing nations.

In upcoming years, the Federal Government--through the direction of the Environmental Protection Agency--will need to take a more active worldwide leadership role in developing preventive measures to forestall such environmental catastrophes. We foresee a continuing need for the General Accounting Office through its oversight responsibilities and program evaluations to encourage a coordinated attack on global environmental problems and to evaluate alternative courses of action available.

## CHAPTER 2

### ENVIRONMENTAL PROTECTION ISSUES

#### SELECTION CRITERIA

Our primary criteria for identifying issues which warrant GAO's attention is the level of existing and anticipated congressional interest. In determining this interest we consider the major national issues under debate, the amount of pending and recently enacted legislation, and the nature of congressional requests for GAO assistance. We also consider the views of knowledgeable congressional staff as well as discussions contained in the Congressional Record.

The amount of Federal dollars involved in the various environmental protection programs is also a major factor in our selection criteria. However, since pollution control is basically a regulatory effort, we must also consider the social and economic importance and the regulatory and administrative burden imposed. We also consider the extent of coverage in national news media and environmental trade publications.

We also consulted with congressional oversight committees (legislative, appropriations, and budget), Executive agency officials, and other agencies in the Legislative branch. We obtained the views of other interested groups in both the public and private sectors such as national environmental organizations, industry representatives, and municipal associations.

We have identified 14 issues which merit GAO's attention over the next 18 month period. Our selection of seven issues as priority reflects our perception of critical national issues as well as our judgement of where our limited resources can make the most significant contribution to the Nation's efforts to resolve major environmental issues.

#### ENVIRONMENTAL ISSUES

- \*1. Are environmental protection regulatory strategies effective and what alternative approaches exist?

\* Designated for priority attention.

- \*2. What is being done to reduce the social and economic impacts of environmental protection programs on the public and private sectors?
- \*3 . Are institutional arrangements effective for implementing environmental laws and considering trade-offs with other national priorities?
- \*4. Is the public adequately protected from the harmful effects of dangerous pesticides and chemicals?
- \*5. Are Federal and state efforts adequate to protect human health and the environment from air pollution?
- \*6. Are the Nation's water quality goals achievable with present programs and resources?
- \*7. Are Federal and State solid and hazardous waste programs effectively protecting public health and the environment?
- 8. Are research and development programs effective in supporting environmental protection activities?
- 9. How effectively is the public protected from noise pollution?
- 10. Are the Nation's drinking water systems safe?
- 11. Are Federal facilities complying with environmental standards?
- 12. Is the United States promoting worldwide pollution abatement actions?
- 13. Radiation--How serious and what can be done?
- 14. Is implementation of the National Environmental Policy Act effective?

In developing the environmental protection issues, our strategy was to identify broad-based issues which cut across the many environmental programs such as air, water, and hazardous waste programs. The first three issues--dealing with regulatory strategies, social-economic impacts, and institutional arrangements--reflect this multi-media approach. In addition, we identified issues which must be addressed on an individual program-by-program basis. The

last four issues--dealing with chemicals, air, water, and hazardous waste pollution--reflect this approach. We have categorized specific assignments among the seven priority issues depending on the major thrust of proposed jobs, recognizing that a particular job could overlap and touch on more than one issue.

## CHAPTER 3

### ISSUES MERITING PRIORITY ATTENTION

#### ARE ENVIRONMENTAL PROTECTION REGULATORY STRATEGIES EFFECTIVE AND WHAT ALTERNATIVE APPROACHES EXIST?

##### ISSUE ANALYSIS

The Congress adopted regulatory strategies basically centered around the standard setting-monitoring-enforcement regulatory process coupled with uniform effluent and emission limitation requirements. This process is carried out through a complicated interactive process involving (1) the Congress which establishes policies, goals, objectives, requirements, and the basic structure of the regulatory processes; (2) Federal agencies, which define and implement the regulatory processes; (3) various State and local agencies which also implement the processes; and (4) the Federal and State courts, which review the administration and implementation of the environmental protection laws at the request of opponents and proponents of the various regulatory decisions being made.

Basically the regulatory process followed by EPA for controlling pollution in the United States involves:

- deciding the levels of environmental quality desired,
- setting environmental quality standards,
- deciding on the abatement actions or methods of achieving the standards,
- monitoring compliance with the standards and abatement schedules, and
- taking enforcement action against violators.

Implementing the regulatory process is not an easy task. First, millions of Americans are affected by environmental degradation individually, and are concerned about the levels of environmental quality that would be desirable. Only the governmental processes provide the organizations for deciding what quality levels are desired and reaching agreements on the costs citizens are willing to pay for the cleanup.

Secondly, a sound scientific research information base concerning the effects of pollutants on man and the environment is needed to establish reasonable environmental protection standards and requirements if they are to be effective in

implementing environmental protection legislation. The Federal regulatory effort to date, however, has lacked such an adequate information base and the standards and requirements were frequently set on the basis of limited information on environmental trends and conditions; value judgements; social decisions; technology; and political considerations.

Once the regulatory approach and the requirements are set, the method of achieving the levels of protection becomes critical. For various reasons, the Federal strategy is to establish uniform pollution control requirements based upon control technology. This strategy is occasionally economically inefficient and in some cases environmentally counterproductive.

Furthermore, Federal and State Governments face monumental tasks in monitoring and taking necessary enforcement actions against the literally thousands of pollution sources in the various pollution media. Because enforcement actions play an important role in pollution control policy, it may be wiser and cheaper for a discharger to appeal an environmental protection standard or requirement which is not based on sound scientific information than to install pollution control equipment. With limited investigative resources, procedural and legal safeguard, and an overcrowded court system, enforcement efforts by the regulatory agencies and the State and local governments is difficult in the face of significant resistance.

Several alternative strategies to achieve pollution control goals have been proposed--primarily by economists. The more prevalent alternative strategy to regulatory controls is the use of effluent or emission fees. When properly used, effluent or emission charges may help secure economically efficient pollution cleanup. For example, a uniform fee--say 10 cents for each pound of sulfur emitted into the air by a firm may lead firms to reduce sulfur emissions just to the point where the costs of removing an additional pound of sulfur equals 10 cents. Fees, accordingly, appear to offer the advantage of decentralizing cleanup decisions (which reduces Government's administrative costs and controls) in a way that minimizes the cleanup costs to society.

In contrast, the current regulatory approach requires EPA to promulgate extensive rules governing the behavior of all pollution sources, thus centralizing the burden of decisionmaking. Furthermore, desires for administrative simplicity and equality of treatment tend to produce inefficient regulations that require all polluters to reduce their emissions or effluents by the same extent, regardless



of abatement costs. The result can substantially increase the cost of achieving a given level of pollution control perhaps many billions of dollars on a nationwide basis.

Why then have environmental programs predominantly resorted to the strict regulatory approach? One reason is that fees entail some uncertainty about the level of clean-up that will be achieved unless polluters' reaction to a fee schedule can be exactly predicted in advance. Proponents of fees argue that this uncertainty can be dealt with by subsequently adjusting the initial fee upwards or downwards, as appropriate. But if polluters know that the initial fee may be in force for only a short time, their immediate response will not be representative of their long-term behavior. Furthermore, if polluters make significant capital investments in response to an initial fee, their responses to later changes in the fee schedule will be distorted in possibly wasteful ways.

In contrast, regulation appears to promise greater certainty on the level of quality to be achieved. Moreover, in the earlier period of environmental enthusiasm, between 1968 and 1972, considerations of costs were less persuasive than getting the job done. The political gains to be had from cracking down on polluters contributed to the almost universal choice in the Congress of the regulatory approach. Moreover, fee schemes depend on the assumption that polluters will act to minimize their economic costs, an assumption that may be at odds with reality in many instances. For example, large firms with significant market power may prefer merely to pay the fee, rather than make the effort to reduce pollution.

Fee schemes on the other hand, may make administration and enforcement more effective and less costly. Fee schemes provide a continuing incentive to control emissions and effluents, while typical regulatory sanctions encourage the polluter to postpone as long as possible, the day on which he must choose between compliance and suffering a sanction.

#### WHY SELECTED FOR PRIORITY ATTENTION

The United States is in the process of developing various regulatory strategies to control air, water, and noise pollution; to improve solid and hazardous waste management; to better control the uses of pesticides and toxic substances and to limit radiation contamination of the environment. As more specifics become known of environmental conditions and the effects of the regulatory strategies attempted to date, there will be a continuing need to reassess the approaches delineated and the steps underway. Because of

the dynamic nature of the environment, and the substantial costs incurred by government and industry when regulatory strategies are even slightly altered, GAO will need to give priority attention to evaluating the effectiveness of these strategies, until all congressionally mandated environmental goals have been achieved.

#### GAO OBJECTIVE AND STRATEGY

Our objective under this issue will be to determine whether the basic environmental regulatory strategies and approaches embodied in Federal pollution control laws and programs need to be changed in order to achieve desired levels of environmental quality as effectively and efficiently as possible.

Our strategy to accomplish this objective will be to answer the following questions:

1. How effective are uniform, nationwide environmental standards compared to flexible, selective implementation of pollution control requirements?
2. Has the existing standard setting-monitoring-enforcement regulatory process been effective in achieving environmental goals and objectives?
3. What innovative, alternative regulatory approaches might be more effective and more efficient strategies for pollution control?
4. Should Federal environmental laws and programs be implemented on a single purpose, media approach (air, water, solid waste, toxic chemicals) or on a multi-media, integrated basis?

#### CURRENT ASSIGNMENTS

Effectiveness of the federal strategy  
for industrial wastewater pretreatment

Efforts to protect groundwater from  
contamination

Assessment of EPA's Safe Drinking  
Water Act Implementation

Evaluation of the effectiveness  
of EPA's administration of the  
ocean discharge waiver provisions  
of the Clean Water Act

Progress of US/Canadian efforts in  
controlling pollution of Great Lakes  
from all sources

RECENT PUBLICATIONS

<u>REPORTS</u>	<u>DATE</u>
Combined Sewer Flooding and Pollution-- A National Problem. The Search For Solutions In Chicago	CED-79-77 5/15/79
Large Construction Projects to Correct Combined Sewer Overflows Are Too Costly	CED-80-40 12/28/79
Improvements Needed in Controlling Major Air Pollution Sources	CED-78-165 1/02/79
Air Quality: Do We Really Know What It Is?	CED-79-84 5/31/79
Better Enforcements of Car Emission Standards--A Way To Improve Air Quality	CED-78-180 1/23/79
Letter Report on EPA's Tampering and Fuel Switching Programs	CED-79-47 3/01/79
Stronger Management of EPA's Information Resources Is Critical To Meeting Program Needs	CED-80-18 3/10/80
Assessment of Allegations Involving the Environmental Protection Agency's Kansas City Regional Office	CED-80-17 10/19/79

WHAT IS BEING DONE TO REDUCE THE SOCIAL  
AND ECONOMIC IMPACTS OF ENVIRONMENTAL PROTECTION  
PROGRAMS ON THE PUBLIC AND PRIVATE SECTORS?

ISSUE ANALYSIS

Environmental programs and regulations have profound effects on the citizens of this Nation and its industry. For the majority of people these impacts are positive because environmental programs seek to reduce pollution damages to health, wildlife, vegetation, materials, and recreation areas. For example, air pollution has been linked to many diseases, especially respiratory and heart ailments, which cost billions of dollars annually in health care, lost earnings, and other costs.

Decisionmakers now, however, seem to be unsure as to whether the right balance has been struck between environmental quality objectives and economic and social goals. The last few years of inflation, unemployment, and energy shortages have led to a general reexamination of our pollution control goals and strategies.

The cost of cleaning up the environment is not cheap. Each American must pay for environmental improvement through higher taxes and costs for goods and services. For example, Arthur Andersen & Co., in a study released in March 1979, for the Business Roundtable, estimated that the direct incremental cost incurred by 48 companies in complying with EPA regulations in 1977 amounted to \$2 billion. Such costs are usually passed on to the customers.

Total pollution abatement expenditures, according to the Council on Environmental Quality, will amount to an estimated \$711 billion during the period of 1978-1987. Of this total, \$306 billion and \$282 billion will be spent on air and water pollution, respectively. In 1978, the United States spent \$27 billion for pollution control or \$120 for every American. Although the total amount of pollution control expenditures could be argued as reasonable when calculated on a per capita basis, some geographical areas pay more than others and in some cases the payments are so great that the controls are not wanted by the intended beneficiaries.

Currently, there is a trend toward constructing very expensive advanced municipal wastewater treatment facilities. Communities are being required to provide such treatment without reasonable assurances that the treatment will significantly improve water quality. Advanced waste treatment costs as much as five times more than secondary treatment. The costs incurred by communities, which is in the billions, should be based on

sound scientific knowledge so that the gains to be obtained from advanced waste treatment are justified both economically and socially.

The burden of environmental regulations on the homeowner is a major concern of local governments--especially smaller communities which have legal as well as economic limitations on the amount of money they can borrow. Taxpayers, particularly as expensive sewer systems are coming on-line, are starting to question whether environmental regulations are worth the cost. Some communities see a reduction of community services as the only way to provide funds needed to comply with environmental requirements, and may feel that the requirements--such as secondary treatment of municipal sewage--are excessive and rigid.

A healthy economy and a clean environment are national goals which must compliment each other. EPA has concluded that from an overall standpoint, current environmental regulations result in an economic gain rather than a loss. EPA statistics of the construction grants program to build wastewater treatment facilities, for example, show that each \$1 billion of Federal expenditures creates 14,000 construction jobs and another 18,000 indirect jobs to support the construction work.

However, specific industrial and regional sectors of the economy can be significantly impacted by environmental programs even though the effect on the total economy is not great. To minimize the impact of environmental programs on the economy, EPA performs economic analyses of the impact of significant EPA actions and modifies its guidelines and standards appropriately. EPA also monitors plant closings and lay-offs allegedly caused by environmental regulations through its Early Dislocation Warning System and notifies the Department of Labor, Small Business Administration, and Economic Development Administration of potential and actual plant closings.

Economic review groups--such as Council on Wage and Price Stability, Council of Economic Advisors, and Regulatory Analysis Review Group--have pointed out the perceived economic effects of environmental regulations. In October 1978, the President created the Regulatory Council, chaired by the Administrator, EPA, to monitor Government regulations to avoid overlap, duplication, and inflationary impacts.

Industry disagrees with EPA that environmental protection regulations do not have an adverse economic impact on Americans. Industry claims that pollution abatement expenditures

displace investments intended to expand productive capacity and contribute to heavy demands on the money market which keeps interest rates high.

Industry is also concerned that environmental regulations require large expenditures for unproductive equipment which precludes plant relocation, expansion, and modernization; higher profits; and more jobs. For example, industry believes that the Clean Water Act's approach of technology based standards--having all plants in the same industry meet the same requirements--is too rigid and is counter-productive. They say that some waters have higher assimilative capacities than others--especially marine waters and fast-flowing rivers--and therefore, industrial wastes do not require uniform high treatment levels. Many industry officials question the use of scrubbers to clean up the pollution from power plants. They believe the cost of these controls to be inflationary, and excessively costly in relation to the benefits to be gained.

These issues should be addressed to determine whether modifications to the existing regulatory systems are needed. Because our pollution control legislation has stressed that everyone clean up the same amount with little regard to efficiency considerations, much of the analysis needed to address these issues, unfortunately, has been left undone. Many observers are becoming convinced that we cannot afford to delay these analyses any longer; that we have to make sure that every dollar we spend on improving environmental quality is being spent in the most effective way; and that the benefits we get are at least worth the amount that we are spending. Our economy cannot afford to spend resources where they do no good--there are too many other needs that have to be met.

#### WHY SELECTED FOR PRIORITY ATTENTION

Current pollution control laws have created substantial economic impact on individual industries and groups of people which in turn have had economic and social impacts on communities. The severity of the impacts will depend on such factors as the state of the economy, the development of low cost abatement technologies, the stringency of the abatement requirements, and the flexibility that the Federal and State environmental protection agencies have in implementing environmental laws. If national standards and rapid time-tables are rigorously enforced for all polluters, the costs and adverse impacts could be very high. If on the other hand, enforcement is too lax, and none of the standards and deadlines are met, the overall quality of life will be adversely effected. The most successful implementation of

environmental laws is one that has the flexibility to take into consideration overall costs and benefits of various environmental programs and to select the alternative or alternatives that provide the greatest improvement in the overall quality of life.

Environmental programs are also likely to result in quite significant positive and negative social impacts. Potential social benefits of pollution control would include improved health, increased recreational opportunities, and improved aesthetics. Potential negative impacts would include too rapid and haphazard development of areas (urban and suburban sprawl) causing excessive cost and resulting in overpopulation of environmentally sensitive areas or loss of prime farm lands. Environmental programs can result in a complete change in the socio-economic character of an area (i.e., forcing older residents out in favor of younger or higher income groups). Thus economic and social impacts of environmental protection programs have been designated as needing high priority attention in GAO.

#### GAO OBJECTIVE AND STRATEGY

Our objective under this issue will be to determine what EPA and the States are doing to adequately recognize and mitigate the adverse social and economic impacts that environmental protection programs are having on the public and private sectors.

Our strategy to accomplish this objective will be to address the following questions:

1. What is the current program strategy and practice for identifying the social and economic impact that environmental programs are having on selected industries and the general public; and, are these factors weighed against environmental benefits achieved?
2. Are EPA's efforts adequate to find acceptable solutions to lower the economic costs of complying with pollution control requirements?

#### CURRENT ASSIGNMENTS

Review of constraints in implementing the Clean Air Act for stationary sources

Assessment of environmental programs in metropolitan areas

RECENT PUBLICATIONS

REPORTS

DATE

Wastewater Treatment: What Does It Cost the Homeowner?	CED-79-35 2/13/79
Review of East Sound Wastewater Treatment Project, East Sound, Washington	CED-79-80 CED-79-81 4/30/79
EPA Should Help Small Communities Cope With Federal Pollution Control Requirements	CED-80-92 5/30/80



ARE INSTITUTIONAL ARRANGEMENTS EFFECTIVE FOR  
IMPLEMENTING ENVIRONMENTAL LAWS AND CONSIDERING  
TRADEOFFS WITH OTHER NATIONAL PRIORITIES?

ISSUE ANALYSIS

The Congress and the Executive Branch of Government are not organizationally structured to balance tradeoffs between environmental goals and other national priorities or to comprehensively address pollution problems as a whole. Nor do the institutional arrangements established between Federal, State, and local governments provide for the necessary coordination and financial support to effectively implement pollution control laws and to avoid overlap and duplication of efforts.

Congressional organization  
and environmental policy

Because of the numerous overlaps among committees and the fragmented jurisdiction over environmental matters, the congressional committee structure does not provide for:

- effective consideration of tradeoffs between environmental objectives and other national priorities, such as full employment, a strong economy, and energy self-sufficiency, and
- addressing the multimedia pollution problems as a whole, i.e., the relationship between air, water, and land pollution.

The work of the Congress in formulating environmental policy can be divided into three areas: the approval of legislation; conduct of oversight hearings; and approval of appropriations. In the environmental field the legislative function has been the most important congressional activity. Congressional committees have not hesitated to rewrite proposed legislation submitted to them by the Executive Branch.

Almost every committee of both the House and Senate exercises some role in environmental policymaking. This multiplicity of relevant committees can delay or stalemate decisionmaking. About 20 committees have major environmental responsibilities, as shown on the chart in Appendix I. Thus some of the work of hearing testimony and drafting bills is duplicated. The substantive committees responsible for formulating legislation and reviewing the progress and problems of the agencies administering the programs have

little influence over the appropriations subcommittees which give money for the same legislation and agencies.

Thus, most environmental legislation is deliberated on in a fragmented fashion. As a result, most legislation is enacted along separate pollution medias--air, noise, water, solid waste, resource recovery, pesticides, hazardous wastes, and toxic substances--which do not address the multimedia pollution problem. For example, cleaning up wastewater causes a sludge disposal problem which in turn can cause:

- an ocean pollution problem from ocean dumping,
- a land contamination problem from landfill,
- a drinking water problem because of seepage from landfilled sludge into underground water, and
- a water pollution problem from runoff during wet weather into rivers and streams.

#### The Executive Branch institutional arrangements

Since 1970, the institutions for the development and implementation of Federal environmental policy have undergone remarkable change. Particularly within the Executive Branch, new organizations such as CEQ and EPA have been created. Existing agencies such as the Departments of the Interior and Transportation have been reorganized to deal with new environmental responsibilities. The enactment of the National Environmental Policy Act has markedly influenced the organizations of Executive Branch agencies. The dramatic changes in Federal environmental institutions has had an impact on the formulation and implementation of environmental policy.

Given the numerous Federal agencies involved in environmental activities, coordination within the Executive Branch is a constant and troublesome problem. Much effort is expended in trying to resolve conflicts among agencies and attempting to harness the collective power of the Federal Government to work for common ends taking into consideration other national objectives such as full employment, a strong economy, and energy self-sufficiency.

The departments and agencies shown in Appendix II are responsible for proposing and implementing substantive environmental laws. In contrast to EPA, the other implementing

agencies have functions that are not always identified with concern for the environment. In fact, their missions are sometimes in direct contrast with environmental quality, such as the need to use more coal--our most abundant source of energy--which causes a sulfur oxide air pollution problem.

EPA's mission is to protect health and the environment against pollution and consequently it does not always adequately consider the impact of its regulatory decisions on other Federal policies and programs. EPA's implementation of statutes has often been criticized and fraught with controversy. Some critics charge that EPA has been too stringent, others, that it has been too lenient--sometimes with respect to the same decisions. Critics have proposed a number of controls, including legislative veto, to ensure that EPA's rules and regulations conform to certain values and priorities.

None of these issues are cut and dry; single resolutions to the problem do not exist. Since they involve valid concerns, the Congress has probed the issues and has engaged in various efforts to resolve them. In a number of cases, a problem originates not from EPA but from the requirement of the statute itself. In some cases EPA's actions have been dictated by the Court's interpretation of statutes.

### The Role of the Courts

The Federal court system has played an extraordinarily active role in shaping Federal environmental law and in revising the methods by which Federal agencies deal with environmental issues. However, the role which the Federal court system has undertaken has caused many observers to object both to specific decisions and to the entire notion of using the courts to decide environmental questions. Since environmental protection is a highly technical subject, observers question whether it is proper for a body, such as the court, lacking expertise on the subject, to have such an impact. Alternatives have been offered for providing assistance to courts in resolving scientific and technical matters--such as a science court and an environmental court.

### State and Local Roles

State and local governments have, in recent years, become increasingly involved in the protection of the environment. This involvement is frequently manifested through the development of Federal programs whose goals bear directly or indirectly on the quality of the environment. The growing diversity of these programs and their

separate management structures have caused an interest in greater coordination among environmental programs and the development of an integrated system of environmental planning and management. This is particularly true in state government, where much of the responsibility for implementation of environmental programs and policies is now lodged.

State governments are very concerned about the increasing number of Federal environmental pollution programs that they are being required to implement without adequate Federal financial assistance and with undue Federal involvement causing duplication and overlap. One factor which has led to increased Federal involvement in environmental affairs has been that pollution problems are not confined by any local, state, or even regional political boundaries. Thus, the primary responsibility for controlling pollution should lie with the Federal Government.

Further, Federal environmental law has outpaced the development of state and local laws and institutions. Pollution control traditionally had been State and local responsibilities. Many states managed significant pollution control programs long before the Federal Government began playing a very active role in the 1970's. Particularly in these states, but to some degree in nearly all States, there has been reluctance to accept Federal authority, especially when it appeared to be of such a massive nature that it overshadowed the efforts of the States. States believe that the Federal Government should provide national direction to be followed by State and local governments within the framework of national laws. But this should be done without undue Federal control and duplication of effort.

#### WHY SELECTED FOR PRIORITY ATTENTION

The structure of Federal, State, and local governments has an impact on the formulation and implementation of environmental laws. The most visible impact on governmental structures has been the outpouring of new environmental protection legislation during the last decade. These laws have essentially been enacted to control specific pollutants--air, water, pesticides, toxic substances and hazardous wastes--without fully considering the interaction among these pollutants or the effect these laws have on other national priorities. Further, there has been serious concern expressed over the ability of Federal, State, and local governments to effectively implement all of these laws with the resources available. Therefore, this

issue was selected for priority attention during the next 18 month period.

#### GAO OBJECTIVE AND STRATEGY

Our objective under this issue will be to determine the effectiveness of Federal, State, and local institutional arrangements and organizational structures which have been established to implement environmental protection laws and regulations and to mitigate conflicts with other national priorities.

Our strategy to accomplish this objective will be to answer the following questions:

1. Have the proper organizations, authorities, and resources been established at Federal, State, and local governments to ensure the achievement of environmental goals and objectives?
2. Have Federal coordinating procedures been established to effectively implement environmental programs and to prevent overlap and duplication of effort?
3. Have adequate mechanisms been established to ensure that tradeoffs and conflicts between environmental protection goals and other competing national interests are fully considered?

#### CURRENT ASSIGNMENTS

Assessment of the effectiveness and operations of the Marine Mammal Commission

Assessment of the administration of NOAA's Marine Sanctuaries Program

Evaluation of Federal and State efforts to monitor for ambient surface water quality

Assessing the effectiveness of the Council on Environmental Quality

RECENT PUBLICATIONS

<u>REPORTS</u>	<u>DATE</u>
Resources Expended By EPA When Assuming Drinking Water Enforcement Responsibility For Seven States	CED-79-19 8/08/79
Co-disposal Of Garbage and Sewer Sludge--A Promising Solution To Two Problems	CED-79-59 5/16/79
Analysis Of Future Coast Guard's Resources Needs For Responding To Oil Spills	CED-79-31 1/12/79
Improving The Scientific And Technical Information Available To The Environmental Protection Agency In Its Decisionmaking Process	CED-79-115 9/21/79
Water Quality Management Planning Is Not Comprehensive And May Not Be Effective For Many Years	CED-78-167 12/11/78
Letter Report On Quality Of Resource Reports Submitted By Federal Agencies During The Outer Continental Shelf Lease Sale Process	CED-79-53 2/22/79
Policy Conflict--Energy, Environmental, and Materials: Automotive Fuel-Economy Standards' Implications For Materials	EMD-80-22 2/05/80
Conversion Of Urban Waste To Energy Developing And Introducing Alternate Fuels From Municipal Solid Waste	EMD-79-7 2/28/79
How To Burn Coal Efficiently and Economically, and Meet Air Pollution Requirements--The Fluidized-bed Combustion Process	EMD-80-12 11/09/79
Federal-State Environmental Programs-- The State Perspective And A Compilation of Questionnaire Responses	CED-80-106 CED-80-106A 8/22/80

IS THE PUBLIC ADEQUATELY  
PROTECTED FROM THE HARMFUL EFFECTS  
OF DANGEROUS PESTICIDES AND CHEMICALS?

ISSUE ANALYSIS

If used indiscriminately or without knowledge of their potential harmful side effects, pesticides and other chemicals can pose a serious threat to health and the environment. This fact was not always widely accepted. However, over the last decade numerous incidents and discoveries have disclosed that synthetic (and some natural) chemicals significantly contribute to the environmental and health problems facing the Nation. For example, during the 1970's we realized that

- Highly toxic chemicals have found their way into our food supply.
- Kepone, a cancer causing chemical, was discharged into the James River and brought much economic harm to the region.
- Asbestos, a proven carcinogen, may be a chemical time-bomb for the thousands of persons that were (and are being) exposed to it.
- Toxaphene and 2-4-5-T, widely used pesticides, may cause cancer and other chronic health effects.

Chemicals

In May 1977, President Carter stated in his annual environmental message to the Congress that the

"\*\*\*presence of toxic chemicals in our environment is one of the grimmest discoveries of the industrial era. Rather than coping with these hazards after they have escaped into our environment, our primary objective must be to prevent them from entering the environment at all."

Clearly, chemicals are a mixed blessing. They protect and enhance our lives. They are essential to modern life. Yet, we know that some of them cause cancer and other harmful effects. Even more disturbing is that for most chemicals we know little about the effect they may have on human health and the environment. Out of this concern, the Toxic Substances Control Act (TSCA) was enacted in 1976. Now for the first time, the entire chemical industry is subject to broad-based Federal regulation.

TSCA gives EPA a mandate to protect public health and the environment from unreasonable chemical risks. EPA is to gather information on chemicals, identify harmful ones, and control those whose risks outweigh their benefits to society and the economy. More importantly, EPA has the authority to act before harmful substances threaten human health or the environment.

Although EPA plans to spend about \$100 million in fiscal year 1981 on toxic substance regulation, it faces an uphill battle. There are about 50,000 chemicals 1/ made or imported for commercial purposes in the United States with 700 to 1,000 new ones introduced each year. Add to this, the countless number of existing chemical compounds and the figures are staggering. Then consider that the vast majority of these chemicals have not been tested for health and environmental effects, and one begins to perceive the problem.

EPA's progress in implementing TSCA is the subject of a GAO report. EPA has made slow progress but has taken control actions for polychlorinated biphenyls (PCBs), chlorofluorocarbon propellants, and the disposal of dioxin wastes. This is not all that surprising given the awesome responsibility EPA has under TSCA and the law's complexity. Below are some of the Act's major provisions:

- Assemble a comprehensive inventory listing chemical substances in U.S. commerce.
- Require health and safety testing of potentially hazardous chemicals by their manufacturers and processors to determine if these chemicals present an unreasonable risk to human health or the environment.
- Implement a premanufacture notification program to screen new chemicals (not yet being used commercially), identify potentially hazardous ones and, if necessary, regulate them before they cause health or environmental problems.
- Control existing chemical substances found to pose unreasonable risk to human health or the environment.

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1/This figure excludes tobacco, pesticides, drugs, cosmetics and some other chemical substances not subject to TSCA regulation.



## Pesticides

Since 1970, annual pesticide production and application has increased by 70 percent--to 1.7 billion pounds. There are about 35,000 products on the market. These products contribute to major societal benefits such as increased agricultural productivity, lower domestic food prices, esthetic amenities for American consumers, more favorable balance of payments due to increased exports of agricultural products, and control of human disease. On the other hand, pesticides, designed to be injurious to living organisms and deliberately introduced into the environment have the potential of causing unacceptable harm to human health and the environment. Since most pesticides are used on human or animal food crops where human exposure is unavoidable, or in other situations which result in human exposure, their potential for causing unacceptable harm is heightened.

The most important ingredient in pesticide regulation is the decision on whether to register or reregister a product. New products are registered if EPA finds that the product will not pose unreasonable risks to humans, or the environment, taking into consideration the economic, social, and environmental costs and benefits stemming from the pesticide's use. Risk is often quantified in terms of the number of, or probability of, certain health effects in a given population, while benefits are usually stated in dollar valuations of increased crop yields, lower food costs, reduced chance of disease, or the cost savings from using alternative control measures.

Prior to registration, the benefits of a particular pesticide must be shown to exceed the risk. The review and reregistration of all Federally and State-registered products now on the market is required by the 1972 Amendments to the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). Most existing products were originally registered before the chronic effects (e.g., cancer, birth defects, gene mutations, etc.) of exposure to toxic chemicals were well understood. Their reregistration will thus require a more resource intensive review of all test data for both acute and chronic effects and, in many cases, the collection of the basic data itself.

The Federal Pesticide Act of 1978, which amended FIFRA, endorsed the regulatory reforms requested by EPA to streamline the review process and allow the Agency to increase and improve its regulatory decisionmaking options. Major changes approved in the review and registration process include a generic pesticide registration program and conditional registration.

Recently, GAO completed a review of EPA's primary programs for regulating pesticides. The first is generic standards, a 15-year program to reassess the safety of the 35,000 pesticide products which the Government had registered over the past three decades. The second is the rebuttable presumption against registration program. While generic standards cover all previously registered pesticides, the rebuttable program concentrates on evaluating the risks and benefits of those pesticides which are suspected of causing serious health problems. EPA performs this review on a pesticide when tests show problems such as cancer, mutations, or birth defects.

Our report showed that neither program can be relied on to cull out dangerous pesticides. Program effectiveness was hindered by mismanagement, delays, and a host of unresolved issues.

After EPA registers products it conducts enforcement activities, along with the Food and Drug Administration and the Department of Agriculture, to ensure compliance with registration decisions. The agencies inspect pesticide product packaging and labeling, pesticide manufacturing and formulating plant operations, and actual use of pesticides by farmers and other users. As a result of the 1978 FIFRA amendments, the States have acquired considerable authority to help Federal agencies enforce pesticide laws.

#### WHY SELECTED FOR PRIORITY ATTENTION

This issue was selected for priority attention because of growing evidence that environmental factors contribute to cancer and other chronic health effects. For example, a Federal agency task force on Environmental Cancer and Heart and Lung Disease reported in 1978 that the environment we created may be a major cause of death in the United States. Many of our current environmental problems have been caused by our increasing use of pesticides and other chemicals.

#### GAO OBJECTIVE AND STRATEGY

Our objective under this issue is to determine whether the Federal government is limiting the public's exposure to toxic substances by restricting or banning the use of hazardous pesticides and chemicals.

Our strategy to accomplish this objective will be to answer the following questions:

1. Do products domestically manufactured or imported into the United States contain unsafe levels of hazardous chemicals?
2. How effective are Federal and State efforts in regulating particularly dangerous substances, such as asbestos and PCBs?
3. Are high risk and sensitive populations, such as pregnant women, children, and farmers, adequately protected from exposure to hazardous pesticides and chemicals?

CURRENT ASSIGNMENTS

Assessment of EPA's enforcement of pesticide and toxic substances laws

Evaluation of how effectively EPA has reduced the hazards associated with PCBs

RECENT PUBLICATIONS

<u>REPORTS</u>	<u>DATE</u>
Health Effects Of Exposure To Herbicide Orange In South Vietnam Should Be Resolved	CED-79-22 4/06/79
Better Regulation Of Pesticide Exports And Pesticide Residues In Imported Food Is Essential	CED-79-43 6/22/79
Delays And Unresolved Issues Plague New Pesticide Protection Programs	CED-80-32 2/15/80
U.S. Ground Troops In South Vietnam Were In Areas Sprayed With Herbicide Orange	FPCD-80-23 11/16/79
Need For A Formal Risk/Benefit Review Of The Pesticide Chlordane	CED-80-116 8/05/80
Need For A Comprehensive Pesticide Use Data System	CED-80-145 9/30/80
EPA Is Slow To Carry Out Its Responsibility To Control Harmful Chemicals	CED-81-1 10/28/80

ARE FEDERAL AND STATE EFFORTS  
ADEQUATE TO PROTECT HUMAN HEALTH  
AND ENVIRONMENT FROM AIR POLLUTION?

ISSUE ANALYSIS

Air pollution is a serious threat to the Nation's health and environment. It has been shown to cause severe illness, especially among infants, the elderly, and people with heart and lung problems. Studies have shown a direct relationship between prolonged exposure to air pollution and emphysema, bronchitis, asthma, and lung cancer. In recent years there has also been a growing awareness of its effect on our environment. Studies suggest a decline in certain crop yields as well as significant damage to freshwater lakes and timber forests resulting from the fallout of industrial and municipal air pollution across the United States, stretching into Canada. Generally, air pollution originates from two sources--stationary and mobile. Each contributes equally to the Nation's air pollution problem.

The Clean Air Act of 1970 is the primary legislation dealing with the Nation's air pollution problems. This Act empowered EPA to establish and enforce national ambient air quality standards. EPA was also given the responsibility for setting emission standards for new stationary pollution sources and for mobile sources, such as cars and trucks.

To carry out the law, EPA established two sets of standards for air pollutants--primary standards and secondary standards. Primary standards are designed to protect human health, while secondary or welfare standards are designed to clean the air of visible pollutants and to prevent corrosion, crop damage, and other effects of polluted air. EPA established national standards for six pollutants--sulfur oxides, total suspended particulates, carbon monoxide, photochemical oxidants, hydrocarbons, and nitrogen oxides--and was authorized to establish standards for additional pollutants when necessary.

The Nation was divided into 247 air quality control regions with each State responsible for attaining the national standards for the control of regions located within the State. The law required each state to submit to EPA for approval a State Implementation Plan (SIP) specifying how the national standards would be achieved and maintained. The SIP was required to include emission limitations, schedules and timetables for compliance, and measures necessary to insure attainment and maintenance of the national standards, including land use and transportation controls.

By 1976 it became apparent that SIP's were inadequate to achieve the national air standards in many areas of the country. EPA, therefore, issued numerous calls for States to revise their SIPs to provide for attainment. Questions also arose as to whether, and under what circumstances, new stationary sources might legally be permitted to construct in areas where the standards were not being met. EPA allowed new construction in areas where standards were violated as long as stringent conditions were met that would assure further progress in attaining the standards.

In August 1977, Congress amended the Act to establish a statutory approach to permit growth in polluted areas, while requiring attainment of the standards by specific deadlines. Each State was required to identify which of the air quality regions had not attained the air quality standards as of August 7, 1977. Each State was required to submit a revised SIP by January 1, 1979, which provided for attainment of the standards as expeditiously as practicable for primary standards but no later than the end of 1982. For States with particularly difficult ozone or carbon monoxide problems the deadline was extended to 1987.

If the objectives of the Clean Air Act are to be met, EPA must develop and implement adequate control strategies for emerging as well as long existing problems. Many of the emerging problems, such as "Acid Rain" and the depletion of the ozone level, will require strategies which are controversial and could be difficult to effectively implement. Strategies currently in place to deal with long recognized problems have also come under considerable debate as to their cost and effectiveness.

The airborne transport of pollutants across regional boundaries is seen by many as one of the major, emerging air pollution problems facing the country. Acid rain affects the quality of air at any given location in the country. It is formed when sulfur oxides and nitrogen oxides emitted into the air mix with water vapors in the atmosphere and are transformed into sulfuric acid and nitric acid. These pollutants can be transported hundreds of miles through the atmosphere until they return to the earth in the form of acid rain. Recent research has found significant damage to crops and the fishing and forestry industries both in the U.S. and Canada resulting from acid rain, yet adequate control strategies to deal with the problem have not been developed.

Automobile emission requirements have also been the cause of much debate and controversy, particularly

strategies aimed at decreasing the use of private vehicles and the inspection and maintenance of vehicles to ensure their conformance to emission standards. Many States and localities have generally supported transportation control measures (including inspection and maintenance programs), but serious questions have been raised as to their feasibility, economics, and effectiveness. The question of how best to control gasoline vapors and who will bear the subsequent cost have also been issues raised by both the public and private sectors.

EPA's ability to adequately monitor and report on the quality of the Nation's air is suspect, based on work previously done by GAO. Deficiencies noted included improper siting of air monitoring equipment, questionable quality assurance standards in safeguarding air samples, and use of unapproved equipment. EPA has received additional funds to correct these deficiencies and has taken some steps to ensure the comparability and acceptability of air quality monitoring data.

Finally, a relatively new and unique control strategy--the bubble concept--has been the subject of concern and interest by both environmental groups and industry. In developing SIP's, States adopt regulations setting forth emission limits which, when applied to sources contributing to the ambient air problem, are calculated to assure that standards are attained. In making these decisions, States are to take into account the nature and amount of emissions from each source, the control technology available, and the time required for its installation. However, many complaints have been voiced that SIP's do not necessarily allow for economically efficient operations nor do they encourage companies to seek innovations in control technology.

For these reasons, in January 1979, EPA proposed its bubble concept to allow plants to reduce control where costs are high in exchange for an equivalent increase in control where abatement is less expensive. Thus a company can increase emissions from one source in a region, or even in an individual plant, provided it is offset by decreases from other sources in the region or plant.

#### WHY SELECTED FOR PRIORITY ATTENTION

Much has been done to correct and control the problem of air pollution in the U.S. According to the 1979 Council on Environmental Quality report, the Nation's air has shown improvement. Combined data from 25 major metropolitan areas

show the number of unhealthful days declined by 15 percent between 1974 and 1977, while the number of very unhealthful days declined 32 percent.

The significance of emerging air problems is, however, causing great concern while the effectiveness of certain actions, taken to address previously identified problems, is also being questioned. GAO has done much to provide insight into this Nation's attempt to resolve air pollution problems. However, in view of the potential effects of programs currently envisioned to address the country's energy problems such as greater use of coal, the most critical air pollution issues will face the Nation in the early 1980's. GAO will, therefore, need to give priority attention to this issue.

#### GAO OBJECTIVE AND STRATEGY

Our objective under this issue will be to determine what legislative or program changes may be needed to ensure that Federal and State efforts are adequate to protect both human health and the environment from the harmful effects of air pollution.

Our strategy to accomplish this objective will be to answer the following questions:

1. Have the Nation's major, emerging air pollution problems been adequately identified and do Federal and State agencies have the ability to address these problems?
2. How effective are current and past actions which have been taken to resolve long recognized traditional air pollution problems?

#### CURRENT ASSIGNMENTS

Review of constraints in implementing the Clean Air Act for stationary sources

Review of acid precipitation: time to act?

RECENT PUBLICATIONS

<u>REPORTS</u>	<u>DATE</u>
What Have HUD And EPA Done To Deal With High Radiation Levels In Two Montana Cities	CED-80-63 2/08/80
Indoor Air Pollution: An Emerging Health Problem	CED-80-111 9/24/80



ARE THE NATION'S WATER  
QUALITY GOALS ACHIEVABLE WITH  
PRESENT PROGRAMS AND RESOURCES?

ISSUE ANALYSIS

Our Nation's water quality goals are clearly set--by July 1983, provide sufficient water quality for protecting fish, shellfish, wildlife and for recreation (the so-called "fishable/swimmable" goal); and by 1985, eliminate pollutant discharge into all navigable water. These ambitious goals were pronounced by the Water Pollution Control Act of 1972, and reinforced by the Clean Water Act of 1977.

To assist municipalities in meeting the goals, the Congress established the wastewater treatment construction grants program. It is by far EPA's largest program activity and the Nation's largest public works program. The grant program took shape slowly in the early 1970's, accelerated during the mid-seventies, and continues today at a \$3 to \$4 billion a year pace. Since 1972, the Congress has authorized \$42 billion and appropriated \$32 billion as of fiscal year 1980. EPA is authorized under the Clean Water Act to spend \$5 billion a year through 1982 for construction grants to municipalities. From these funds, EPA makes grants for 75 to 85 percent of eligible costs of designing and constructing municipal wastewater treatment and collection facilities. Other monies have been appropriated for areawide planning grants and for State administration.

The national water pollution control effort during the past decade has shown positive results. There is evidence of improvement in many waterways, largely due to better control of pollution from industry and wastewater treatment plants. But the nation is still a great distance from the Clean Water Act's goal of restoring and maintaining the chemical, physical and biological integrity of the Nation's waters. Few areas in this country are completely free of water quality problems. The 1979 annual report of the Council on Environmental Quality, gave the water quality program a fairly cool endorsement by stating that water quality in the United States has not shown vast improvement since the early 1970's but it at least is not getting worse. This lack of significant water quality improvement raises serious questions about the program's ability to meet its legislated objectives. Some reasons for its failures are fairly obvious and future problems are becoming more evident as our knowledge and understanding increases.

--Nonpoint or diffused pollution can have a negative impact on the billions of dollars that are being spent

to abate point sources of pollution. But the extent of the nonpoint pollution problem is unknown, data on its effects is inadequate, solutions are not readily available, and funding has been sadly lacking. EPA's areawide planning program and Agriculture's Rural Clean Water Program are now starting to address the nonpoint problem more adequately, although much remains to be done.

- Combined sewer systems remain a major source of water pollution because the overflow during wet weather bypasses the wastewater treatment plant during the periods of high flow. The overflows can also be a source of long-term pollution in the receiving water because discharged solids may settle to the bottom and form sludge deposits. These deposits may continue to deplete the oxygen and cause other problems in the waterway during dry weather periods.
- Most treatment plants are experiencing significant operation and maintenance problems which cause the plants to violate their discharge permits. Because of these violations, Federal expenditures are being wasted and water quality goals may never be met.
- An effective national pretreatment program which requires industries using a municipal or privately owned treatment plant to pretreat their wastes has not yet been established.
- Toxic pollutants in surface waters and contamination of groundwater by conventional pollutants and toxic substances are serious problems that the nation is just beginning to understand and control. Toxic materials can negate much of the progress made in controlling traditional or sanitary pollutants; for example, salmon now returning to the Hudson Bay estuary after a 75-year absence cannot be eaten due to high PCB contamination.

Underlying the construction grants program is the States' designated uses for each body of water in the State. States vary in the stringency of their use of classifications. For example, Illinois' lowest classification provides for a minimum of boating, fishing, and shoreline activities but not swimming. New York, on the other hand, classifies certain waterways essentially as industrial channels when the cost of cleaning up a stream would be prohibitive. The difference in classification can make dramatic differences in costs required for pollution control in waterways.

The cost of wastewater treatment projects has been a subject of increasing concern in the Congress. EPA now estimates that it will cost \$106 billion for the construction and repair of municipal wastewater treatment facilities and sewers between 1978 and 2000. An additional \$62 billion is needed for control of storm water runoff. These construction costs estimates are so large that they raise serious questions of how they can be funded even over a number of years. At the current expenditure of \$4 billion per year, completion of these projects will take more than 40 years, excluding inflation. Given an inflation rate of 10 percent, the Nation would need expenditures far beyond the \$4 billion rate to stay abreast of the problem.

Faced with this cost situation, EPA and the Congress have been considering ways in which costs can be kept down through modification of policies on building treatment plants which go beyond the legally mandated secondary treatment level. Also promising is the potential of using alternative and innovative technologies such as land treatment instead of conventional treatment plants.

Historically, there has been a push from the Congress and the administration to obligate the construction grant money as fast as possible. EPA, however, does not have adequate management controls over the grant program or the staffing capability to properly administer this costly program. Part of the problem is the financing structure of the grant program and staffing capabilities of EPA and State agencies to administer the dramatic increases in the construction grant program. Staffing has not kept pace with the program's rapid expansion.

#### WHY SELECTED FOR PRIORITY ATTENTION

Some solid progress has been made in the United States to clean up the Nation's waters. But the mandated goals appear elusive as program costs keep soaring and new problems such as nonpoint pollution and toxic substances are developing as major issues. Because of the huge dollar outlays associated with the construction grants program, the distinct possibility that the goals will not be achieved, and strong potential for the Congress requesting GAO input on the program's status and its future, GAO will need to give priority attention to addressing the question of whether the Nation's water quality goals will be achievable with present programs and resources.

## GAO OBJECTIVE AND STRATEGY

Our objective under this issue will be to determine whether the Nation's clean water program is effectively and efficiently being implemented so that the intermediate goal of fishable/swimmable waters and the ultimate goal of zero discharge of pollutants can be met.

Our strategy to accomplish this objective will be to address the following questions:

1. Are Federal, State, and local resources being directed toward the areas of greatest need, through State use designations, EPA's needs survey, and attention to nonpoint pollution problems?
2. Is adequate technology available to identify, remove, and monitor the Nation's water pollution problems-- particularly for dealing with toxic substances?
3. What progress has been made to date in the United States to control municipal and industrial wastewater discharges?
4. Are Federal expenditures for municipal waste treatment plants being economically and efficiently utilized through properly constructed and properly operated facilities?

## CURRENT ASSIGNMENTS

User charges for municipal wastewater treatment services: an emerging problem

Evaluation of the Facility planning process for municipal waste treatment facilities

Questions about the sewage treatment project in Thayne, Wyoming.

Questions concerning the regional wastewater treatment facility in Hopewell, Virginia.

RECENT PUBLICATIONS

<u>REPORTS</u>	<u>DATE</u>
Community-managed Septic Systems: A Viable Alternative To Sewage Treatment Plants	CED-78-166 11/03/78
Reuse Of Municipal Wastewater And Development Of New Technology: Emphasis And Direction Needed	CED-78-177 11/13/78
Many Water Quality Stand Violations May Not Be Significant Enough To Justify Costly Preventive Actions	CED-80-86 7/02/80
Information On Questions About The Brush Creek, Pennsylvania Sewage Project	CED-80-112 8/08/80
EPA Needs To Improve The Navajo Indian Safe Drinking Water Program	CED-80-124 9/10/80
Costly Wastewater Treatment Plants Fail To Perform As Expected	CED-81-21 11/14/80

ARE FEDERAL AND STATE SOLID AND HAZARDOUS  
WASTE PROGRAMS EFFECTIVELY PROTECTING  
PUBLIC HEALTH AND THE ENVIRONMENT?

ISSUE ANALYSIS

EPA estimates that solid waste volumes amount to over 4 billion tons annually--up almost 1 billion tons during the last 10 years. This increase is attributed to certain basic economic factors including: population growth, increased affluence, and trends toward convenience packaging and disposable products. Increasingly stringent air and water pollution controls also cause wastes that previously were burned or dumped into the oceans and waters of the Nation to accumulate or to be disposed of in other ways--primarily on the land.

Solid wastes, including hazardous wastes, are the residue of industrial production consumption. They include, (1) sludges resulting from the treatment of municipal sewage and wastewater; (2) household garbage, including bottles, cans, paper, and other debris; (3) automobiles and appliances that have served their useful life; (4) wastes from industrial operations, agriculture, mining and other mineral and energy producing processes; and (5) general litter. Specifically, hazardous wastes include acids, flammables, explosives, suspected cancer and other disease-causing wastes; and toxic chemicals such as arsenic, benzyne, cyanide, dioxin, DDT and PCB's. According to EPA, only about 10 percent of hazardous wastes are disposed of in an environmentally sound manner.

Potentially, solid wastes have economic value, since they also contain various material, energy and nutrient sources. Although little has been done to date, the importance of recovering and reusing them should be given renewed emphasis. Their increased use would:

- reduce air pollution,
- enable the disposal of waste without using scarce land;
- produce energy from sources previously ignored;
- enable recovery of scarce materials, particularly for nonrenewables such as aluminum;
- result in energy conservation because in most instances the production process for secondary materials requires less energy than that for virgin materials; and

--provide an excellent source of nutrients for fertilizers.

The most common method of disposing of solid wastes in the United States is by landfill. Wastes are also scattered on land by a process called land farming in order to incorporate them into the surface soil and to reduce their hazardous aspects. Surface impoundments--the storage, treatment, and disposal of liquid and semi-solid wastes in lagoons and holding in aeration ponds--is another type of on land disposal. Liquid wastes can also be injected directly into the ground for ultimate disposal by means of deep and other types of wells. Other disposal methods include: (1) treating hazardous wastes to separate the hazardous from the non-hazardous parts; (2) reducing the volume requiring ultimate disposal; and (3) reclaiming or recovering materials or energy.

Each year municipalities spend over \$3.5 billion to collect and dispose of 134 million tons of municipal solid waste, primarily by landfill with some incineration. In the future, however, many major urban areas are, or will soon, no longer be able to use these methods of waste disposal, because landfill space is in very short supply, and incineration is restricted to avoid air pollution.

There is also a growing concern that landfills are polluting our ground waters, and the public is rebelling against the establishment of waste disposal sites. EPA has estimated there are about 250,000 various types of on-land disposal sites in the United States. It has also stated that as many as 51,000 may contain hazardous wastes that can pose an imminent and substantial endangerment to human health and the environment.

Various States and localities have investigated waste disposal systems that serve a secondary purpose--including the recovery of energy and other valuable resources. The scarcity of landfill sites, high costs of disposal, and rising energy and materials prices encourage the adoption of resource recovery technologies. Currently, only about 25 communities have resource recovery facilities in various stages of operation and development although increasingly they are being considered. Because many of the technologies are being tried for the first time on a commercial scale, technical problems, cost overruns, institutional and other difficulties including siting are to be expected, and are not uncommon.

The Resource Conservation and Recovery Act of 1976, established major new programs including Federal controls

over hazardous wastes through the establishment of a permit together with State implementation grants; State grants for development and implementation of solid waste management plans; and accelerated resource recovery, research, development and demonstration programs. It also required open dumps to be phased out within 5 years; provided for special assistance to communities; and directed EPA to study and develop solutions to the solid waste management problem. The hazardous waste provisions mandated the establishment of Federal standards to regulate the generation, transport, storage, and disposal of hazardous wastes and authorized grants to States to develop and administer hazardous waste control programs.

EPA, in conjunction with the State and local governments, was given responsibility for developing and implementing solid and hazardous waste programs. EPA responsibilities include providing assistance to the States through planning grants and general program direction, as well as encouragement and assistance to States and industry in creating and establishing national programs for dealing with the disposal problem.

Various Congressional Committees have expressed their concern regarding the waste disposal problem. Statements have been made that over the next 10 to 20 years the solid and hazardous waste problem is the single most threatening environmental issue facing the country. For example, in September 1979, the Chairman, Subcommittee on Oversight and Investigations, House Committee on Interstate and Foreign Commerce stated that "\*\*\*hazardous waste disposal is one of the most serious environmental problems faced by this country today."

To deal with the clean-up problems posed by closed, abandoned, or inactive sites, a number of comprehensive bills (referred to as Superfund legislation), varying in method and scope, have been introduced in the 96th Congress. These bills would establish mechanisms to deal with the clean-up of abandoned and inactive waste sites. EPA believes the Superfund will provide it with better tools to enable it to move in and protect public health by cleaning up problem sites before, not after, time-consuming litigation.

#### WHY SELECTED FOR PRIORITY ATTENTION

The amount of solid waste is huge and rapidly increasing. Each year industry and State and local governments spend many billions of dollars to collect and dispose of solid waste including hazardous wastes. In 1976, the Congress enacted the Resource Conservation and Recovery Act to provide for



increased Federal controls over solid and hazardous waste disposal and an accelerated conservation and resource recovery program. If this legislation is effectively implemented, it would go a long way toward solving the Nation's waste disposal problem. GAO should, therefore, give priority attention toward evaluating the implementation of the program provided for under this act.

GAO OBJECTIVE AND STRATEGY

Our objective under this issue will be to determine the effectiveness of EPA and State programs for controlling solid and hazardous wastes and for limiting their negative environmental and health impacts.

Our strategy to accomplish this objective will be to address the following questions:

1. Reduction in waste volumes by conservation and recovery of materials are among the least expensive and most effective methods of impacting on the multi-billion tonnage disposal problem. How effective has EPA and other Federal program efforts been in the development and establishment of resource conservation and recovery programs?
2. In varying degrees, solid waste disposal, depending on the waste and types of disposal activity, poses a continuous endangerment to the environment. How effective are Federal and State efforts in establishing environmentally sound solid waste management programs?
3. EPA has been mandated by the Congress to address the scope and nature of the hazardous waste threat facing the Nation. To what extent have EPA's efforts adequately addressed the hazardous waste problem by providing (1) criteria for industry and State program implementation and (2) guidance and assistance in identifying and cleaning up closed, abandoned, or inactive disposal sites?

CURRENT ASSIGNMENTS

Review of liability for past disposal of hazardous wastes

Review of the effectiveness of Federal and State solid waste management programs

RECENT PUBLICATIONS

<u>REPORTS</u>	<u>DATE</u>
Hazardous Waste Management Programs Will Not Be Effective: Greater Efforts Are Needed	CED-79-14 1/23/79
Disposal Practices For Pathological And Infectious Wastes	CED-79-73 4/05/79
How To Dispose Of Hazardous Waste-- A Serious Question That Needs To Be Resolved	CED-79-13 12/19/78
Hazardous Waste Disposal Methods: Major Problems With Their Use	CED-81-21 11/19/80

## CHAPTER 4

### OTHER ISSUES

In addition to the seven issues designated for priority attention, seven other issues need to be considered. Brief descriptions of these issues are set forth below.

#### ARE RESEARCH AND DEVELOPMENT PROGRAMS EFFECTIVE IN SUPPORTING ENVIRONMENTAL PROTECTION ACTIVITIES?

Research and development is an essential element of the attack on environmental pollution. Sound scientific data through research and development is necessary to support efforts to develop effective pollution control strategies and reasonable environmental standards. The Congress has expressed concern about environmental research and development, especially about EPA's efforts to mount long-term exploratory research programs. GAO work, as well as studies by other organizations, have identified other issues and problems in the area of environmental research.

Some of the concerns about environmental research and development are whether:

- environmental standards and regulations are always based on sound research and development;
- environmental research and development needs more effective coordination and technology transfer;
- environmental research and development needs to focus more on reducing the cost of protecting and cleaning up the environment; and
- Federal environmental research and development efforts need to be more effective, efficient and economical.

#### CURRENT ASSIGNMENT

Assessment of the usefulness of EPA research data to its customers

## RECENT PUBLICATIONS

<u>REPORTS</u>	<u>DATE</u>
Evaluation Of The Supporting Infrastructure Provided For EPA In-House Research	CED-80-50 2/04/80
Promising Changes Improve EPA's Extramural Research; More Changes Needed	CED-81-6 10/28/80

### HOW EFFECTIVELY IS THE PUBLIC PROTECTED FROM NOISE POLLUTION?

Noise, commonly defined as unwanted sound, is an environmental pollutant affecting human health and the quality of our lives. It is estimated that as many as 20-25 million people are exposed to harmful levels of noise. There is clear evidence that if exposure is of a sufficient intensity and duration, noise can:

- Damage the inner ear causing permanent hearing loss.
- Cause temporary hearing loss.
- Interfere with common speech communication; disturb sleep, and be a source of annoyance.
- Influence mood adversely and disturb relaxation.

Noise is the most frequently mentioned undesirable neighborhood condition in central cities, according to a Department of Housing and Urban Development (HUD) survey. Noise was also listed as one of the two leading reasons given by people who wanted to leave their neighborhoods because of undesirable conditions--the other reason being crime. In the 1976 HUD survey, noise was mentioned as an undesirable feature of the neighborhood three times as often as crime.

The 1972 Noise Control Act requires EPA to regulate new products that are major sources of noise. Since its enactment, EPA has identified 10 products as major sources: medium and heavy trucks, motorcycles, buses, garbage trucks, wheel and crawl tractors, portable air compressors, pavement breakers, rock drills, power lawn mowers, and truck refrigeration units.

In 1978, the Congress amended the Noise Control Act with the Quiet Communities Act. This new Act was an attempt to provide a link between Federal regulatory programs and local noise control activities. The Act provided for financial and technical assistance programs and activities designed to help States and localities identify and remedy noise problems. In February 1980, the Aviation Safety and Noise Abatement Act was passed with the intent of reducing noise pollution from aircraft. If current regulations controlling noise emissions from aircraft are implemented, and if special take-off procedures are used, the number of people adversely affected by aircraft noise will decrease from the current estimated 6 million to about 3.6 million by the year 2000.

In previous reports and several testimonies, GAO found that EPA's implementation of the Noise Control Act was slow and beset with major problems. Little had been done to provide financial and technical assistance to the States. EPA was also very slow in preparing its overall noise control strategy and consequently there was a noticeable lack of cooperation between the various Federal agencies involved in controlling noise pollution.

RECENT PUBLICATIONS

<u>REPORTS</u>	<u>DATE</u>
Noise Pollution--Federal Program To Control It Has Been Slow And Ineffective	CED-77-42 3/07/77
The Concorde--Results Of A Supersonic Aircraft's Entry Into The United States	CED-77-131 9/15/77

ARE THE NATION'S DRINKING  
WATER SYSTEMS SAFE?

The Congress after 4 years of deliberations enacted the Safe Drinking Water Act of 1974. The objective of the act is to provide safe drinking water supplies throughout the United States by establishing and enforcing national drinking water standards.

The task is a large one because the act seeks to protect from contamination (1) drinking water delivered by an estimated 240,000 community systems to the residences of 180 million people and (2) the Nation's groundwaters which currently supply, with little or no treatment, 100 million people. In addition to problems caused by bacteria in water, more than 12,000 chemical compounds are now being used commercially--not counting variants and fractions--and could end up in the water supply. Moreover, about 500 new chemical compounds are added each year and little is known about the health effects of chemicals, although many are suspected carcinogens.

EPA is responsible for implementing the act's requirements which include developing primary drinking water regulations for the protection of the public health, secondary regulations relating to odor and appearance of drinking water, and measures to protect underground drinking water sources. Also EPA must perform (1) research to evaluate health, economic, and technological problems and (2) a survey of the drinking water situation in the Nation's rural areas.

The act provides that States should assume primary enforcement responsibility with respect to Federal drinking water regulations. States must adopt (1) adequate surveillance and enforcement procedures and (2) regulations which are at least as stringent as national primary regulations. If a State fails to assume primary enforcement responsibility or to adequately carry out its programs, EPA believes it must administer the safe drinking water program in that State. To help States and small public water suppliers meet Federal standards, the act provides grants to States and loans to public water suppliers.

Two of the concerns about the safety of our Nation's drinking water include:

1. Are public water supply systems capable of meeting Federal drinking water standards within the resources currently available to them?
2. Is drinking water quality being monitored and enforced by State and Federal agencies?

#### CURRENT ASSIGNMENT

Assessment of EPA's Safe Drinking Water Act Implementation

RECENT PUBLICATIONS

<u>REPORTS</u>	<u>DATE</u>
Resources Expended By EPA When Assuming Drinking Water Enforcement Responsibilities In Seven States	CED-79-19 8/08/79
EPA Needs To Improve The Navajo Indian Safe Drinking Water Program	CED-80-124 9/10/80

ARE FEDERAL FACILITIES COMPLYING WITH ENVIRONMENTAL STANDARDS?

Executive Order 11752 dated December 17, 1973, states that the Federal Government shall provide leadership in the nationwide effort to protect and enhance the quality of our air, water, and land resources through compliance with applicable standards for prevention, control, and abatement of environmental pollution in full cooperation with State and local governments. It requires the head of each Federal agency:

- to ensure that facilities under his jurisdiction are designed, constructed, operated, and maintained to comply with Federal and state water quality standards, and
- to present a plan each year to the Director of the Office of Management and Budget for improvements necessary to meet Federal, State, interstate, and local water quality standards and effluent limitations.

On October 13, 1978, the President reemphasized the U.S. commitment by issuing Executive Order 12088, requiring Government agencies to ensure that Federal facilities comply with all Federal, state, and local pollution control standards.

The Department of Defense which has major Army, Navy, and Air Force installations in the United States, is the Federal agency most significantly affected by this requirement. However, DOD installations create only a very small percentage of the total pollution in the United States.

RECENT PUBLICATIONS

<u>REPORTS</u>	<u>DATE</u>
Improvements Needed in Operating And Maintaining Wastewater Treatment Plants	LCD-76-312 6/18/76
Department of Defense Air Pollution Control: Progress and Delays	LCD-77-305 7/18/77
Environmental Problems at Overseas Military Activities	CED-78-175 10/16/78
DOD Problems in Joining Civilian Sewer Systems	LCD-77-359 6/23/78
An Assessment of DOD's Pollution Control Progress and Future Cost	LCD-79-303 1/26/79

IS THE U.S. PROMOTING WORLDWIDE  
POLLUTION ABATEMENT ACTIONS?

Awareness of the effects industrialization and economic development have on the environment is increasing throughout the world. Many developing countries have expressed concern about the environmental effects which accompany industrial development. While development and use of the Earth's natural resources improve the quality of life, it also causes environmental damage. Thus, it is increasingly important that all Nations cooperate in protecting the environment and using the Earth's resources as wisely as possible.

The United States has taken steps to protect the world environment by working with other countries. For example, bilateral agreements in the environmental field have been developed with several countries, including Canada, Japan, Mexico, European Communities, Russia, and the Federal Republic of Germany.

RECENT PUBLICATIONS

<u>REPORTS</u>	<u>DATE</u>
Environmental Problems At Overseas Military Activities	CED-78-175 10/16/78
Better Regulation Of Pesticide Exports And Pesticide Residues In Imported Food Is Essential	CED-79-43 6/22/79



RADIATION--HOW SERIOUS  
AND WHAT CAN BE DONE?

Daily we are all exposed to some form of radiation. Our exposure can be affected by where we live; whether we travel by air; and the items we buy and use; however, radiation exposure is inescapable for everyone.

Exposure to radiation results from man-made and naturally-occurring sources, from mining and manufacturing processes, from medical applications of radiation and radioactive materials, and from a variety of other sources in the environment and work place. Overall, there are two types of radiation--ionizing and nonionizing--both of which can be either naturally occurring or man-made. Ionizing radiation is characterized by an energy level sufficient to change the structure of living cells or molecules in the body; while nonionizing radiation is generally mechanical or electromagnetic and is characteristically caused by substantially lower energy sources.

Naturally-occurring sources include soil, and cosmic rays; while man-made sources include power plants, x-ray equipment, radio and television transmitters, radar, microwave devices and power transmission lines. Various health effects, including cancer and serious genetic defects are caused by natural, manufactured, medical, and occupational sources of radiation exposure.

EPA is responsible for establishing and enforcing radiation standards under the Water Pollution Control Act, the Clean Air Act, and the Ocean Dumping Act. EPA's radiation protection overview role is provided by the authorities of the Federal Radiation Council transferred to EPA by Reorganization Plan No. 3 of 1970. EPA's role has been carried out by the formation of a number of interagency committees to address specific problems that are of mutual concern to the involved agencies. The exercise of EPA's authority to set generally applicable radiation protection standards, requires the agencies to implement or enforce EPA's standards and guidelines under their own agency authorities. Control actions are currently being pursued in the areas of medical x-rays, occupational exposures, plutonium cleanup and restoration, and the management of radioactive wastes.

The overall Federal role in the radiation protection area, is to limit the amount of additional radiation dosage to which individuals and the general population are exposed beyond the naturally-occurring levels, so as to preclude adverse health impacts.

#### RECENT PUBLICATIONS

<u>REPORTS</u>	<u>DATE</u>
Efforts By The Environmental Protection Agency To Protect The Public From Environmental Nonionizing Radiation Exposures	CED-78-79 3/29/78
The Environmental Protection Agency Needs Congressional Guidance And Support To Guard The Public In A Period of Radiation Proliferation	CED-78-27 1/20/78

#### IS IMPLEMENTATION OF THE NATIONAL ENVIRONMENTAL POLICY ACT EFFECTIVE?

Ten years have passed since the National Environmental Policy Act of 1969 (NEPA) was enacted to establish a national policy of restoring, protecting, and enhancing the quality of our environment. NEPA provided, among other things, that

- All Federal agencies must prepare a detailed environmental impact statement (EIS) on any action significantly affecting the quality of the environment.
- A Council on Environmental Quality (CEQ) be established within the Executive Office of the President to carry out certain provisions of the Act.

EISs are intended to assure the Congress and others that an agency has considered environmental factors, along with economic and technical factors, well before Federal action is taken. Implementation of this requirement has not been fully effective. Federal agencies often have not completed EISs in time to be useful in the decisionmaking process. Further, even when prepared, many statements are poorly done. All environmental impacts of proposed actions are not adequately considered and sometimes information presented in these statements is questionable.

CEQ is responsible for (1) recommending national policies to the to the President to further environmental quality, (2) analyzing changes or trends in the quality of the national environment, (3) preparing an annual environmental quality report to the Congress, (4) assessing the Nation's energy research and development from an environmental and conservation standpoint, and (5) administering the EIS process.

CEQ issued guidelines to Federal agencies in August 1973 concerning the preparation of EISS. In May 1977, the President authorized CEQ to issue regulations making the EIS process more useful to decisionmakers and to the public. The President emphasized the need for EISS to focus on real environmental issues and alternatives. CEQ was required to include procedures in the regulations for the preparation of EISS early in the agencies' decisionmaking processes. This revision was important because the regulations are binding on the Federal agencies; whereas, CEQ previously only issued advisory guidelines. These regulations were effective July 30, 1979.

RECENT PUBLICATIONS

<u>REPORTS</u>	<u>DATE</u>
Congressional Guidance Needed On The Environmental Protection Agency's Responsibilities For Preparing Environmental Impact Statements	CED-78-104 9/13/78
Environmental Reviews Done By Communities: Are They Needed? Are They Adequate? Department of Housing and Urban Development	CED-77-123 9/01/77
The Environmental Impact Statement-- It Seldom Causes Long Project Delays But Could Be More Useful If Prepared Earlier	CED-77-99 8/09/77

SENATE AND HOUSE COMMITTEE JURISDICTIONSSENATE

Committee on Agriculture, Nutrition and Forestry	pesticides
Committee on Appropriations	appropriations
Committee on Budget	budget
Committee on Commerce, Science, and Transportation	oceans research & development radiation toxics
Committee on Energy and Natural Resources	synthetic fuels conservation oversight energy budget mines oil shale outer continental shelf strip mining
Committee on Environment and Public Works	air drinking water noise nuclear energy ocean dumping outer continental shelf research and development solid waste toxics water
Committee on Foreign Relations	international environment
Committee on Governmental Affairs	interagency subject area
Committee on Labor and Human Resources	public health
Select Committee on Small Business	impact of environmental regulations on small business

## APPENDIX I

## APPENDIX I

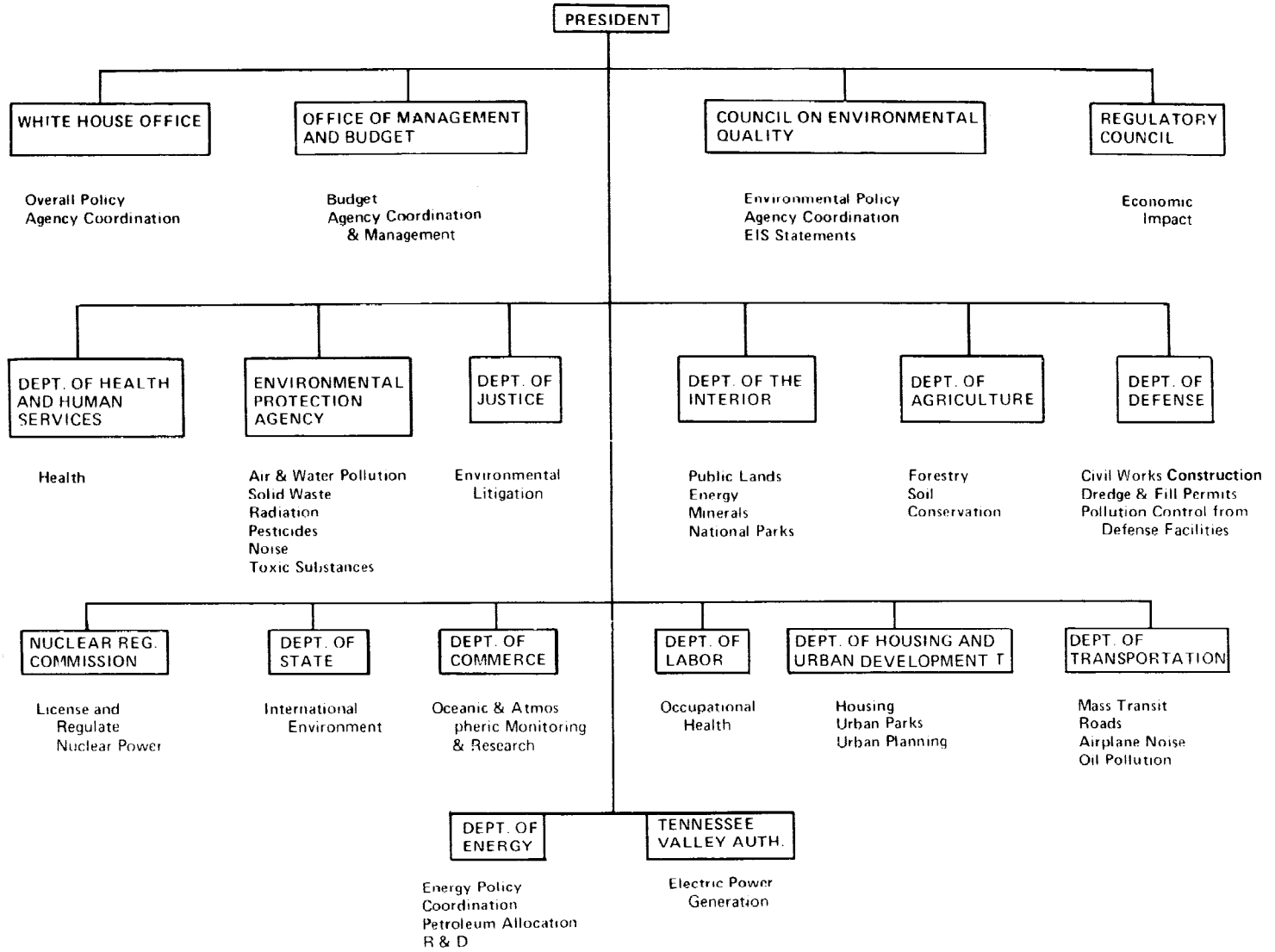
HOUSE

Committee on Agriculture	pesticides
Committee on Appropriations	appropriations
Committee on Budget	budget
Committee on Government Operations	interagency subject area
Committee on Interior and Insular Affairs	synthetic fuels conservation oversight energy budget mines oil shale outer continental shelf radiation (NRC oversight) strip mining
Committee on Interstate and Foreign Commerce	air drinking water noise radiation solid waste toxics
Committee on Merchant Marine and Fisheries	ocean dumping
Committee on Public Works and Transportation	noise water pollution water resources
Committee on Science and Technology	research and development
Committee on Small Business	impact of environmental regulations on small business
Select Committee on Outer Continental Shelf	outer continental shelf

MAJOR EXECUTIVE BRANCH AGENCIES WITH ENVIRONMENTAL RESPONSIBILITIES

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APPENDIX II

APPENDIX II



**AN EQUAL OPPORTUNITY EMPLOYER**

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